Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Carlsbad Field Office
HOBBS OCD
MAR 19 2019
RECEIVED

FORM 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

5. Lease Serial No.
NMNM0381970

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
ONION KNIGHT FEDERAL 201H

2. Name of Operator
MEWBOURNE OIL COMPANY
Contact: JACKIE LATHAN
E-Mail: jlathan@mewbourne.com

9. API Well No.
30-025-44859-00-X1

3a. Address
P O BOX 5270
HOBBS, NM 88241

3b. Phone No. (include area code)
Ph: 575-393-5905

10. Field and Pool or Exploratory Area
OJO CHISO

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 4 T22S R34E SWSW 150FSL 1025FWL
32.413887 N Lat, 103.480171 W Lon

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 to Original APD
	☐ 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 recomplete 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.

Mewbourne Oil Company requests that the following changes be made to approved APD:

1) Change name to: Black Sheep 4 B3MD Fed Com #1H. PCM 2/26/19

2) Move surface location to 205' FSL & 480' FWL; Section 4, T22S, R34E. Move BHL to 100' FNL & 450' FWL; Section 4, T22S, R34E. See attached updated C-102. NEW PROP ID 325164

3) Requesting variance for use of multi-bowl WH & flexible choke line hose. See attached schematics & information.

**See attached new drilling program, directional plan & plot, OCD additional information form, and schematics.

Engineering is Good. ZS 2/19/2019

ENTERED

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

Electronic Submission #440510 verified by the BLM Well Information System
For MEWBOURNE OIL COMPANY, sent to the Hobbs
Committed to AFMSS for processing by PRISCILLA PEREZ on 10/22/2018 (19PP0195SE)

Name *(Printed/Typed)* KLAY H KIRKES — Title ENGINEER

Signature (Electronic Submission) — Date 10/19/2018

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By Cody R. Layton — Title AFM - LM — Date 02/26/2019

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 CFO

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 ****

KG

Additional data for EC transaction #440510 that would not fit on the form

32. Additional remarks, continued

Please contact Klay Kirkes with any questions.

Thank you.

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	2 Pool Code	3 Pool Name
30-025-		

4 Property Code	5 Property Name	6 Well Number
325164	BLACK SHEEP 4 B3MD FED COM	1H
7 OGRID NO.	**8 Operator Name**	**9 Elevation**
14744	MEWBOURNE OIL COMPANY	3608'

10 Surface Location

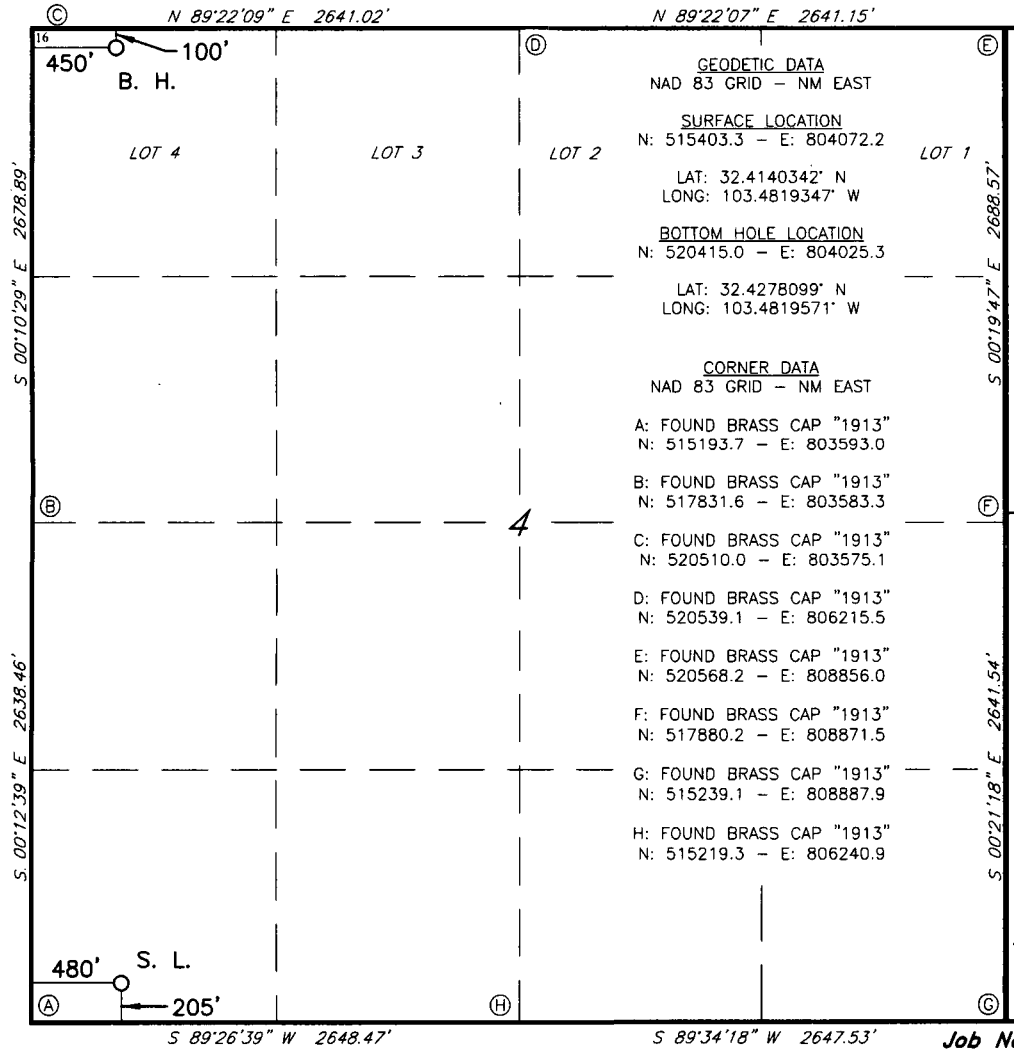
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
M	4	22S	34E		205	SOUTH	480	WEST	LEA

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
4	4	22S	34E		100	NORTH	450	WEST	LEA

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.

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.



GEODETIC DATA
NAD 83 GRID – NM EAST

SURFACE LOCATION
N: 515403.3 – E: 804072.2

LAT: 32.4140342° N
LONG: 103.4819347° W

BOTTOM HOLE LOCATION
N: 520415.0 – E: 804025.3

LAT: 32.4278099° N
LONG: 103.4819571° W

CORNER DATA
NAD 83 GRID – NM EAST

A: FOUND BRASS CAP "1913"
N: 515193.7 – E: 803593.0

B: FOUND BRASS CAP "1913"
N: 517831.6 – E: 803583.3

C: FOUND BRASS CAP "1913"
N: 520510.0 – E: 803575.1

D: FOUND BRASS CAP "1913"
N: 520539.1 – E: 806215.5

E: FOUND BRASS CAP "1913"
N: 520568.2 – E: 808856.0

F: FOUND BRASS CAP "1913"
N: 517880.2 – E: 808871.5

G: FOUND BRASS CAP "1913"
N: 515239.1 – E: 808887.9

H: FOUND BRASS CAP "1913"
N: 515219.3 – E: 806240.9

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 Date

Printed Name

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.

9-21-18
Date of Survey

Signature and Seal of Professional Surveyor

ROBERT M. HOWETT
NEW MEXICO
19680
PROFESSIONAL SURVEYOR

19680
Certificate Number

Job No.: LS18091088

Operator Name:	Property Name:	Well Number
Mewbourne Oil Company	Black Sheep 4 B3MD Fed Com	1H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
M	4	T22S	R34E		10	S	450	W	Lea

Latitude	Longitude	NAD
32.4134980	-103.4820343	83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
M	4	T22S	R34E		100	S	450	W	Lea

Latitude	Longitude	NAD
32.4137454	-103.4820330	83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
D	4	T22S	R34E		100	N	450	E	Lea

Latitude	Longitude	NAD
32.4278100	-103.4819582	83

Is this well the defining well for the Horizontal Spacing Unit? N

Is this well an infill well? Y

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

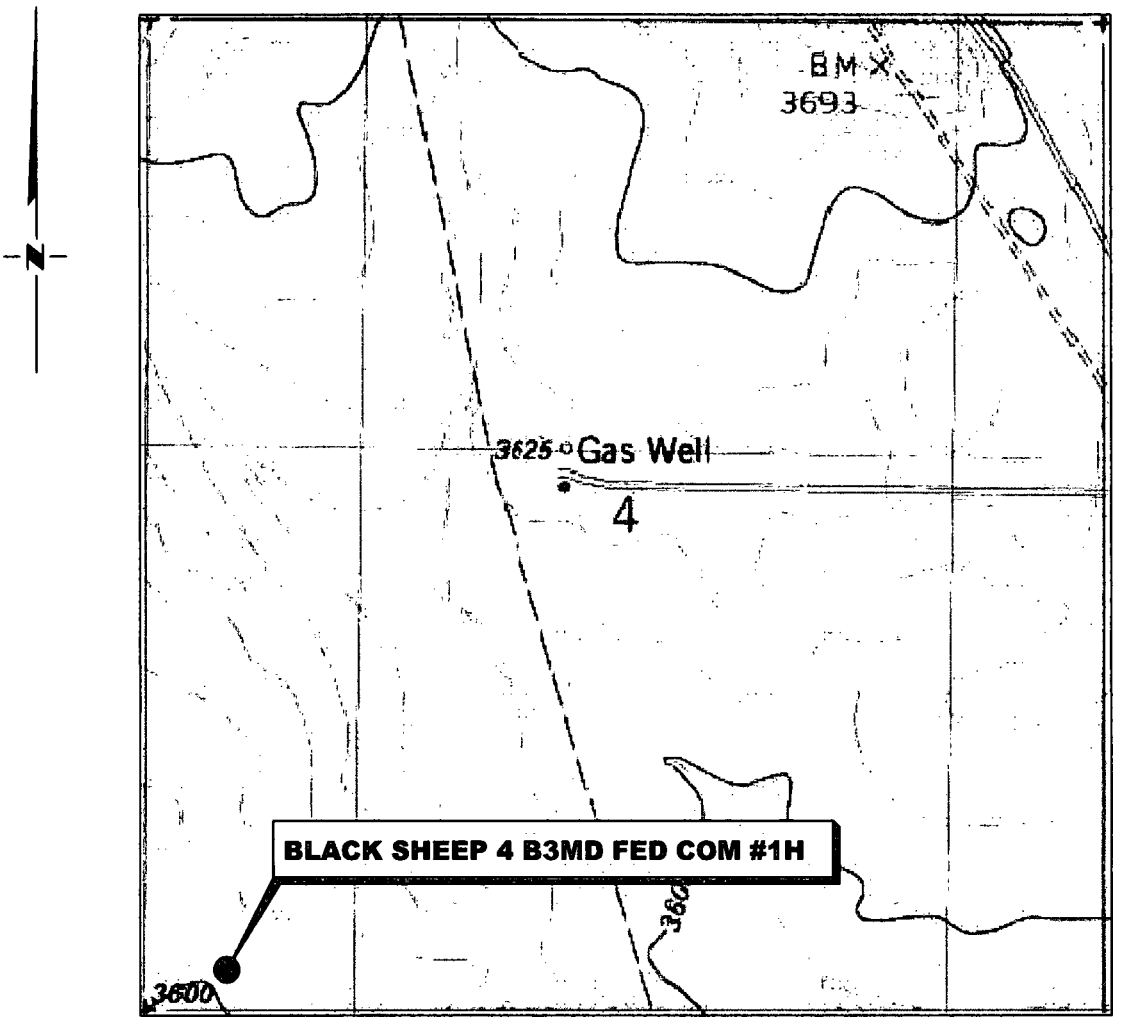
API #
N/A

Operator Name:	Property Name:	Well Number
Mewbourne Oil Company	Black Sheep 4 B2MD Fed Com	2H

KZ 06/27/2018

LOCATION VERIFICATION MAP

NOT TO SCALE



SECTION 4, TWP. 22 SOUTH, RGE. 34 EAST,
N. M. P. M., LEA CO., NEW MEXICO

OPERATOR: Mewbourne Oil Company
LEASE: Black Sheep 4 B3MD Fed Com
WELL NO.: 1H
ELEVATION: 3608'

LOCATION: 205' FSL & 480' FWL
CONTOUR INTERVAL: 10'
USGS TOPO. SOURCE MAP:
San Simon Ranch, NM (1984)

NO.	REVISION	DATE

JOB NO.: LS18091088
DWG. NO.: 18091088LVM

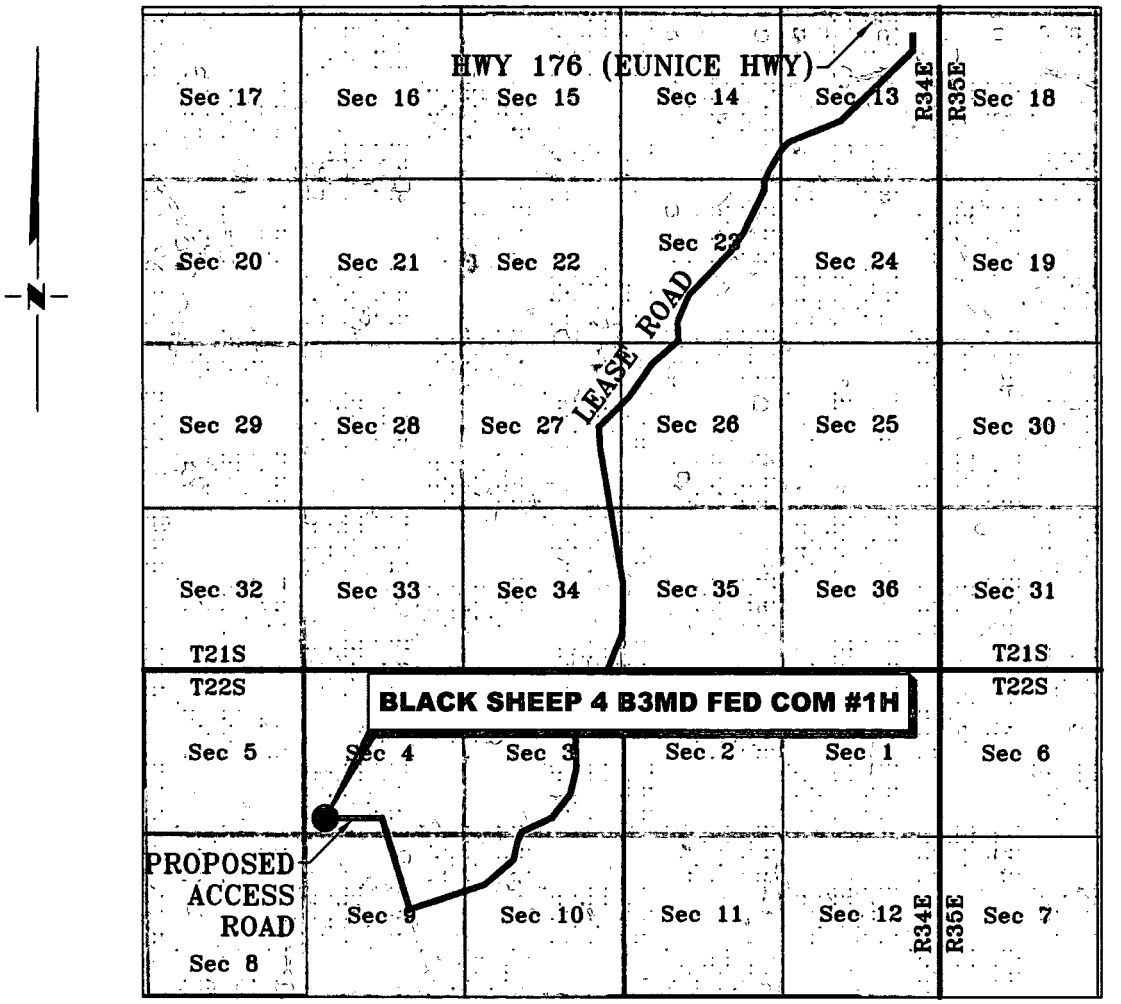
RRC

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

SCALE: N. T. S.
DATE: 9-21-18
SURVEYED BY: ML/TF
DRAWN BY: GA
APPROVED BY: RMH
SHEET: 1 OF 1

VICINITY MAP

NOT TO SCALE



SECTION 4, TWP. 22 SOUTH, RGE. 34 EAST,
N. M. P. M., LEA CO., NEW MEXICO

OPERATOR: Mewbourne Oil Company
LEASE: Black Sheep 4 B3MD Fed Com
WELL NO.: 1H

LOCATION: 205' FSL & 480' FWL
ELEVATION: 3608'

NO.	REVISION	DATE

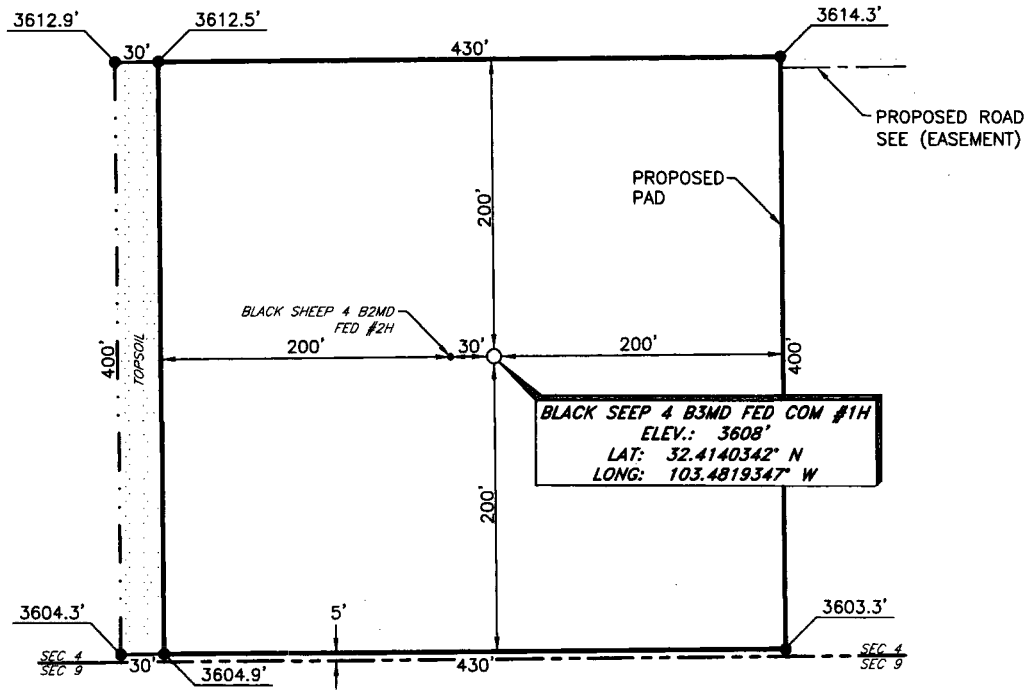
JOB NO.: LS18091088
DWG. NO.: 18091088VM

RRC

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

SCALE: N. T. S.
DATE: 9-21-18
SURVEYED BY: ML/TF
DRAWN BY: GA
APPROVED BY: RMH
SHEET: 1 OF 1

MEWBOURNE OIL COMPANY
BLACK SHEEP 4 B3MD FED COM #1H
(205' FSL & 480' FWL)
SECTION 4, T22S, R34E
N. M. P. M., LEA COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

From the intersection of CR-32 (San Simon Rd.) and Hwy 176 (Eunice Hwy).

Go Northwest on Hwy 176 approx. 0.2 miles to CR-30 on the left;

Turn left and go Southwest approx. 0.1 miles to a "Y";

Keep right at "Y" and go Southwest approx. 6.8 miles to a lease rd. on the right;

Turn right and go Northwest approx. 0.5 miles to proposed access rd. on the left.

Turn left and go West approox. 0.4 miles to a location on the left.

N

SCALE: 1" = 100'
0 50 100

BEARINGS ARE NAD 83 GRID - NM EAST DISTANCES ARE GROUND

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 plat 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

ROBERT M. HOWETT
NEW MEXICO
19680
9/26/18
PROFESSIONAL SURVEYOR

NO.	REVISION	DATE

JOB NO.: LS18091088
DWG. NO.: 18091088PAD

RRC

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

SCALE: 1" = 100'
DATE: 9-21-18
SURVEYED BY: ML/TF
DRAWN BY: GA
APPROVED BY: RMH
SHEET: 1 OF 1

Mewbourne Oil Company

Lea County, New Mexico NAD 83
Black Sheep 4 B3MD Fed Com #1H
SL: 205' FSL & 480' FWL
Sec. 4, T22S, R34E
BHL: 100' FNL & 450' FWL

Plan: Design #1

Standard Planning Report

19 October, 2018

Mewbourne Oil Company
Black Sheep 4 B3MD Fed Com #1H
Sec. 4, T22S, R34E
SL: 205' FSL & 480' FWL
BHL: 100' FNL & 450' FWL

1. Geologic Formations

TVD of target	11515'	Pilot hole depth	NA
MD at TD:	16456'	Deepest expected fresh water:	50'

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface		
Rustler	1775		
Top Salt	2260		
Base Salt	3735		
Yates	3975		
Capitan	4265		
Queen			
Delaware	5285	Oil/Gas	
Lamar		Oil/Gas	
Bell Canyon		Oil/Gas	
Cherry Canyon		Oil/Gas	
Manzanita Marker			
Brushy Canyon		Oil/Gas	
Bone Spring	8560	Oil/Gas	
1st Bone Spring Sand	9665	Oil/Gas	
2nd Bone Spring Sand	10210	Oil/Gas	
3rd Bone Spring Sand		Target Zone	
Abo			
Wolfcamp			
Devonian			
Fusselman			
Ellenburger			
Granite Wash			

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

Mewbourne Oil Company
Black Sheep 4 B3MD Fed Com #1H
Sec. 4, T22S, R34E
SL: 205' FSL & 480' FWL
BHL: 100' FNL & 450' FWL

2. Casing Program

Hole Size	Casing Interval From	To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.5"	0'	1495'	13.375"	48	H40	STC	1.125	2.53	3.71	6.24
17.5"	1495'	1800'	13.375"	54.5	J55	STC	1.37	3.31	30.92	51.32
12.25"	0'	3452'	9.625"	36	J55	LTC	1.125	1.96	2.30	2.87
12.25"	3452'	5260'	9.625"	40#	L80	LTC	1.13	2.10	10.05	12.67
8.75"	0'	11200'	7"	26	P110	LTC	1.13	1.80	2.10	2.72
8.75	11200'	11719'	7"	26	HCP110	LTC	1.38	1.76	51.36	61.51
6.125"	10977'	16456'	4.5"	13.5	P110	LTC	1.49	1.73	4.57	5.71
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?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	N
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd 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 2nd 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
Black Sheep 4 B3MD Fed Com #1H
Sec. 4, T22S, R34E
SL: 205' FSL & 480' FWL
BHL: 100' FNL & 450' FWL

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/ sk	500# Comp. Strength (hours)	Slurry Description
Surf.	1055	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. Stg.1	720	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
ECP/DV Tool @ 4200'						
Inter. Stg. 2	75	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. Stg 1	60	12.5	2.12	11	9	Lead: Class C + Gel + Retarder + Defoamer + Extender
	100	14.8	1.34	6.3	8	Tail: Class C + Retarder
ECP/DV Tool @ 5500'						
Prod. Stg 2	335	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	220	11.2	2.97	18	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	4215'	25%
Liner	10977'	25%

Mewbourne Oil Company
Black Sheep 4 B3MD Fed Com #1H
Sec. 4, T22S, R34E
SL: 205' FSL & 480' FWL
BHL: 100' FNL & 450' FWL

4. Pressure Control Equipment

N	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	3000#
			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 3M 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
Black Sheep 4 B3MD Fed Com #1H
Sec. 4, T22S, R34E
SL: 205' FSL & 480' FWL
BHL: 100' FNL & 450' FWL

5. Mud Program

Depth (TVD)		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0'	1800'	FW Gel	8.6-8.8	28-34	N/C
1800'	5260'	Saturated Brine	10.0	28-34	N/C
5260'	11450'	Cut Brine	8.6-9.5	28-34	N/C
11450'	11515'	OBM	9.0-12	60	<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 (10977') 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	10977' (KOP) to TD
	Density	
	CBL	
	Mud log	
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	7185 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers in surface hole.

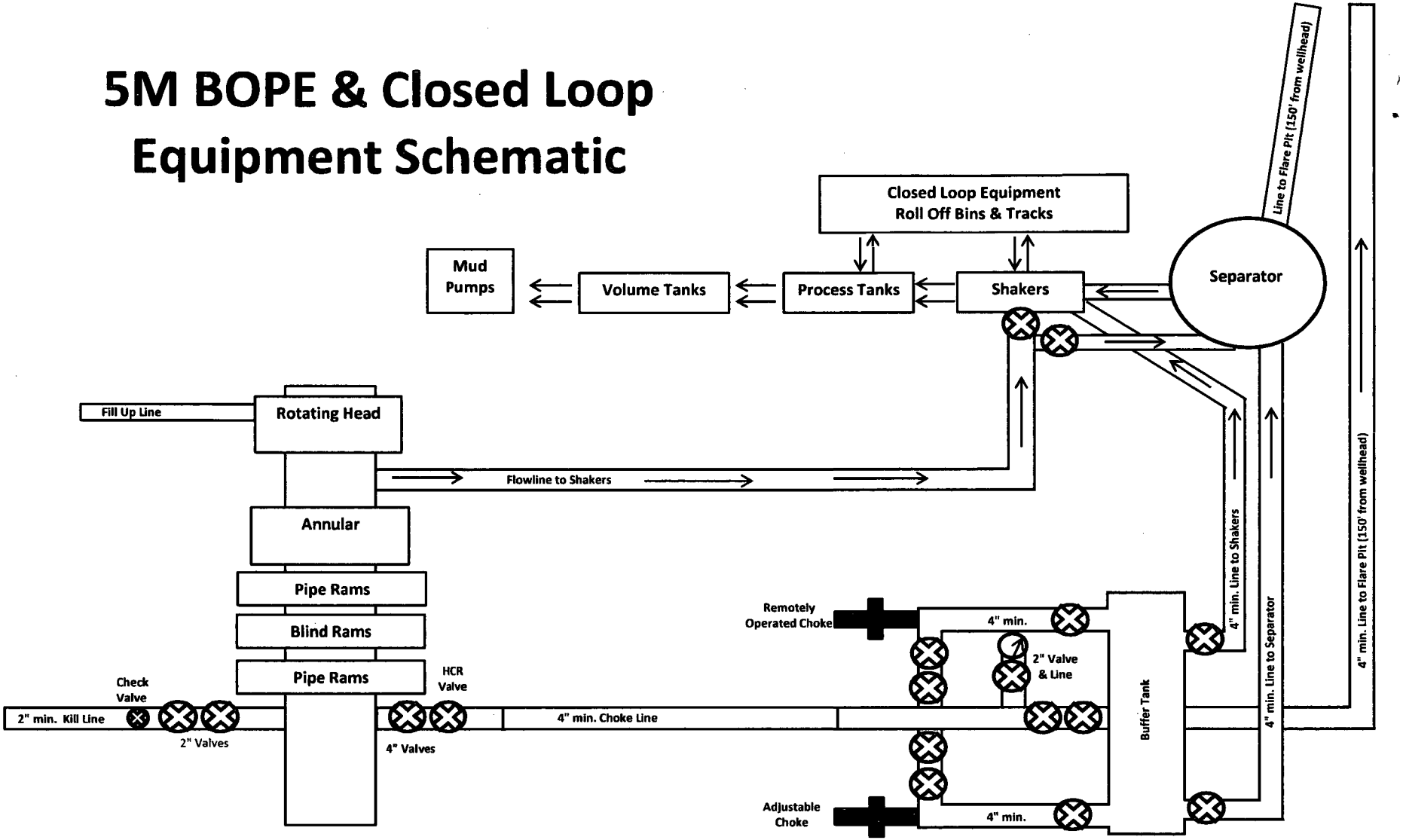
Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be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

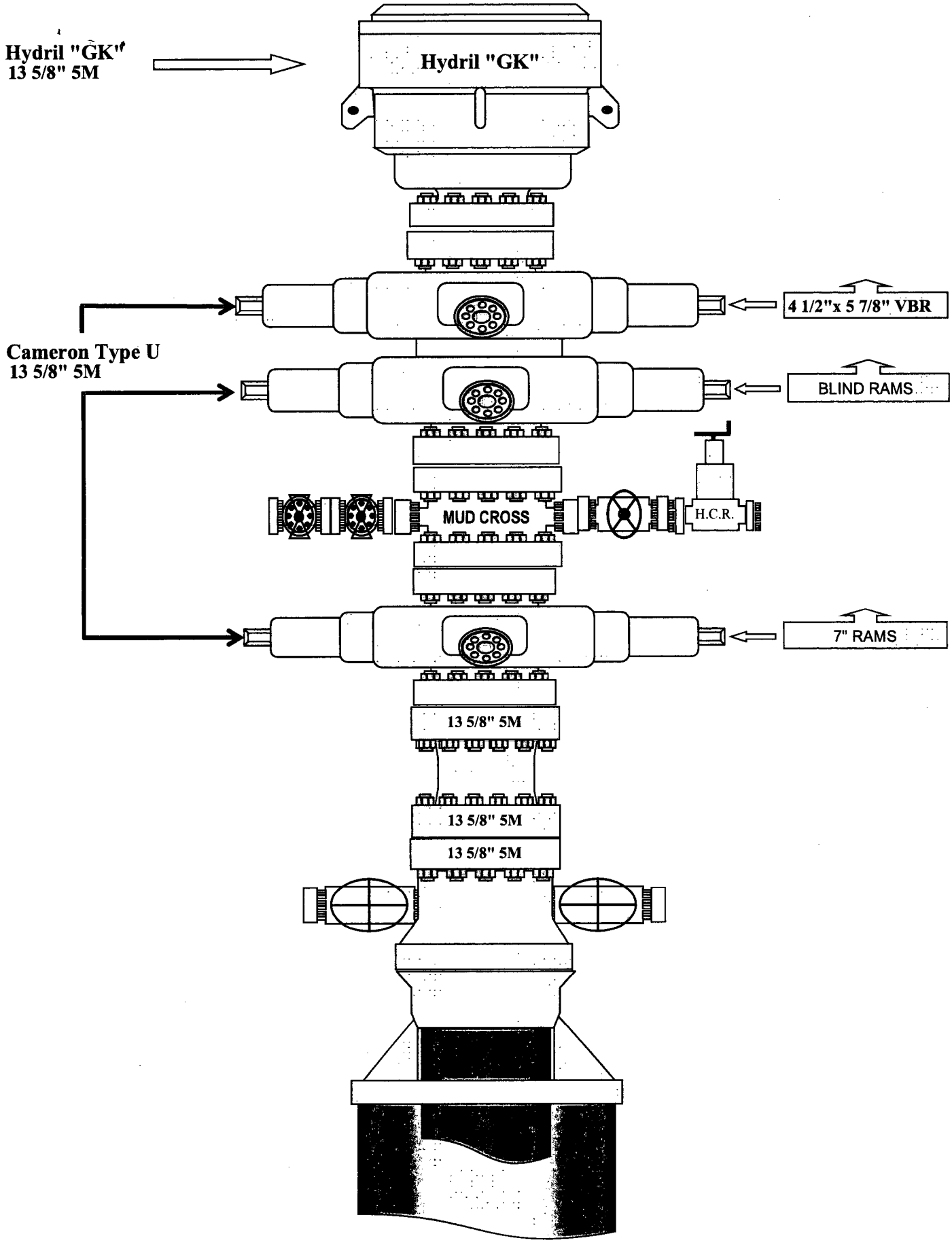
Attachments
___ Directional Plan
___ Other, describe

5M BOPE & Closed Loop Equipment Schematic



Drawing not to scale

Note: All valves & lines on choke manifold are 4" unless otherwise noted. Exact manifold configuration may vary.


Hydril "GK"
13 5/8" 5M
Hydril "GK"
4 1/2"x 5 7/8" VBR
Cameron Type U
13 5/8" 5M
BLIND RAMS
MUD CROSS
H.C.R.
7" RAMS
13 5/8" 5M
13 5/8" 5M
13 5/8" 5M

Hydrogen Sulfide Drilling Operations Plan
Mewbourne Oil Company

1. General Requirements

Rule 118 does not apply to this well because MOC has researched this area and no high concentrations of H2S were found. MOC will have on location and working all H2S safety equipment before the Delaware formation for purposes of safety and insurance requirements.

2. Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will have received training from a qualified instructor in the following areas prior to entering the drilling pad area of the well:

1. The hazards and characteristics of hydrogen sulfide gas.
2. The proper use of personal protective equipment and life support systems.
3. The proper use of hydrogen sulfide detectors, alarms, warning systems, briefing areas, evacuation procedures.
4. The proper techniques for first aid and rescue operations.

Additionally, supervisory personnel will be trained in the following areas:

1 The effects of hydrogen sulfide on metal components. If high tensile tubular systems are utilized, supervisory personnel will be trained in their special maintenance requirements.
2 Corrective action and shut in procedures, blowout prevention, and well control procedures while drilling a well.
3 The contents of the Hydrogen Sulfide Drilling Operations Plan.

There will be an initial training session prior to encountering a know hydrogen sulfide source. The initial training session shall include a review of the site specific Hydrogen Sulfide Drilling Operations Plan.

3. Hydrogen Sulfide Safety Equipment and Systems

All hydrogen sulfide safety equipment and systems will be installed, tested, and operational prior to drilling below the 9 5/8" intermediate casing.

1. Well Control Equipment
   - A. Choke manifold with minimum of one adjustable choke/remote choke.
   - B. Blowout preventers equipped with blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
   - C. Auxiliary equipment including annular type blowout preventer.
2. Protective Equipment for Essential Personnel
   Thirty minute self contained work unit located in the dog house and at briefing areas.

Additionally: If H2S is encountered in concentrations less than 10 ppm, fans will be placed in work areas to prevent the accumulation of hazardous amounts of poisonous gas. If higher concentrations of H2S are detected the well will be shut in and a rotating head, mud/gas separator, remote choke and flare line with igniter will be installed.

3. Hydrogen Sulfide Protection and Monitoring Equipment
Two portable hydrogen sulfide monitors positioned on location for optimum coverage and detection. The units shall have audible sirens to notify personnel when hydrogen sulfide levels exceed 20 PPM.

4. Visual Warning Systems
A. Wind direction indicators as indicated on the wellsite diagram.
B. Caution signs shall be posted on roads providing access to location. Signs shall be painted a high visibility color with lettering of sufficient size to be readable at reasonable distances from potentially contaminated areas.

4. Mud Program

The mud program has been designed to minimize the amount of hydrogen sulfide entrained in the mud system. Proper mud weight, safe drilling practices, and the use of hydrogen sulfide scavengers will minimize hazards while drilling the well.

5. Metallurgy

All tubular systems, wellheads, blowout preventers, drilling spools, kill lines, choke manifolds, and valves shall be suitable for service in a hydrogen sulfide environment when chemically treated.

6. Communications

State & County Officials phone numbers are posted on rig floor and supervisors trailer. Communications in company vehicles and toolpushers are either two way radios or cellular phones.

7. Well Testing

Drill stem testing is not an anticipated requirement for evaluation of this well. If a drill stem test is required, it will be conducted with a minimum number of personnel in the immediate vicinity. The test will be conducted during daylight hours only.

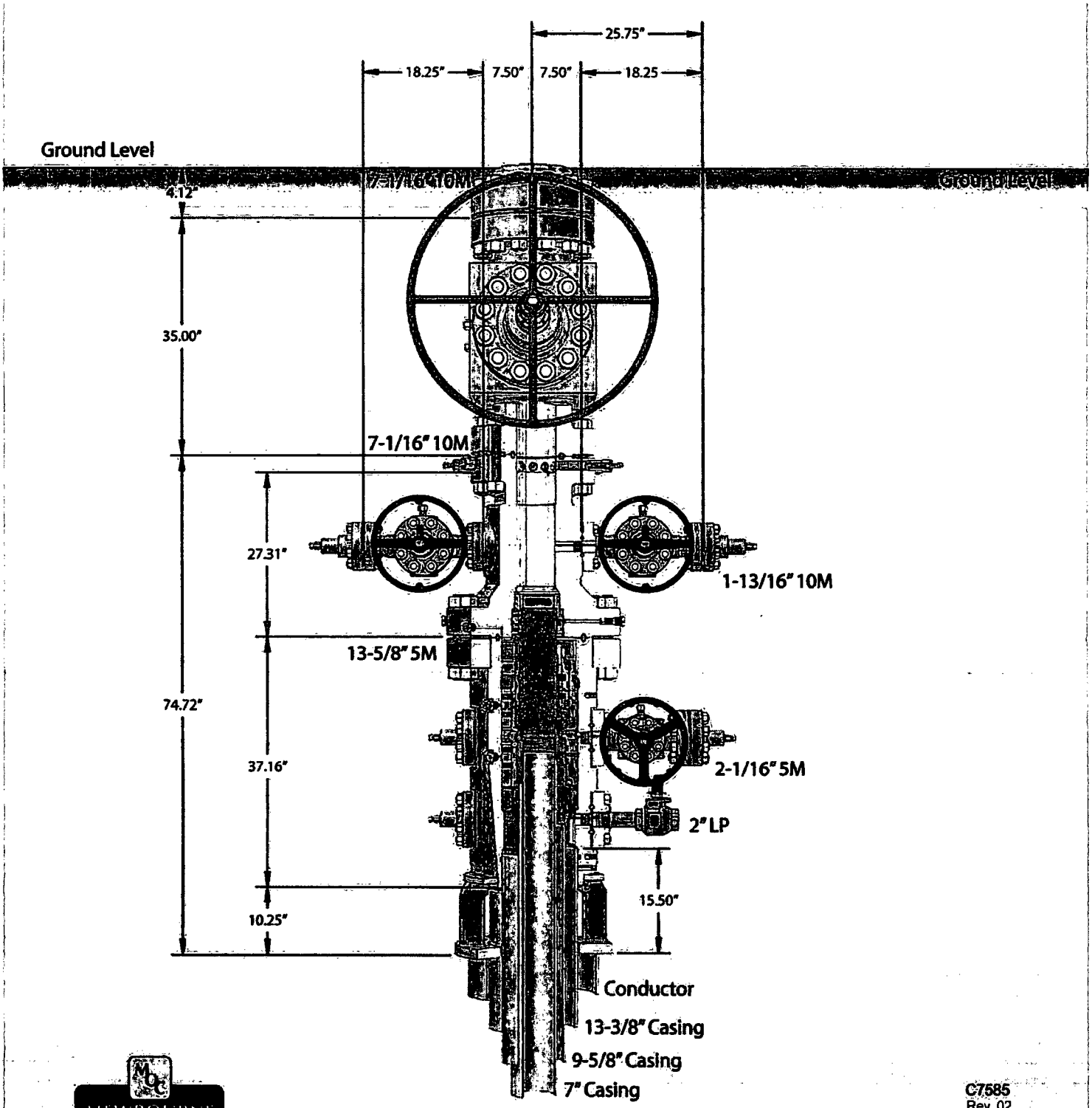
8. Emergency Phone Numbers

Eddy County Sheriff's Office	**911 or 575-887-7551**
Ambulance Service	**911 or 575-885-2111**
Carlsbad Fire Dept	**911 or 575-885-2111**
Loco Hills Volunteer Fire Dept.	**911 or 575-677-3266**
Closest Medical Facility - Columbia Medical Center of Carlsbad	**575-492-5000**

Mewbourne Oil Company	**Hobbs District Office**	**575-393-5905**
	Fax	**575-397-6252**
	2nd Fax	**575-393-7259**
District Manager	**Robin Terrell**	**575-390-4816**
Drilling Superintendent	**Frosty Lathan**	**575-390-4103**
	Bradley Bishop	**575-390-6838**
Drilling Foreman	**Wesley Noseff**	**575-441-0729**

CAMERON
A Schlumberger Company

13-5/8" MN-DS Wellhead System



MEWBOURNE OIL COMPANY

C7585
Rev. 02

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

Cupps Ranch 57" conductor cut-off
79

ENGINEERING & SERVICES

GATES E & S NORTH AMERICA, INC.
134 44TH STREET
CORPUS CHRISTI, TEXAS 78405

PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: *Tim.Cantu@gates.com*
WEB: www.gates.com

10K CEMENTING ASSEMBLY PRESSURE TEST CERTIFICATE

Customer :	AUSTIN DISTRIBUTING	Test Date:	4/30/2015
Customer Ref. :	4060578	Hose Serial No.:	D-043015-7
Invoice No. :	500506	Created By:	JUSTIN CROPPER

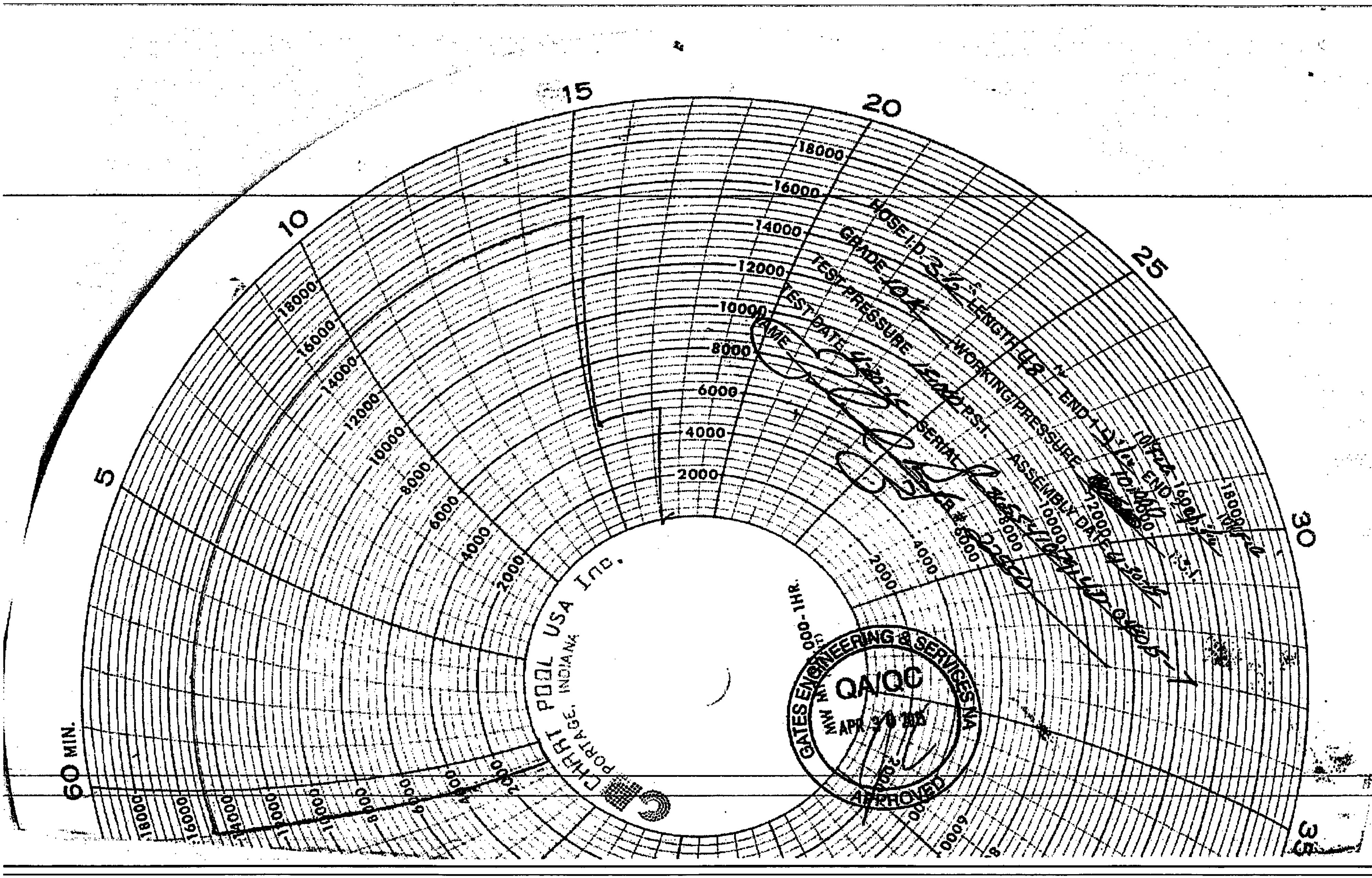
Product Description:	10K3.548.0CK4.1/1610KFLGE/E LE

End Fitting 1 :	4 1/16 10K FLG	End Fitting 2 :	4 1/16 10K FLG
Gates Part No. :	4773-6290	Assembly Code :	L36554102914D-043015-7
Working Pressure :	10,000 PSI	Test Pressure :	15,000 PSI

Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 15,000 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

Quality Manager :	QUALITY	Produciton:	PRODUCTION
Date :	4/30/2015	Date :	4/30/2015
Signature :		Signature :	

Form PTC - 01 Rev.0 2



HOSE I.D.
LENGTH
GRADE
END
WORKING PRESSURE
P.S.I.
TEST PRESSURE
SERIAL
ASSEMBLY DATE
TEST DATE
NAME
60 MIN.
CHART POOL USA INC.
PORTAGE, INDIANA
GATES ENGINEERING & SERVICES NA
QA/QC
APPROVED

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Black Sheep 4 B3MD Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3635.0usft (Original Well Elev)
Project:	Lea County, New Mexico NAD 83	**MD Reference:**	WELL @ 3635.0usft (Original Well Elev)
Site:	Black Sheep 4 B3MD Fed Com #1H	**North Reference:**	Grid
Well:	SL: 205' FSL & 480' FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 100' FNL & 450' FWL		
Design:	Design #1		

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	Black Sheep 4 B3MD Fed Com #1H				
Site Position:		**Northing:**	515,403.00 usft	**Latitude:**	32.4140334
From:	Map	**Easting:**	804,072.00 usft	**Longitude:**	-103.4819353
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.46 °

Well	SL: 205' FSL & 480' FWL					
Well Position	**+N/-S**	0.0 usft	**Northing:**	515,403.00 usft	**Latitude:**	32.4140334
	+E/-W	0.0 usft	**Easting:**	804,072.00 usft	**Longitude:**	-103.4819353
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	3,635.0 usft	**Ground Level:**	3,608.0 usft

Wellbore	BHL: 100' FNL & 450' FWL			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	10/19/2018	6.64	60.19	48,003

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	359.46	

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	
5,335.0	0.00	0.00	5,335.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,471.8	2.05	188.46	5,471.8	-2.4	-0.4	1.50	1.50	0.00	188.46	
10,839.7	2.05	188.46	10,836.2	-192.6	-28.6	0.00	0.00	0.00	0.00	
10,976.5	0.00	0.00	10,973.0	-195.0	-29.0	1.50	-1.50	0.00	180.00	KOP: 10' FSL & 450' I
11,719.3	89.21	359.80	11,450.0	275.5	-30.6	12.01	12.01	0.00	-0.20	
16,456.3	89.21	359.80	11,515.0	5,012.0	-47.0	0.00	0.00	0.00	0.00	BHL: 100' FNL & 450'

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Black Sheep 4 B3MD Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3635.0usft (Original Well Elev)
Project:	Lea County, New Mexico NAD 83	**MD Reference:**	WELL @ 3635.0usft (Original Well Elev)
Site:	Black Sheep 4 B3MD Fed Com #1H	**North Reference:**	Grid
Well:	SL: 205' FSL & 480' FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 100' FNL & 450' FWL		
Design:	Design #1		

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: 205' FSL & 480' 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
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00

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Well:	SL: 205' FSL & 480' FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 100' FNL & 450' FWL		
Design:	Design #1		

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)
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,335.0	0.00	0.00	5,335.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.98	188.46	5,400.0	-0.5	-0.1	-0.5	1.50	1.50	0.00
5,471.8	2.05	188.46	5,471.8	-2.4	-0.4	-2.4	1.50	1.50	0.00
5,500.0	2.05	188.46	5,500.0	-3.4	-0.5	-3.4	0.00	0.00	0.00
5,600.0	2.05	188.46	5,599.9	-7.0	-1.0	-7.0	0.00	0.00	0.00
5,700.0	2.05	188.46	5,699.8	-10.5	-1.6	-10.5	0.00	0.00	0.00
5,800.0	2.05	188.46	5,799.8	-14.0	-2.1	-14.0	0.00	0.00	0.00
5,900.0	2.05	188.46	5,899.7	-17.6	-2.6	-17.6	0.00	0.00	0.00
6,000.0	2.05	188.46	5,999.6	-21.1	-3.1	-21.1	0.00	0.00	0.00
6,100.0	2.05	188.46	6,099.6	-24.7	-3.7	-24.6	0.00	0.00	0.00
6,200.0	2.05	188.46	6,199.5	-28.2	-4.2	-28.2	0.00	0.00	0.00
6,300.0	2.05	188.46	6,299.4	-31.8	-4.7	-31.7	0.00	0.00	0.00
6,400.0	2.05	188.46	6,399.4	-35.3	-5.3	-35.3	0.00	0.00	0.00
6,500.0	2.05	188.46	6,499.3	-38.8	-5.8	-38.8	0.00	0.00	0.00
6,600.0	2.05	188.46	6,599.2	-42.4	-6.3	-42.3	0.00	0.00	0.00
6,700.0	2.05	188.46	6,699.2	-45.9	-6.8	-45.9	0.00	0.00	0.00
6,800.0	2.05	188.46	6,799.1	-49.5	-7.4	-49.4	0.00	0.00	0.00
6,900.0	2.05	188.46	6,899.1	-53.0	-7.9	-52.9	0.00	0.00	0.00
7,000.0	2.05	188.46	6,999.0	-56.6	-8.4	-56.5	0.00	0.00	0.00
7,100.0	2.05	188.46	7,098.9	-60.1	-8.9	-60.0	0.00	0.00	0.00
7,200.0	2.05	188.46	7,198.9	-63.6	-9.5	-63.6	0.00	0.00	0.00
7,300.0	2.05	188.46	7,298.8	-67.2	-10.0	-67.1	0.00	0.00	0.00
7,400.0	2.05	188.46	7,398.7	-70.7	-10.5	-70.6	0.00	0.00	0.00
7,500.0	2.05	188.46	7,498.7	-74.3	-11.0	-74.2	0.00	0.00	0.00
7,600.0	2.05	188.46	7,598.6	-77.8	-11.6	-77.7	0.00	0.00	0.00
7,700.0	2.05	188.46	7,698.5	-81.4	-12.1	-81.2	0.00	0.00	0.00
7,800.0	2.05	188.46	7,798.5	-84.9	-12.6	-84.8	0.00	0.00	0.00
7,900.0	2.05	188.46	7,898.4	-88.4	-13.2	-88.3	0.00	0.00	0.00
8,000.0	2.05	188.46	7,998.3	-92.0	-13.7	-91.9	0.00	0.00	0.00
8,100.0	2.05	188.46	8,098.3	-95.5	-14.2	-95.4	0.00	0.00	0.00
8,200.0	2.05	188.46	8,198.2	-99.1	-14.7	-98.9	0.00	0.00	0.00
8,300.0	2.05	188.46	8,298.2	-102.6	-15.3	-102.5	0.00	0.00	0.00
8,400.0	2.05	188.46	8,398.1	-106.2	-15.8	-106.0	0.00	0.00	0.00
8,500.0	2.05	188.46	8,498.0	-109.7	-16.3	-109.5	0.00	0.00	0.00
8,600.0	2.05	188.46	8,598.0	-113.2	-16.8	-113.1	0.00	0.00	0.00
8,700.0	2.05	188.46	8,697.9	-116.8	-17.4	-116.6	0.00	0.00	0.00
8,800.0	2.05	188.46	8,797.8	-120.3	-17.9	-120.1	0.00	0.00	0.00
8,900.0	2.05	188.46	8,897.8	-123.9	-18.4	-123.7	0.00	0.00	0.00
9,000.0	2.05	188.46	8,997.7	-127.4	-18.9	-127.2	0.00	0.00	0.00
9,100.0	2.05	188.46	9,097.6	-130.9	-19.5	-130.8	0.00	0.00	0.00
9,200.0	2.05	188.46	9,197.6	-134.5	-20.0	-134.3	0.00	0.00	0.00
9,300.0	2.05	188.46	9,297.5	-138.0	-20.5	-137.8	0.00	0.00	0.00
9,400.0	2.05	188.46	9,397.5	-141.6	-21.1	-141.4	0.00	0.00	0.00
9,500.0	2.05	188.46	9,497.4	-145.1	-21.6	-144.9	0.00	0.00	0.00
9,600.0	2.05	188.46	9,597.3	-148.7	-22.1	-148.4	0.00	0.00	0.00
9,700.0	2.05	188.46	9,697.3	-152.2	-22.6	-152.0	0.00	0.00	0.00
9,800.0	2.05	188.46	9,797.2	-155.7	-23.2	-155.5	0.00	0.00	0.00
9,900.0	2.05	188.46	9,897.1	-159.3	-23.7	-159.1	0.00	0.00	0.00
10,000.0	2.05	188.46	9,997.1	-162.8	-24.2	-162.6	0.00	0.00	0.00
10,100.0	2.05	188.46	10,097.0	-166.4	-24.7	-166.1	0.00	0.00	0.00
10,200.0	2.05	188.46	10,196.9	-169.9	-25.3	-169.7	0.00	0.00	0.00
10,300.0	2.05	188.46	10,296.9	-173.5	-25.8	-173.2	0.00	0.00	0.00
10,400.0	2.05	188.46	10,396.8	-177.0	-26.3	-176.7	0.00	0.00	0.00

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Black Sheep 4 B3MD Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3635.0usft (Original Well Elev)
Project:	Lea County, New Mexico NAD 83	**MD Reference:**	WELL @ 3635.0usft (Original Well Elev)
Site:	Black Sheep 4 B3MD Fed Com #1H	**North Reference:**	Grid
Well:	SL: 205' FSL & 480' FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 100' FNL & 450' FWL		
Design:	Design #1		

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	2.05	188.46	10,496.7	-180.5	-26.9	-180.3	0.00	0.00	0.00
10,600.0	2.05	188.46	10,596.7	-184.1	-27.4	-183.8	0.00	0.00	0.00
10,700.0	2.05	188.46	10,696.6	-187.6	-27.9	-187.4	0.00	0.00	0.00
10,800.0	2.05	188.46	10,796.6	-191.2	-28.4	-190.9	0.00	0.00	0.00
10,839.7	2.05	188.46	10,836.2	-192.6	-28.6	-192.3	0.00	0.00	0.00
10,900.0	1.15	188.46	10,896.5	-194.2	-28.9	-194.0	1.50	-1.50	0.00
10,976.5	0.00	0.00	10,973.0	-195.0	-29.0	-194.7	1.50	-1.50	0.00
KOP: 10' FSL & 450' FWL (1H)									
11,000.0	2.82	359.80	10,996.5	-194.4	-29.0	-194.1	12.01	12.01	0.00
11,100.0	14.83	359.80	11,095.1	-179.1	-29.1	-178.8	12.01	12.01	0.00
11,200.0	26.84	359.80	11,188.4	-143.6	-29.2	-143.3	12.01	12.01	0.00
11,274.4	35.78	359.80	11,251.9	-105.0	-29.3	-104.7	12.01	12.01	0.00
FTP: 100' FSL & 450' FWL (1H)									
11,300.0	38.85	359.80	11,272.3	-89.5	-29.4	-89.2	12.01	12.01	0.00
11,400.0	50.86	359.80	11,343.0	-19.0	-29.6	-18.8	12.01	12.01	0.00
11,500.0	62.88	359.80	11,397.6	64.5	-29.9	64.8	12.01	12.01	0.00
11,600.0	74.89	359.80	11,433.5	157.7	-30.2	157.9	12.01	12.01	0.00
11,700.0	86.90	359.80	11,449.3	256.2	-30.6	256.5	12.01	12.01	0.00
11,719.3	89.21	359.80	11,450.0	275.5	-30.6	275.8	12.01	12.01	0.00
11,800.0	89.21	359.80	11,451.1	356.2	-30.9	356.5	0.00	0.00	0.00
11,900.0	89.21	359.80	11,452.5	456.2	-31.3	456.5	0.00	0.00	0.00
12,000.0	89.21	359.80	11,453.9	556.2	-31.6	556.4	0.00	0.00	0.00
12,100.0	89.21	359.80	11,455.2	656.2	-31.9	656.4	0.00	0.00	0.00
12,200.0	89.21	359.80	11,456.6	756.2	-32.3	756.4	0.00	0.00	0.00
12,300.0	89.21	359.80	11,458.0	856.1	-32.6	856.4	0.00	0.00	0.00
12,400.0	89.21	359.80	11,459.3	956.1	-33.0	956.4	0.00	0.00	0.00
12,500.0	89.21	359.80	11,460.7	1,056.1	-33.3	1,056.4	0.00	0.00	0.00
12,600.0	89.21	359.80	11,462.1	1,156.1	-33.7	1,156.4	0.00	0.00	0.00
12,700.0	89.21	359.80	11,463.5	1,256.1	-34.0	1,256.4	0.00	0.00	0.00
12,800.0	89.21	359.80	11,464.8	1,356.1	-34.4	1,356.4	0.00	0.00	0.00
12,900.0	89.21	359.80	11,466.2	1,456.1	-34.7	1,456.3	0.00	0.00	0.00
13,000.0	89.21	359.80	11,467.6	1,556.1	-35.1	1,556.3	0.00	0.00	0.00
13,100.0	89.21	359.80	11,468.9	1,656.1	-35.4	1,656.3	0.00	0.00	0.00
13,200.0	89.21	359.80	11,470.3	1,756.1	-35.7	1,756.3	0.00	0.00	0.00
13,300.0	89.21	359.80	11,471.7	1,856.0	-36.1	1,856.3	0.00	0.00	0.00
13,400.0	89.21	359.80	11,473.1	1,956.0	-36.4	1,956.3	0.00	0.00	0.00
13,500.0	89.21	359.80	11,474.4	2,056.0	-36.8	2,056.3	0.00	0.00	0.00
13,600.0	89.21	359.80	11,475.8	2,156.0	-37.1	2,156.3	0.00	0.00	0.00
13,700.0	89.21	359.80	11,477.2	2,256.0	-37.5	2,256.3	0.00	0.00	0.00
13,800.0	89.21	359.80	11,478.6	2,356.0	-37.8	2,356.2	0.00	0.00	0.00
13,878.0	89.21	359.80	11,479.6	2,434.0	-38.1	2,434.3	0.00	0.00	0.00
PPP: 2638' FSL & 450' FWL (1H)									
13,900.0	89.21	359.80	11,479.9	2,456.0	-38.2	2,456.2	0.00	0.00	0.00
14,000.0	89.21	359.80	11,481.3	2,556.0	-38.5	2,556.2	0.00	0.00	0.00
14,100.0	89.21	359.80	11,482.7	2,656.0	-38.9	2,656.2	0.00	0.00	0.00
14,200.0	89.21	359.80	11,484.0	2,756.0	-39.2	2,756.2	0.00	0.00	0.00
14,300.0	89.21	359.80	11,485.4	2,855.9	-39.5	2,856.2	0.00	0.00	0.00
14,400.0	89.21	359.80	11,486.8	2,955.9	-39.9	2,956.2	0.00	0.00	0.00
14,500.0	89.21	359.80	11,488.2	3,055.9	-40.2	3,056.2	0.00	0.00	0.00
14,600.0	89.21	359.80	11,489.5	3,155.9	-40.6	3,156.2	0.00	0.00	0.00
14,700.0	89.21	359.80	11,490.9	3,255.9	-40.9	3,256.1	0.00	0.00	0.00
14,800.0	89.21	359.80	11,492.3	3,355.9	-41.3	3,356.1	0.00	0.00	0.00
14,900.0	89.21	359.80	11,493.6	3,455.9	-41.6	3,456.1	0.00	0.00	0.00

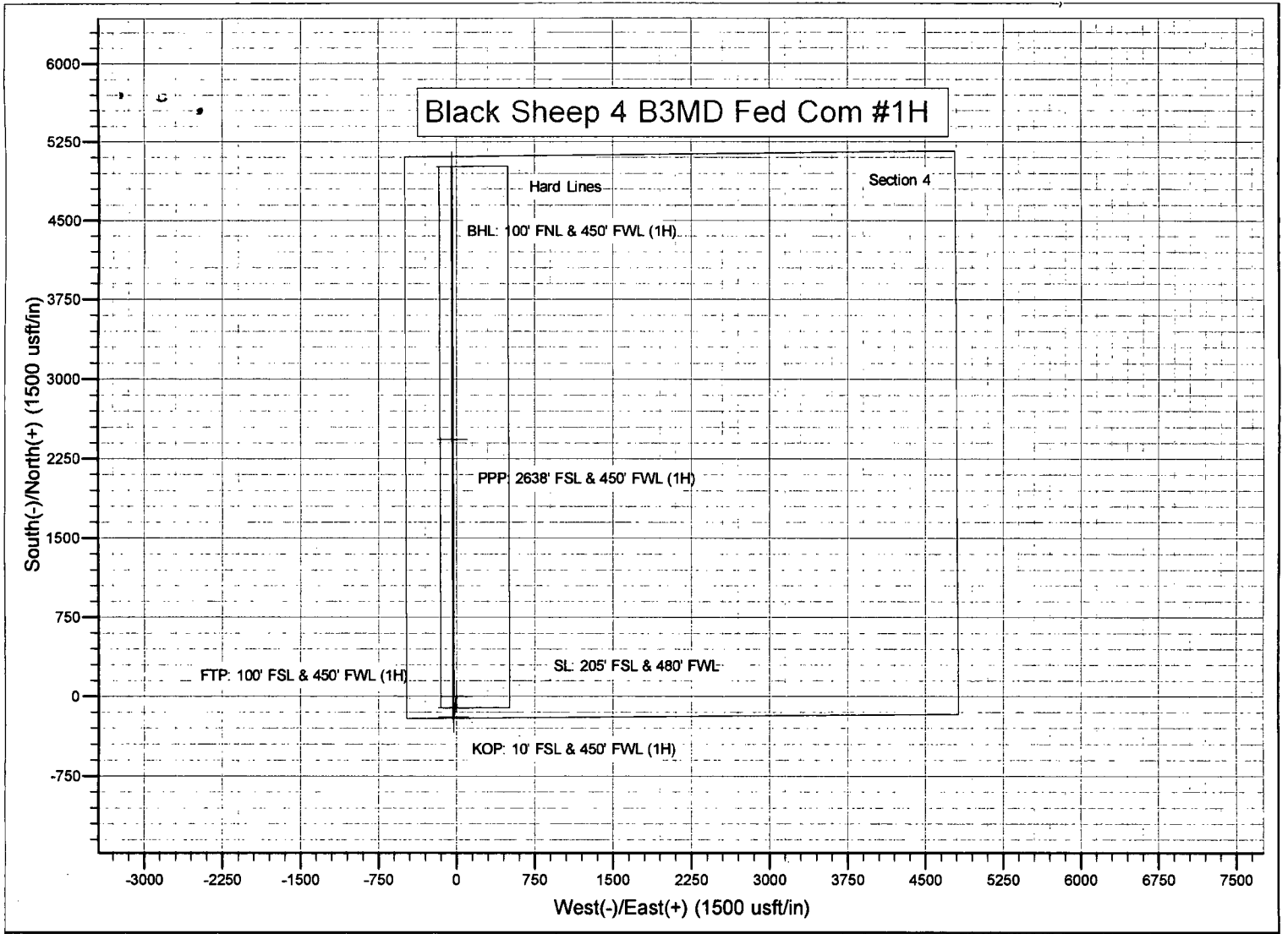
Database:	Hobbs	**Local Co-ordinate Reference:**	Site Black Sheep 4 B3MD Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3635.0usft (Original Well Elev)
Project:	Lea County, New Mexico NAD 83	**MD Reference:**	WELL @ 3635.0usft (Original Well Elev)
Site:	Black Sheep 4 B3MD Fed Com #1H	**North Reference:**	Grid
Well:	SL: 205' FSL & 480' FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 100' FNL & 450' FWL		
Design:	Design #1		

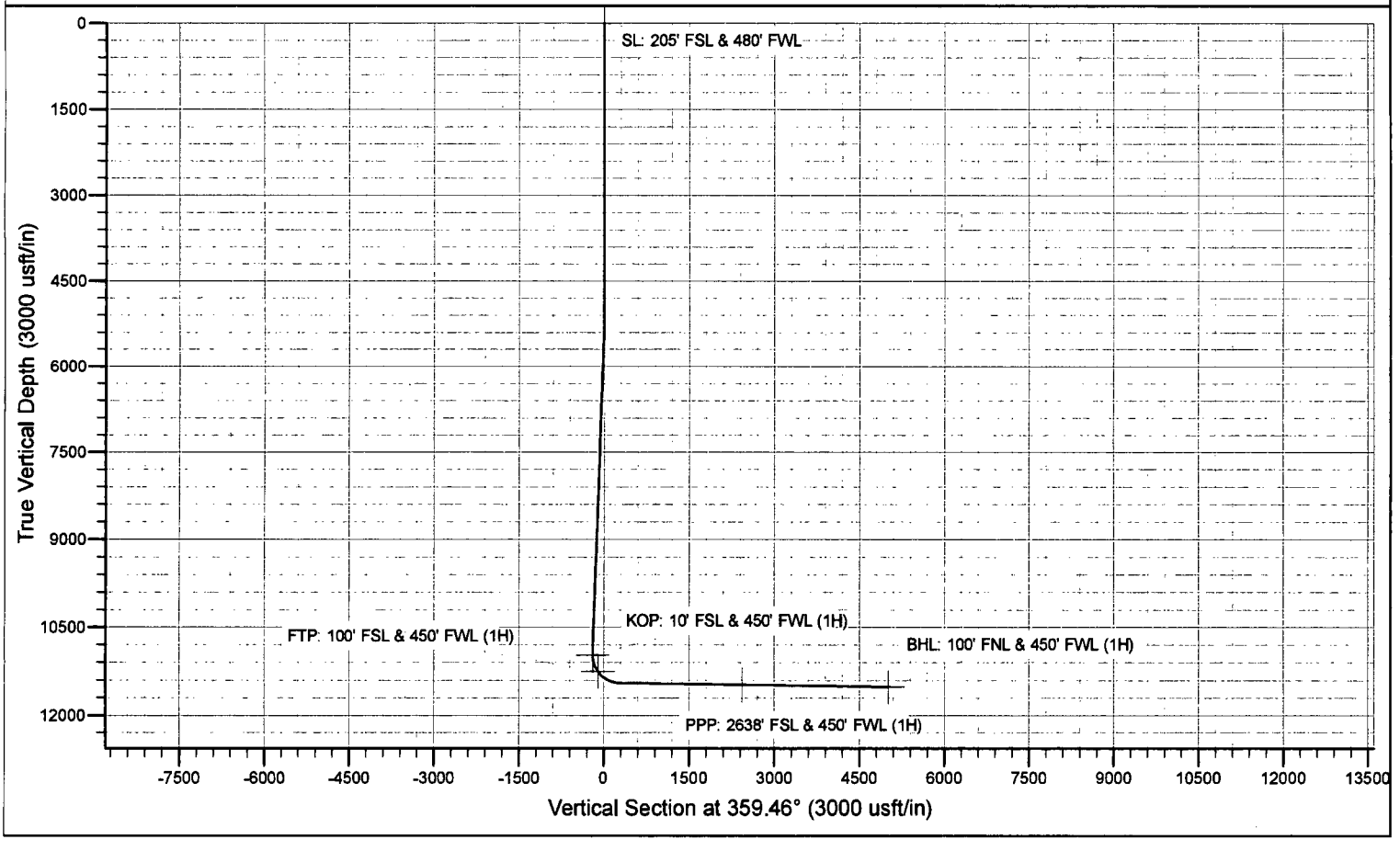
Planned Survey

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)
15,000.0	89.21	359.80	11,495.0	3,555.9	-42.0	3,556.1	0.00	0.00	0.00
15,100.0	89.21	359.80	11,496.4	3,655.9	-42.3	3,656.1	0.00	0.00	0.00
15,200.0	89.21	359.80	11,497.8	3,755.9	-42.7	3,756.1	0.00	0.00	0.00
15,300.0	89.21	359.80	11,499.1	3,855.8	-43.0	3,856.1	0.00	0.00	0.00
15,400.0	89.21	359.80	11,500.5	3,955.8	-43.3	3,956.1	0.00	0.00	0.00
15,500.0	89.21	359.80	11,501.9	4,055.8	-43.7	4,056.1	0.00	0.00	0.00
15,600.0	89.21	359.80	11,503.3	4,155.8	-44.0	4,156.0	0.00	0.00	0.00
15,700.0	89.21	359.80	11,504.6	4,255.8	-44.4	4,256.0	0.00	0.00	0.00
15,800.0	89.21	359.80	11,506.0	4,355.8	-44.7	4,356.0	0.00	0.00	0.00
15,900.0	89.21	359.80	11,507.4	4,455.8	-45.1	4,456.0	0.00	0.00	0.00
16,000.0	89.21	359.80	11,508.7	4,555.8	-45.4	4,556.0	0.00	0.00	0.00
16,100.0	89.21	359.80	11,510.1	4,655.8	-45.8	4,656.0	0.00	0.00	0.00
16,200.0	89.21	359.80	11,511.5	4,755.8	-46.1	4,756.0	0.00	0.00	0.00
16,300.0	89.21	359.80	11,512.9	4,855.7	-46.5	4,856.0	0.00	0.00	0.00
16,400.0	89.21	359.80	11,514.2	4,955.7	-46.8	4,956.0	0.00	0.00	0.00
16,456.3	89.21	359.80	11,515.0	5,012.0	-47.0	5,012.2	0.00	0.00	0.00
BHL: 100' FNL & 450' FWL (1H)									

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: 205' FSL & 480' FWI - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	515,403.00	804,072.00	32.4140334	-103.4819353
KOP: 10' FSL & 450' FW - plan hits target center - Point	0.00	0.00	10,973.0	-195.0	-29.0	515,208.00	804,043.00	32.4134980	-103.4820343
FTP: 100' FSL & 450' FV - plan hits target center - Point	0.00	0.00	11,251.9	-105.0	-29.3	515,298.00	804,042.69	32.4137454	-103.4820330
PPP: 2638' FSL & 450' F - plan hits target center - Point	0.00	0.00	11,479.6	2,434.0	-38.1	517,837.00	804,033.91	32.4207241	-103.4819959
BHL: 100' FNL & 450' FV - plan hits target center - Point	0.00	0.00	11,515.0	5,012.0	-47.0	520,415.00	804,025.00	32.4278100	-103.4819582


Black Sheep 4 B3MD Fed Com #1H
Hard Lines
Section 4
BHL: 100' FNL & 450' FWL (1H)
PPP: 2638' FSL & 450' FWL (1H)
FTP: 100' FSL & 450' FWL (1H)
SL: 205' FSL & 480' FWL
KOP: 10' FSL & 450' FWL (1H)
South(-)/North(+) (1500 usft/in)
West(-)/East(+) (1500 usft/in)


SL: 205' FSL & 480' FWL
KOP: 10' FSL & 450' FWL (1H)
FTP: 100' FSL & 450' FWL (1H)
BHL: 100' FNL & 450' FWL (1H)
PPP: 2638' FSL & 450' FWL (1H)
True Vertical Depth (3000 usft/in)
Vertical Section at 359.46° (3000 usft/in)

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**MEWBOURNE OIL COMPANY**
LEASE NO.:	**NMNM0381970**
WELL NAME & NO.:	**BLACK SHEEP 4 B3MD FED COM 1H**
SURFACE HOLE FOOTAGE:	**205' FSL & 480' FWL**
BOTTOM HOLE FOOTAGE	**100' FNL & 450' FWL**
LOCATION:	**Section 4, T. 22 S., R 34 E., NMPM**
COUNTY:	**Eddy County, New Mexico**

COA

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
Other	☐ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1800** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:Cement to surface. If cement does not circulate, contact the appropriate BLM office.

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.

❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:
(Use this for 3 string wells in the Capitan Reef, if 4 string well ensure FW based mud used across the capitan interval)

- Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.

- Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

Operator shall filled 1/3rd casing with fluid while running production casing while running intermediate casing to maintain collapse safety factor.

3. The minimum required fill of cement behind the 7 inch production casing is:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:Cement should tie-back at least **50 feet above Capitan Reef (Top of Reef estimated at 4220 ft)** into previous casing string. Operator shall provide method of verification.

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

C. PRESSURE CONTROL

1. 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).

2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

   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. 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.
   e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.

- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ Chaves and Roosevelt Counties
Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
During office hours call (575) 627-0272.
After office hours call (575)

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig

- Notify the BLM when moving in and removing the Spudder Rig.
- Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
- BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. 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. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

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. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
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.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. The results of the test shall be reported to the appropriate BLM office.

f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

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