

HOBBS OCD

ATS-14-396

Form 3160-3
(March 2012)JUN 01 2015
OCD HobbsFORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work ☒ DRILL ☐ REENTER		5. Lease Serial No. SHL: NMNM057285; BHL: State or Fee Lease	
1b. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator Cimarex Energy Co. (215099)		7. If Unit or CA Agreement, Name and No.	
3a. Address 600 N. Marienfield St. Ste. 600 Midland Tx 79071		8. Lease Name and Well No. (313142) Mallon 27 Federal Com #4H	
3b. Phone No. (include area code) 432-571-7800		9. API Well No. 30025 - 42604	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 305 FSL & 450 FWL (N) At proposed prod. Zone 1650 330 FNL & 660 FWL (E)		10. Field and Pool, or Exploratory (50461) QUAIL RIDGE; B & SOUTH	
11. Sec., T. R. M. or Blk. and Survey and Area 27, 19S, 34E		12. County or Parish Lea	
13. State NM		14. Distance in miles and direction from nearest town or post office* Hobbs NM is 23 miles to the east of the location.	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 305'	16. No of acres in lease NMNM057285=1280.00 acres State or Fee Lease=40.00 acres	17. Spacing Unit dedicated to this well 160.00	
18. Distance from proposed* location to nearest well, drilling, completed, applied for, on this lease, ft. 1675' to 3H	19. Proposed Depth Pilot Hole TD: 11,100 15,335 MD 10,900 TVD	20. BLM/BIA Bond No. on File NM 2575; NMB000835	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3708 GR	22. Approximate date work will start* 4/1/14	23. Estimated duration 35 days	

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- | | |
|---|--|
| 1. Well plat certified by a registered surveyor | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan | 5. Operator Certification |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature Gloria Garza	Name (Printed/Typed) Gloria Garza	Date 1/17/14
Title Regulatory Compliance		
Approved By (Signature) Steve Calley	Name (Printed/Typed) CARLSBAD FIELD OFFICE	Date MAY 26 2015
Title FIELD MANAGER	Office	

Application approval 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.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.S. 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.

(Continued on page 2)

*(Instructions on page 2)

Capitan Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations AttachedJUN 03 2015
SEE ATTACHED FOR
CONDITIONS OF APPROVAL

1. Geological Formations

TVD of target 10,860

Pilot Hole TD 11,100

MD at TD 13,969

Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
OSE Ground Water	150	N/A	
Rustler	1750	N/A	
Salt	2120	N/A	
Yates	3575	N/A	
Queen	4575	N/A	
Capitan Reef	5070	N/A	
Cherry Canyon	5620	Hydrocarbons	
Bone Spring	8250	N/A	
Upper Bone Spring Shale	8700	Hydrocarbons	
1st BSS	9550	Hydrocarbons	
2nd BSS	10020	Hydrocarbons	
3rd BSS	10650	Hydrocarbons	
Wolfcamp	10940	Hydrocarbons	

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	1800	13-3/8"	54.50	J-55	ST&C	1.37	3.33	5.24
12 1/4	0	5600	9-5/8"	40.00	J-55	LT&C	1.31	1.33	2.32
8 3/4	0	10382	5-1/2"	17.00	L-80	LT&C	1.27	1.56	1.83
8 3/4	10382	13969	5-1/2"	17.00	L-80	BT&C	1.21	1.49	48.86
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet

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

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? 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 intermediate 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?	N
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	N
Is 2nd string set 100' to 600' below the base of salt?	N
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	N
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	N
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	N

3. Cementing Program

Casing	# Sk	Wt. lb/gal	Yld ft ³ /sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	873	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	233	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	1048	12.90	1.88	9.65	30	Lead: 35:65 (Poz:C) + Salt + Bentonite
	288	14.80	1.36	6.57	9.5	Tail: Class C + Retarder
Production	710	10.80	2.35	9.60	17:43	Lead: Tuned Light I Class H
	767	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS

Casing String	TOC	% Excess
Surface	0	45
Intermediate	0	44
Production	5000	19

Pilot Hole Cementing Specs
Pilot Hole Depth: 11100'
KOP: 10382

4. Pressure Control Equipment

A variance is requested for the use of a diverter on the surface casing. See attached for schematic.					
BOP installed and tested before drilling which hole?	Size	Min Required WP	Type		Tested To
12 1/4	13 5/8	2M	Annular	X	50% of working pressure
			Blind Ram		2M
			Pipe Ram		
			Double Ram	X	
			Other		
8 3/4	13 5/8	3M	Annular	X	50% of working pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	X	
			Other		

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.

	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.	
X	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?	

5. Mud Program

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 1800'	FW Spud Mud	8.30 - 8.80	28	N/C
1800' to 5600'	Brine Water	9.70 - 10.20	30-32	N/C
5600' to 13969'	FW/Cut Brine	8.70 - 9.20	30-32	N/C

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?	PVT/Pason/Visual Monitoring
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6. Logging and Testing Procedures

Logging, Coring and Testing	
	Will run GR/CNL from TD 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?
	Coring?

Additional Logs Planned	Interval
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7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	5195 psi
Abnormal Temperature	No

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.

	H ₂ S is present
	H ₂ S plan is attached

8. Other Facets of Operation

Cimarex Mallon 27 Federal Com #4H Rev1 OPB 12-May-15 Proposal Report

(Non-Def Plan)

Report Date: May 13, 2015 - 04:09 PM
 Client: Cimarex
 Field: NM Lea County (NAD 83)
 Structure / Slot: Cimarex Mallon 27 Federal Com #4H / Mallon 27 Federal Com #4H
 Well: Mallon 27 Federal Com #4H
 Borehole: Original Borehole
 UWI / API#: Unknown / Unknown
 Survey Name: Cimarex Mallon 27 Federal Com #4H Rev1 OPB 12-May-15
 Survey Date: November 20, 2013
 Tort / AHD / DDI / ERD Ratio: 90.005 * / 3314.713 ft / 5.584 / 0.305
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 37' 29.49170", W 103° 33' 18.62488"
 Location Grid N/E Y/X: N 591931.600 ftUS, E 780910.600 ftUS
 CRS Grid Convergence Angle: 0.4196 °
 Grid Scale Factor: 0.99997482
 Version / Patch: 2.8.572.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 2.103 ° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: Ground Level
 TVD Reference Elevation: 3708.000 ft above MSL
 Seabed / Ground Elevation: 3708.000 ft above MSL
 Magnetic Declination: 7.419 °
 Total Gravity Field Strength: 998.7196mgn (9.00665 Based)
 Gravity Model: DOX
 Total Magnetic Field Strength: 48574.366 nT
 Magnetic Dip Angle: 60.457 °
 Declination Date: November 20, 2013
 Magnetic Declination Model: BGGM 2012
 North Reference: Grid North
 Grid Convergence Used: 0.4196 °
 Total Corr Mag North->Grid North: 6.9993 °
 Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Tie-in	0.00	0.00	359.51	0.00	0.00	0.00	0.00	N/A	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	100.00	0.00	359.51	100.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	200.00	0.00	359.51	200.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	300.00	0.00	359.51	300.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	400.00	0.00	359.51	400.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	500.00	0.00	359.51	500.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	600.00	0.00	359.51	600.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	700.00	0.00	359.51	700.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	800.00	0.00	359.51	800.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	900.00	0.00	359.51	900.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	1000.00	0.00	359.51	1000.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	1100.00	0.00	359.51	1100.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	1200.00	0.00	359.51	1200.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	1300.00	0.00	359.51	1300.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	1400.00	0.00	359.51	1400.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	1500.00	0.00	359.51	1500.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	1600.00	0.00	359.51	1600.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	1700.00	0.00	359.51	1700.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	1800.00	0.00	359.51	1800.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	1900.00	0.00	359.51	1900.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	2000.00	0.00	359.51	2000.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	2100.00	0.00	359.51	2100.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	2200.00	0.00	359.51	2200.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	2300.00	0.00	359.51	2300.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	2400.00	0.00	359.51	2400.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	2500.00	0.00	359.51	2500.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	2600.00	0.00	359.51	2600.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	2700.00	0.00	359.51	2700.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	2800.00	0.00	359.51	2800.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	2900.00	0.00	359.51	2900.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	3000.00	0.00	359.51	3000.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
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	3200.00	0.00	359.51	3200.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	3300.00	0.00	359.51	3300.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	3400.00	0.00	359.51	3400.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	3500.00	0.00	359.51	3500.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	3600.00	0.00	359.51	3600.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	3700.00	0.00	359.51	3700.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	3800.00	0.00	359.51	3800.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	3900.00	0.00	359.51	3900.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	4000.00	0.00	359.51	4000.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	4100.00	0.00	359.51	4100.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	4200.00	0.00	359.51	4200.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	4300.00	0.00	359.51	4300.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	4400.00	0.00	359.51	4400.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
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	4800.00	0.00	359.51	4800.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	4900.00	0.00	359.51	4900.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	5000.00	0.00	359.51	5000.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
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	5300.00	0.00	359.51	5300.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	5400.00	0.00	359.51	5400.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
9 5/8 Casing Point	5480.00	0.00	359.51	5480.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	5500.00	0.00	359.51	5500.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
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	5700.00	0.00	359.51	5700.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	5800.00	0.00	359.51	5800.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	5900.00	0.00	359.51	5900.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	6000.00	0.00	359.51	6000.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	6100.00	0.00	359.51	6100.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62

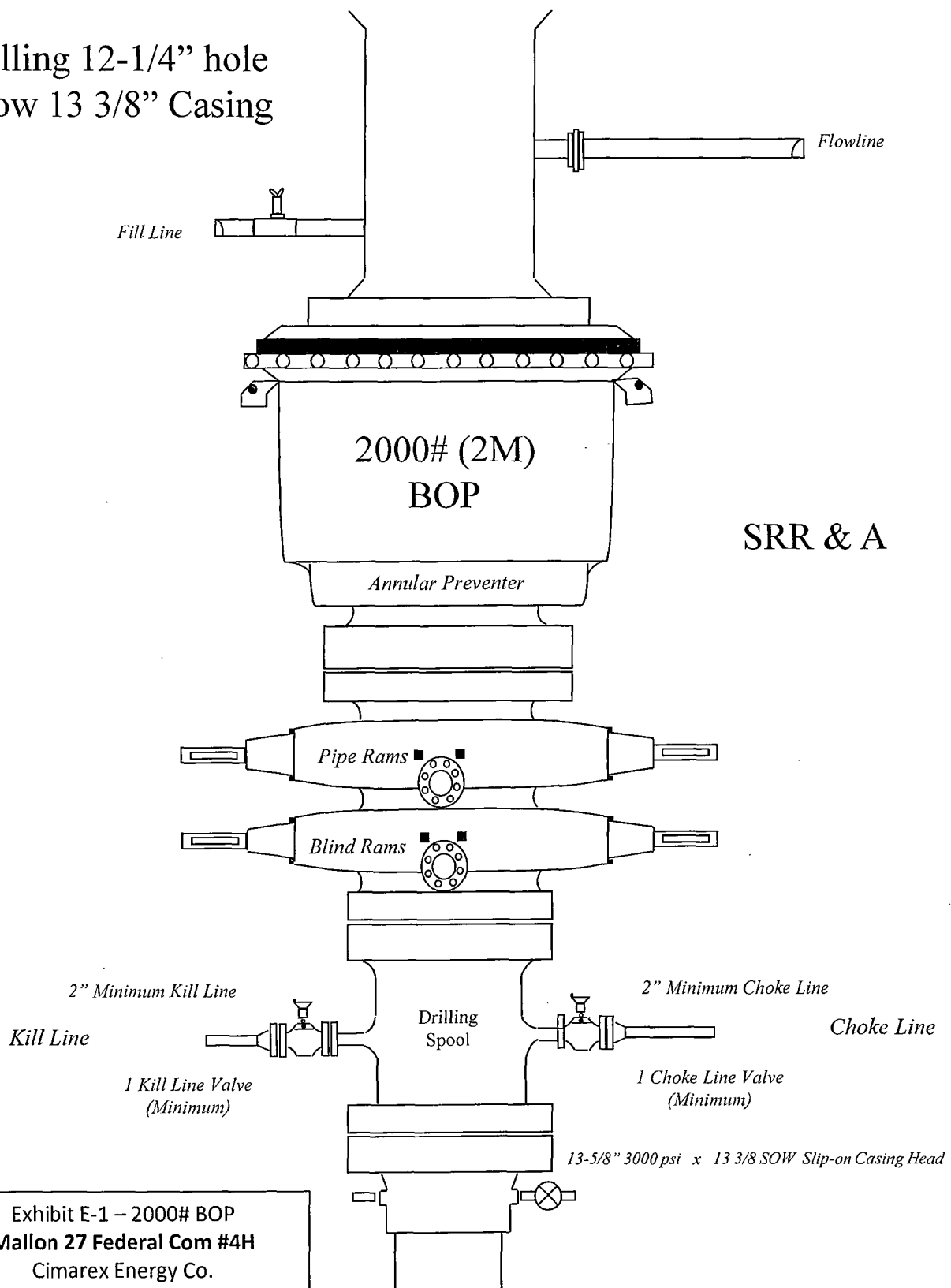
Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (7100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	6200.00	0.00	359.51	6200.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	6300.00	0.00	359.51	6300.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	6400.00	0.00	359.51	6400.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	6500.00	0.00	359.51	6500.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	6600.00	0.00	359.51	6600.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	6700.00	0.00	359.51	6700.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	6800.00	0.00	359.51	6800.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	6900.00	0.00	359.51	6900.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	7000.00	0.00	359.51	7000.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	7100.00	0.00	359.51	7100.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	7200.00	0.00	359.51	7200.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	7300.00	0.00	359.51	7300.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	7400.00	0.00	359.51	7400.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	7500.00	0.00	359.51	7500.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	7600.00	0.00	359.51	7600.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	7700.00	0.00	359.51	7700.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	7800.00	0.00	359.51	7800.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	7900.00	0.00	359.51	7900.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	8000.00	0.00	359.51	8000.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	8100.00	0.00	359.51	8100.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	8200.00	0.00	359.51	8200.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	8300.00	0.00	359.51	8300.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	8400.00	0.00	359.51	8400.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	8500.00	0.00	359.51	8500.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	8600.00	0.00	359.51	8600.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	8700.00	0.00	359.51	8700.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	8800.00	0.00	359.51	8800.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	8900.00	0.00	359.51	8900.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	9000.00	0.00	359.51	9000.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	9100.00	0.00	359.51	9100.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	9200.00	0.00	359.51	9200.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	9300.00	0.00	359.51	9300.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	9400.00	0.00	359.51	9400.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	9500.00	0.00	359.51	9500.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	9600.00	0.00	359.51	9600.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	9700.00	0.00	359.51	9700.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	9800.00	0.00	359.51	9800.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	9900.00	0.00	359.51	9900.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	10000.00	0.00	359.51	10000.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	10100.00	0.00	359.51	10100.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	10200.00	0.00	359.51	10200.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
	10300.00	0.00	359.51	10300.00	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
KOP, Build 12"	10382.50	0.00	359.51	10382.50	0.00	0.00	0.00	0.00	591931.60	780910.60	N 32 37 29.49	W 103 33 18.62
DLS	10400.00	2.10	359.51	10400.00	0.32	0.32	0.00	12.00	591931.92	780910.60	N 32 37 29.49	W 103 33 18.62
	10500.00	14.10	359.51	10498.82	14.37	14.39	-0.12	12.00	591945.98	780910.48	N 32 37 29.63	W 103 33 18.63
	10600.00	26.10	359.51	10582.56	48.63	48.68	-0.42	12.00	591980.28	780910.18	N 32 37 29.97	W 103 33 18.63
3rd BSS	10666.44	34.07	359.51	10650.00	81.88	81.96	-0.71	12.00	592013.56	780909.89	N 32 37 30.30	W 103 33 18.63
	10700.00	38.10	359.51	10677.12	101.62	101.72	-0.88	12.00	592033.32	780909.72	N 32 37 30.50	W 103 33 18.63
	10800.00	50.10	359.51	10748.80	171.01	171.18	-1.48	12.00	592102.77	780909.12	N 32 37 31.19	W 103 33 18.63
	10900.00	62.10	359.51	10804.48	253.77	254.02	-2.19	12.00	592185.61	780908.41	N 32 37 32.01	W 103 33 18.63
	11000.00	74.09	359.51	10841.72	346.28	346.63	-2.99	12.00	592278.22	780907.61	N 32 37 32.92	W 103 33 18.63
	11100.00	86.09	359.51	10858.88	444.51	444.95	-3.84	12.00	592376.54	780906.76	N 32 37 33.89	W 103 33 18.63
Landing Point	11132.56	90.00	359.51	10860.00	477.01	477.48	-4.13	12.00	592409.07	780906.47	N 32 37 34.22	W 103 33 18.63
	11200.00	90.00	359.51	10860.00	544.38	544.92	-4.71	0.00	592476.51	780905.89	N 32 37 34.88	W 103 33 18.63
	11300.00	90.00	359.51	10860.00	644.28	644.92	-5.57	0.00	592576.50	780905.03	N 32 37 35.87	W 103 33 18.63
	11400.00	90.00	359.51	10860.00	744.18	744.92	-6.43	0.00	592676.50	780904.17	N 32 37 36.86	W 103 33 18.64
	11500.00	90.00	359.51	10860.00	844.08	844.91	-7.30	0.00	592776.49	780903.30	N 32 37 37.85	W 103 33 18.64
	11600.00	90.00	359.51	10860.00	943.97	944.91	-8.16	0.00	592876.48	780902.44	N 32 37 38.84	W 103 33 18.64
	11700.00	90.00	359.51	10860.00	1043.87	1044.91	-9.02	0.00	592976.48	780901.58	N 32 37 39.83	W 103 33 18.64
	11800.00	90.00	359.51	10860.00	1143.77	1144.90	-9.88	0.00	593076.47	780900.72	N 32 37 40.82	W 103 33 18.64
	11900.00	90.00	359.51	10860.00	1243.67	1244.90	-10.75	0.00	593176.46	780899.85	N 32 37 41.81	W 103 33 18.64
	12000.00	90.00	359.51	10860.00	1343.56	1344.89	-11.61	0.00	593276.46	780898.99	N 32 37 42.80	W 103 33 18.65
	12100.00	90.00	359.51	10860.00	1443.46	1444.89	-12.47	0.00	593376.45	780898.13	N 32 37 43.79	W 103 33 18.65
	12200.00	90.00	359.51	10860.00	1543.36	1544.89	-13.33	0.00	593476.45	780897.27	N 32 37 44.78	W 103 33 18.65
	12300.00	90.00	359.51	10860.00	1643.25	1644.88	-14.19	0.00	593576.44	780896.41	N 32 37 45.77	W 103 33 18.65
	12400.00	90.00	359.51	10860.00	1743.15	1744.88	-15.05	0.00	593676.43	780895.55	N 32 37 46.76	W 103 33 18.65
	12500.00	90.00	359.51	10860.00	1843.05	1844.88	-15.91	0.00	593776.43	780894.69	N 32 37 47.75	W 103 33 18.65
	12600.00	90.00	359.51	10860.00	1942.95	1944.87	-16.77	0.00	593876.42	780893.83	N 32 37 48.74	W 103 33 18.65
	12700.00	90.00	359.51	10860.00	2042.84	2044.87	-17.63	0.00	593976.41	780892.98	N 32 37 49.73	W 103 33 18.65
	12800.00	90.00	359.51	10860.00	2142.74	2144.87	-18.48	0.00	594076.41	780892.12	N 32 37 50.71	W 103 33 18.66
	12900.00	90.00	359.51	10860.00	2242.64	2244.86	-19.34	0.00	594176.40	780891.26	N 32 37 51.70	W 103 33 18.66
	13000.00	90.00	359.51	10860.00	2342.54	2344.86	-20.20	0.00	594276.39	780890.40	N 32 37 52.69	W 103 33 18.66
	13100.00	90.00	359.51	10860.00	2442.43	2444.85	-21.05	0.00	594376.39	780889.54	N 32 37 53.68	W 103 33 18.66
	13200.00	90.00	359.51	10860.00	2542.33	2544.85	-21.91	0.00	594476.38	780888.69	N 32 37 54.67	W 103 33 18.66
	13300.00	90.00	359.51	10860.00	2642.23	2644.85	-22.77	0.00	594576.37	780887.83	N 32 37 55.66	W 103 33 18.66
	13400.00	90.00	359.51	10860.00	2742.13	2744.84	-23.63	0.00	594676.37	780886.97	N 32 37 56.65	W 103 33 18.67
	13500.00	90.00	359.51	10860.00	2842.02	2844.84	-24.48	0.00	594776.36	780886.12	N 32 37 57.64	W 103 33 18.67
	13600.00	90.00										

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
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Survey Error Model: ISCIWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EDU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	13969.768	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Mallon 27 Federal Com #4H Rev1

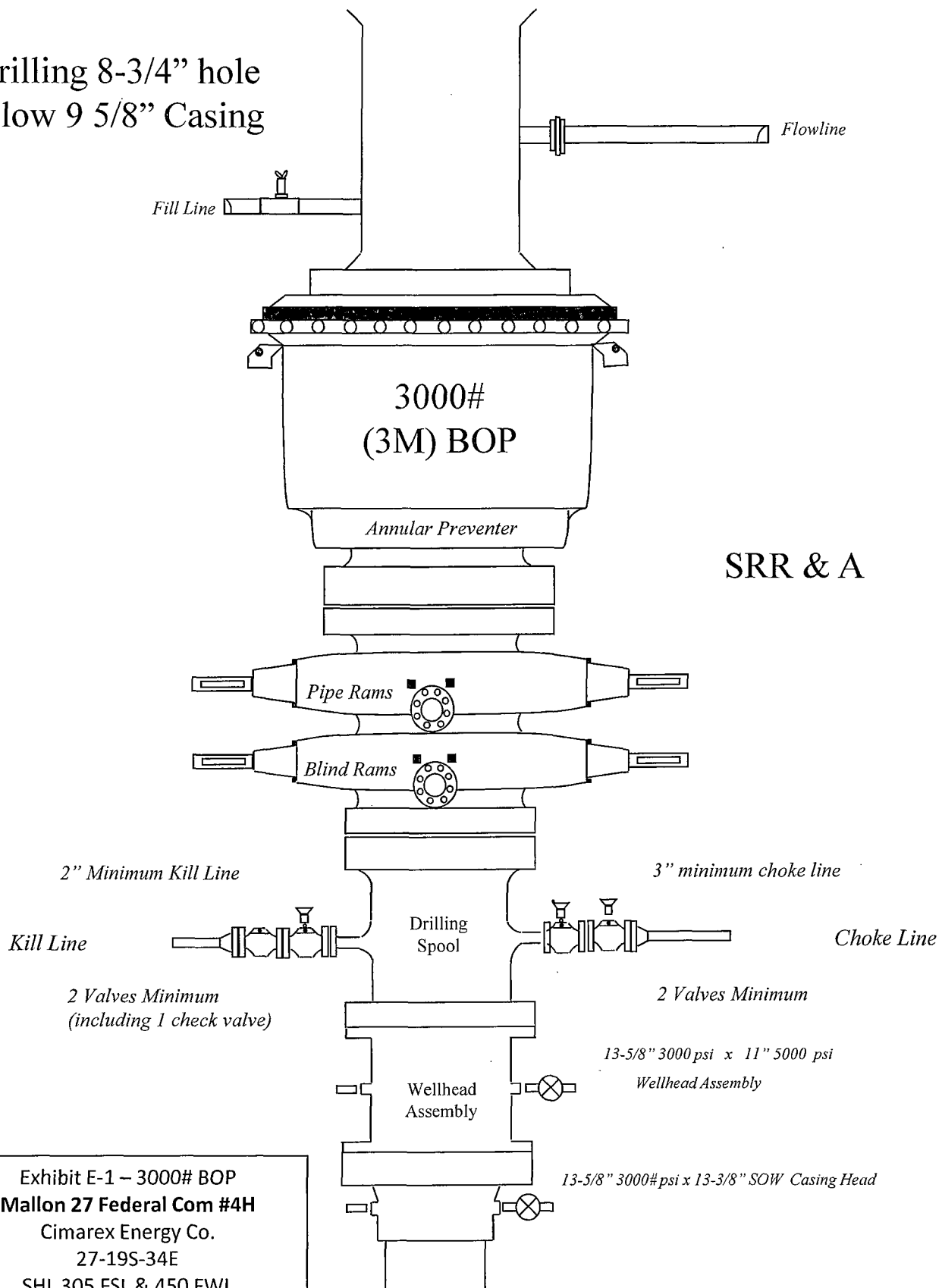
Drilling 12-1/4" hole
below 13 3/8" Casing



SRR & A

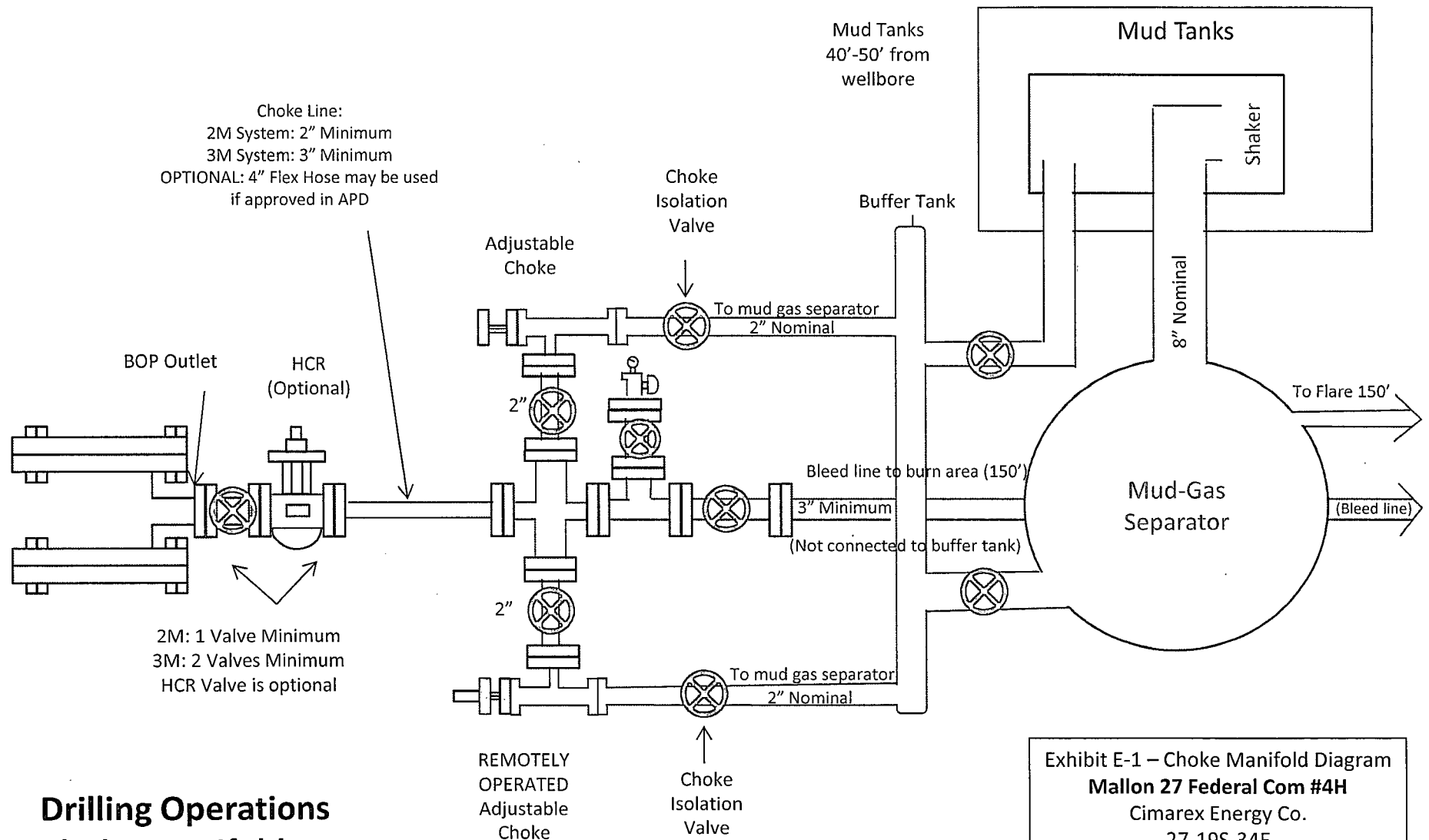
Exhibit E-1 – 2000# BOP
Mallon 27 Federal Com #4H
Cimarex Energy Co.
27-19S-34E
SHL 305 FSL & 450 FWL
BHL 330 FNL & 660 FWL
Lea County, NM

Drilling 8-3/4" hole
below 9 5/8" Casing



SRR & A

Exhibit E-1 – 3000# BOP
Mallon 27 Federal Com #4H
Cimarex Energy Co.
27-19S-34E
SHL 305 FSL & 450 FWL
BHL 330 FNL & 660 FWL
Lea County, NM



Drilling Operations Choke Manifold 2M/3M Service

Exhibit E-1 – Choke Manifold Diagram
Mallon 27 Federal Com #4H
 Cimarex Energy Co.
 27-19S-34E
 SHL 305 FSL & 450 FWL
 BHL 330 FNL & 660 FWL
 Lea County, NM

Exhibit F-1 - Co-Flex Hose Hydrostatic Test

Mallon 27 Federal Com #4H

Cimarex Energy Co.

27-19S-34E

SHL 305 FSL & 450 FWL

BHL 330 FNL & 660 FWL

Lea County, NM



Midwest Hose
& Specialty, Inc.

INTERNAL HYDROSTATIC TEST REPORT

Customer: Oderco Inc		P.O. Number: odyd-271	
HOSE SPECIFICATIONS			
Type: Stainless Steel Armor Choke & Kill Hose		Hose Length: 45'ft.	
I.D. 4 INCHES		O.D. 9 INCHES	
WORKING PRESSURE 10,000 PSI	TEST PRESSURE 15,000 PSI	BURST PRESSURE 0 PSI	
COUPLINGS			
Stem Part No. OKC OKC		Ferrule No. OKC OKC	
Type of Coupling: Swage-It			
PROCEDURE			
<i>Hose assembly pressure tested with water at ambient temperature.</i>			
TIME HELD AT TEST PRESSURE 15 MIN.		ACTUAL BURST PRESSURE: 0 PSI	
Hose Assembly Serial Number: 79793		Hose Serial Number: OKC	
Comments:			
Date: 3/8/2011	Tested: A. J. Smith	Approved: [Signature]	



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: Houston

Pick Ticket #: 94260

March 3, 2011

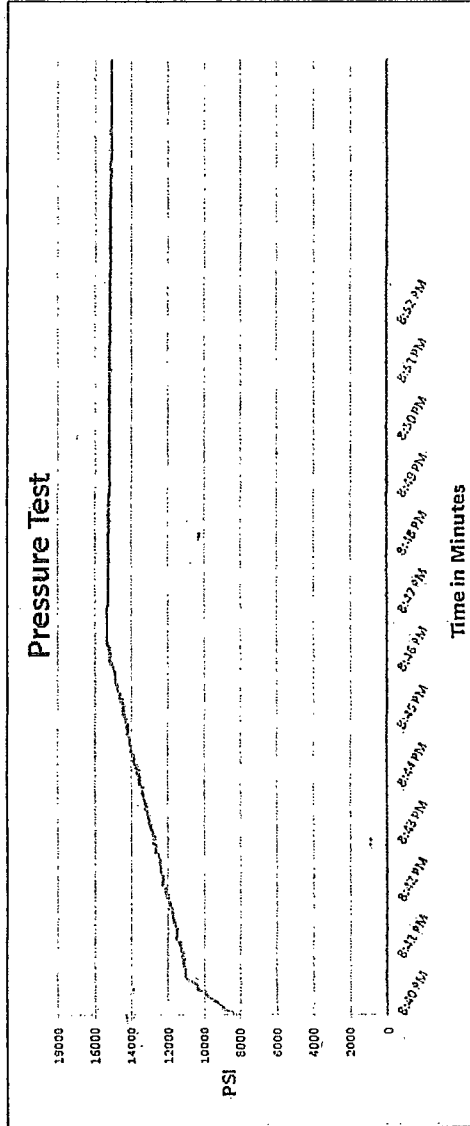
Hose Specifications

Hose Type
C & K
I.D.
4"
Working Pressure
10000 PSI
Length
45'
O.D.
6.09"
Burst Pressure
Standard Safety Multiplier/Apply

Verification

Type of Fittings
41/1610K
Die Size
6.38"
Hose Serial #
5544
Coupling Method
Swage
Final O.D.
6.25"
Hose Assembly Serial #
79793

Exhibit F-1 – Co-Flex Hose Hydrostatic Test
Mallon 27 Federal Com #4H
Cimarex Energy Co.
27-19S-34E
SHL 305 FSL & 450 FWL
BHL 330 FNL & 660 FWL
Lea County, NM



Test Pressure
15000 PSI

Time Held at Test Pressure
11 Minutes

Actual Burst Pressure
15485 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: Zac McConnell

Approved By: Kim Thomas

[Signature]

[Signature]



Midwest Hose
& Specialty, Inc.

Exhibit F -3- Co-Flex Hose
Mallon 27 Federal Com #4H
Cimarex Energy Co.
27-19S-34E
SHL 305 FSL & 450 FWL
BHL 330 FNL & 660 FWL
Lea County, NM

Specification Sheet Choke & Kill Hose

The Midwest Hose & Specialty Choke & Kill hose is manufactured with only premium components. The reinforcement cables, inner liner and cover are made of the highest quality material to handle the tough drilling applications of today's industry. The end connections are available with API flanges, API male threads, hubs, hammer unions or other special fittings upon request. Hose assembly is manufactured to API 7K. This assembly is wrapped with fire resistant vermiculite coated fiberglass insulation, rated at 2000 degrees with stainless steel armor cover.

Working Pressure:	5,000 or 10,000 psi working pressure
Test Pressure:	10,000 or 15,000 psi test pressure
Reinforcement:	Multiple steel cables
Cover:	Stainless Steel Armor
Inner Tube:	Petroleum resistant, Abrasion resistant
End Fitting:	API flanges, API male threads, threaded or butt weld hammer unions, unbolt and other special connections
Maximum Length:	110 Feet
ID:	2-1/2", 3", 3-1/2", 4"
Operating Temperature:	-22 deg F to +180 deg F (-30 deg C to +82 deg C)

Certificate of Conformity

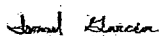
Customer: DEM		PO ODYD-271
SPECIFICATIONS		
Sales Order 79793	Dated: 3/8/2011	
We hereby certify that the material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards Supplier: Midwest Hose & Specialty, Inc. 10640 Tanner Road Houston, Texas 77041		
Comments:		
Approved: 	Date: 3/8/2011	

Exhibit F – Co-Flex Hose
Mallon 27 Federal Com #4H

Cimarex Energy Co.

27-19S-34E

SHL 305 FSL & 450 FWL

BHL 330 FNL & 660 FWL

Lea County, NM

