

OCD Hobbs

HOBBS OCD

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

JUL 01 2015

APPLICATION FOR PERMIT TO DRILL OR REENTER

RECEIVED

1a. Type of Work ☒ DRILL ☐ REENTER		5. Lease Serial No. SHLABHL: NM0392082A
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. <i>OK COLORADO</i> <i>(162683)</i>		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. <i>(38778)</i> Hallertau 5 Federal #5H
3b. Phone No. (include area code) 432-571-7800		9. API Well No. 30025 <i>42665</i>
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At Surface 330 FSL & 480 FEL <i>(P)</i> At proposed prod. Zone 330' FNL & 940' FEL <i>(A)</i> Bone Spring		10. Field and Pool, or Exploratory <i>(97878)</i> 11. Sec. T. R. M. or Blk. and Survey and Area 5, 26S, 32E
14. Distance in miles and direction from nearest town or post office* Malaga is approx. 25 miles to the North West of Location		12. County or Parish Lea
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 330' FSL		13. State NM
16. No of acres in lease NM0392082A=1400.00 acres <i>140.49</i>		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. 150' to the #1		20. BLM/BIA Bond No. on File NM-2575; NMB000835
19. Proposed Depth Pilot Hole TD: N/A 13,491 MD 8,995 TVD		21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3255 GR
22. Approximate date work will start* 1/5/14		23. Estimated duration 30 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 <i>Paula Brunson</i>	Name (Printed/Typed) Paula Brunson	Date 11/22/13
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Title

Regulatory Compliance

Approved By (Signature) <i>Steve Caffey</i>	Name (Printed/Typed) Steve Caffey	Date JUN 26 2015
Title FIELD MANAGER	Office CARLSBAD FIELD 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)

Carlsbad Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL
JUL 07 2015

Application to Drill
Hallertau 5 Federal #5H

Cimarex Energy Co.
UL: P, Sec. 5, 26S, 32E
Lea Co., NM

HOBBS OCD

JUL 01 2015

RECEIVED

In response to questions asked under Section II B of Bulletin NTL-6, the following information is provided for your consideration:

1. Location: SHL 330 FSL & 480 FEL
BHL 330' FNL & 940' FEL
2. Elevation Above Sea Level: 3,255' GR
3. Geologic Name of Surface Formation: Quaternary Alluvium Deposits
4. Drilling Tools and Associated Equipment: Conventional rotary drilling rig using fluid as a circulating medium for solids removal
5. Proposed Drilling Depth: 13,491 MD 8,995 TVD Pilot Hole TD: N/A
6. Estimated Tops of Geological Markers:

Formation	Est Top	Bearing
Rustler		1040 N/A
Top Salt		1400 N/A
Castille		2700 N/A
Base Last Salt		4225 N/A
Lamar		4440 N/A
Bell Canyon		4480 Hydrocarbons
Cherry Canyon		5700 Hydrocarbons
Brushy Canyon		7375 Hydrocarbons
Bone Spring		8520 N/A
U. Avalon (Leonard)		8675 N/A
L. Avalon		9000 Hydrocarbons

7. Possible Mineral Bearing Formation: Shown above

7A. OSE Ground Water Estimated Depth: 275'

8. Casing Program:

See CCA for depth changes

Name	Casing Depth From (ft)	Casing Setting Depth (ft) MD	Casing Setting Depth (ft) TVD	Open Hole Size (inches)	Casing Size (inches)	Casing Weight (lb/ft)	Casing Grade	Thread	Condition	BHP (psig)	Anticipated Mud Weight (ppg)	Collapse SF at Full Evacuation(1.125)	Collapse SF at 1/3 Evacuation(1.125)	Burst SF (1.125)	Cumulative Air Weight	Cumulative Bouyed Weight (lbs)	Bouyant Tension SF (1.8)
Surface	0	1090 1215	1090	17 1/2	13-3/8"	48.00	H-40	ST&C	New	470	8.3	1.57		3.68	52,320	45,690	7.05
Intermediate	0	4450 4400	4450	12 1/4	9-5/8"	36.00	J-55	LT&C	New	2314	10.0		1.30	1.52	160,200	135,742	3.34
Production	0	8527	8527	8 3/4	5-1/2"	17.00	L-80	LT&C	New	3990	9.0	1.58		1.94	152,915	131,904	2.56
Production	8527	13491	8995	8 3/4	5-1/2"	17.00	L-80	BT&C	New	4209	9.0	1.49		1.84	7,956	6,863	57.85

Application to Drill
Hallertau 5 Federal #5H
 Cimarex Energy Co.
 UL: P, Sec. 5, 26S, 32E
 Lea Co., NM

8A. Casing Design and Casing Loading Assumptions:

Surface	Tension	A 1.8 design factor with effects of buoyancy: 8.30 ppg.
	Collapse	A 1.125 design factor with full internal evacuation and a collapse force equal to a 8.30 ppg mud gradient.
	Burst	A 1.125 design with a surface pressure equal to the fracture gradient at setting depth less gas gradient to surface.
Intermediate	Tension	A 1.8 design factor with effects of buoyancy: 10.00 ppg.
	Collapse	A 1.125 design factor evacuated 1/3 TVD of next casing string with a collapse force equal to a 10.00 ppg mud gradient.
	Burst	A 1.125 design with a surface pressure equal to the fracture gradient at setting depth less gas gradient to surface.
Production and/or Production Liner	Tension	A 1.8 design factor with effects of buoyancy: 9.00 ppg.
	Collapse	A 1.125 design factor with full internal evacuation of next casing string with a collapse force equal to a 9.00 ppg mud gradient.
	Burst	A 1.125 design with a surface pressure equal to the fracture gradient at setting depth less gas gradient to surface.

9. Cementing Program:

Casing Type	Type	Sacks	Yield	Weight	Cubic Feet	Cement Blend
Surface	Lead	692	1.75	13.50	1211	Class C + Bentonite + Calcium Chloride + LCM, 8.829 gps water
	Tail	142	1.34	14.80	189	Class C + LCM, 6.32 gps water
	TOC: 0	85% Excess		Centralizers per Onshore Order 2.III.B.1f		
Intermediate	Lead	1005	1.88	12.90	1889	35:65 (poz/C) + Salt + Bentonite + LCM + retarder, 9.65 gps water
	Tail	260	1.34	14.80	348	Class C + retarder + LCM, 6.32 gps water
	TOC: 0	81% Excess				
Production	Lead	492	2.40	11.90	1180	35:65 (poz/H) + salt + Sodium Metasilicate + Bentonite + Fluid Loss + Dispersant + LCM + Retarder, 13.80 gps water
	Tail	1392	1.24	14.50	1726	50:50 (poz/H) + Bentonite + Salt + Fluid Loss + Dispersant + LCM + Retarder, 5.55 gps water
	TOC: 4250 4200	25% Excess		No centralizers planned in the lateral section. 1 every jt from EOC to KOP. 1 every 4th joint from KOP to 500' inside previous casing.		

Cement volumes will be adjusted depending on hole size

9a. Proposed Drilling Plan:

Pilot Hole TD: No Pilot KOP: 8,527' EOC: 9,296'

Set Surface and Intermediate casing strings. Drill production hole to KOP. Continue drilling lateral through the curve to TD. Run prod casing & cement.

10. Pressure Control Equipment:

Exhibit "E-1". A BOP consisting of two rams with blind rams and pipe rams, and one annular preventer. Below the surface casing, a 2M system will be used. Below the intermediate casing, a 3M system will be used. See attachments for BOP and choke manifold diagrams. An accumulator that meets the requirements in Onshore Order #2 for the pressure rating of the BOP stack. A Rotating head may be installed as needed. A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.

BOP and associated equipment will be installed, used, maintained, and tested in a manner necessary to assure well control and shall be in place and operational prior to drilling the surface casing shoe. The Annular Preventer shall be functioned at least weekly. The pipe and blind rams will be operated each trip. No abnormal pressure or temperature is expected while drilling.

BOPS will be tested by an independent service company. The ram preventers, choke manifold, and safety valves will be tested as follows: On the surface casing, pressure tests will be made to 250 psi low and 2000 psi high. On the intermediate casing, pressure tests will be made to 250 psi low and 3000 psi high.

The Annular Preventer will be tested to 250 psi low and 1000 psi high on the surface casing, and 250 low and 1500 high on the intermediate casing.

See COA

Cimarex Energy Co. of Colorado requests a variance to drill this well using a co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached (please see Exhibit F, F-1, F-2, F-3). The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used.

Application to Drill
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Lea Co., NM

11. Proposed Mud Circulating System:

Depth	Mud Weight	Visc	Fluid Loss	Type Mud
0' to 1090' ¹²¹⁵	8.30	28	NC	FW Spud Mud
1090' to 4450' ⁴⁴⁰⁰	10.00	30-32	NC	Brine Water
4450' to 13491'	9.00	30-32	NC	FW/Cut Brine

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run DSTs, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs.

The Mud Monitoring System is an electronic Pason System satisfying requirements of Onshore Order 1.

12. Testing, Logging and Coring Program:

- A. Mud logging program: 2 man unit from 4450 to TD
- B. Electric logging program: CNL / LDT / CAL / GR, DLL /GR -- Inter. Csg to TD
CNL /GR -- Surf to Inter. Csg
- C. No DSTs or cores are planned at this time
- D. CBL w/ CCL from as far as gravity will let it fall to TOC

13. Potential Hazards: *See COA*

No abnormal pressures or temperatures are expected. In accordance with Onshore Order 6, Cimarex does not anticipate that there will be enough H₂S from the surface to the Bone Spring formations to meet the BLM's minimum requirements for the submission of an "H₂S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have an H₂S Safety package on all wells, attached is an "H₂S Drilling Operations Plan." Adequate flare lines will be installed off the mud / gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used.

Estimated BHP: 4048 psi

Estimated BHT: 152°

14. Construction and Drilling:

Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved.

Drilling expected to take: 30 days.

If production casing is run an additional 30 days will be required to complete and construct surface facilities.

15. Other Facets of Operations:

If production casing is run an additional 30 days will be required to complete and construct surface facilities.

L. Avalon pay will be perforated and stimulated.

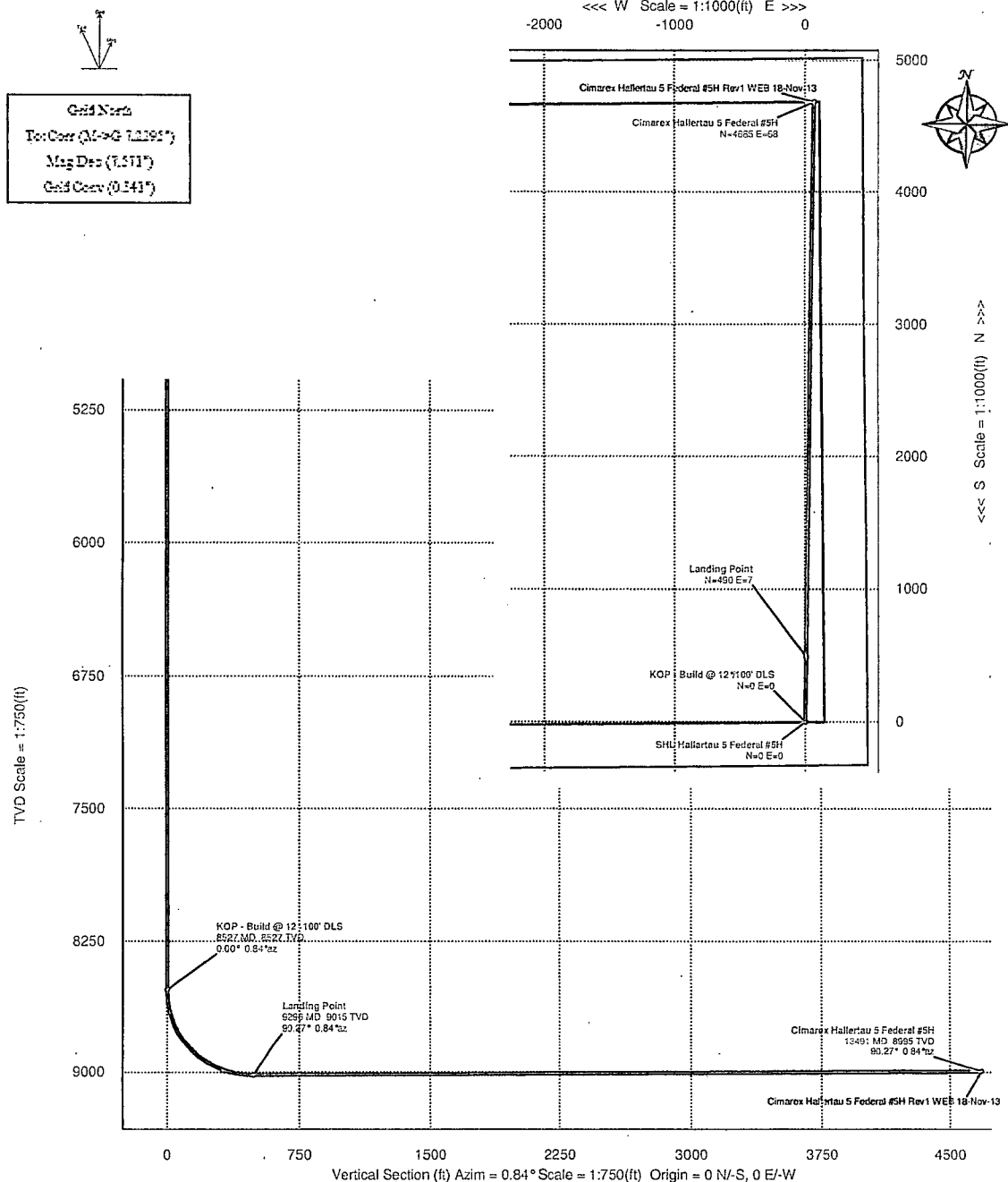
The proposed well will be tested and potentialized as **Oil**



Cimarex

PATHFINDER
A Schlumberger Company

WELL	Hallertau 5 Federal #5H	FIELD	NM Lea County	STRUCTURE	TBD																																								
<table><tr><td colspan="2">Magnetic Parameters</td><td colspan="2">Surface Location</td><td colspan="2">NADES New Mexico Base Point, Eastern Zone, LGS First</td><td colspan="2">Miscellaneous</td></tr><tr><td>Model:</td><td>DDGM 2012</td><td>Dip:</td><td>88.841°</td><td>Date:</td><td>September 26, 2012</td><td>Lat:</td><td>N 32 31.723</td><td>Northup:</td><td>85543.70 EUS</td><td>G-H Conv:</td><td>0.341°</td><td>Dec:</td><td>Cimarex Hallertau 5 Federal #5H Rev1</td><td>Ground Level:</td><td>2513 (above MSL)</td></tr><tr><td>Mag Dec:</td><td>7.571°</td><td>FB:</td><td>46325.447</td><td>Long:</td><td>W 103 41 24.721</td><td>Eastng:</td><td>745242.00 E-75</td><td>Scale Fact:</td><td>C 10504.475</td><td>Plan:</td><td>Rev1 WEB 18 Nov 13</td><td>Env Data:</td><td>September 28, 2012</td><td colspan="2"></td></tr></table>						Magnetic Parameters		Surface Location		NADES New Mexico Base Point, Eastern Zone, LGS First		Miscellaneous		Model:	DDGM 2012	Dip:	88.841°	Date:	September 26, 2012	Lat:	N 32 31.723	Northup:	85543.70 EUS	G-H Conv:	0.341°	Dec:	Cimarex Hallertau 5 Federal #5H Rev1	Ground Level:	2513 (above MSL)	Mag Dec:	7.571°	FB:	46325.447	Long:	W 103 41 24.721	Eastng:	745242.00 E-75	Scale Fact:	C 10504.475	Plan:	Rev1 WEB 18 Nov 13	Env Data:	September 28, 2012		
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Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(=) / S(-)	E(=) / W(-)	DLS
SHL Hallertau 5 Federal #5H	0.00	0.00	0.84	0.00	0.00	0.00	0.00	
KOP - Build @ 12°/100' DLS	8527.00	0.00	0.84	8527.00	0.00	0.00	0.00	0.00
Landing Point	9295.90	90.27	0.84	9015.00	490.35	490.29	7.15	11.74
Cimarex Hallertau 5 Federal #5H	13490.62	90.27	0.84	8995.00	4685.02	4684.52	68.40	0.00



Cimarex Hallertau 5 Federal #5H Rev1 WEB 18-Nov-13 Proposal Report 100'
Interpolated
(Non-Def Plan)



Report Date: November 18, 2013 - 11:06 AM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: TBD / Cimarex Hallertau 5 Federal #5H
Well: Cimarex Hallertau 5 Federal #5H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Hallertau 5 Federal #5H Rev1 WEB 18-Nov-13
Survey Date: September 28, 2012
Tort / AHD / DDI / ERD Ratio: 90.280 ° / 4985.022 ft / 5.801 / 0.520
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 3' 57.02329", W 103° 41' 24.70145"
Location Grid N/E Y/X: N 388283.700 ftUS, E 740562.000 ftUS
CRS Grid Convergence Angle: 0.3414 °
Grid Scale Factor: 0.99995455

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 0.837 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: Ground Level
TVD Reference Elevation: 3255.000 ft above MSL
Seabed / Ground Elevation: 3255.000 ft above MSL
Magnetic Declination: 7.571 °
Total Gravity Field Strength: 998.4884mgn (9.80665 Based)
Total Magnetic Field Strength: 48368.429 nT
Magnetic Dip Angle: 59.946 °
Declination Date: September 28, 2012
Magnetic Declination Model: BGGM 2012
North Reference: Grid North
Grid Convergence Used: 0.3414 °
Total Corr Mag North->Grid North: 7.2295 °
Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)
SHL Hallertau 5 Federal #5H	0.00	0.00	0.84	0.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	N/A
	100.00	0.00	0.84	100.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	200.00	0.00	0.84	200.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	300.00	0.00	0.84	300.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	400.00	0.00	0.84	400.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	500.00	0.00	0.84	500.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	600.00	0.00	0.84	600.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	700.00	0.00	0.84	700.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	800.00	0.00	0.84	800.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	900.00	0.00	0.84	900.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	1000.00	0.00	0.84	1000.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	1100.00	0.00	0.84	1100.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	1200.00	0.00	0.84	1200.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	1300.00	0.00	0.84	1300.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	1400.00	0.00	0.84	1400.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	1500.00	0.00	0.84	1500.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	1600.00	0.00	0.84	1600.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	1700.00	0.00	0.84	1700.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	1800.00	0.00	0.84	1800.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	1900.00	0.00	0.84	1900.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	2000.00	0.00	0.84	2000.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	2100.00	0.00	0.84	2100.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	2200.00	0.00	0.84	2200.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	2300.00	0.00	0.84	2300.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	2400.00	0.00	0.84	2400.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	2500.00	0.00	0.84	2500.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	2600.00	0.00	0.84	2600.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	2700.00	0.00	0.84	2700.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	2800.00	0.00	0.84	2800.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00

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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)
KOP - Build @ 12"/100' DLS	8400.00	0.00	0.84	8400.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	8500.00	0.00	0.84	8500.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	8527.00	0.00	0.84	8527.00	0.00	0.00	0.00	388283.70	740562.00	N 32 3 57.02	W 103 41 24.70	0.00	0.00	0.00
	8600.00	8.57	0.84	8599.73	5.45	5.45	0.08	388289.15	740562.08	N 32 3 57.08	W 103 41 24.70	5.45	0.84	11.74
	8700.00	20.31	0.84	8696.40	30.34	30.34	0.44	388314.04	740562.44	N 32 3 57.32	W 103 41 24.69	30.34	0.84	11.74
	8800.00	32.05	0.84	8785.98	74.39	74.38	1.08	388358.08	740563.08	N 32 3 57.76	W 103 41 24.68	74.39	0.84	11.74
Landing Point	8900.00	43.79	0.84	8864.73	135.74	135.73	1.98	388419.42	740563.98	N 32 3 58.37	W 103 41 24.67	135.74	0.84	11.74
	9000.00	55.53	0.84	8929.34	211.83	211.81	3.09	388495.50	740565.09	N 32 3 59.12	W 103 41 24.65	211.83	0.84	11.74
	9100.00	67.27	0.84	8977.12	299.48	299.45	4.36	388583.14	740566.36	N 32 3 59.99	W 103 41 24.63	299.48	0.84	11.74
	9200.00	79.02	0.84	9006.06	395.02	394.98	5.76	388676.66	740567.76	N 32 4 0.93	W 103 41 24.61	395.02	0.84	11.74
	9295.90	90.27	0.84	9015.00	490.35	490.29	7.15	388773.97	740569.15	N 32 4 1.87	W 103 41 24.58	490.35	0.84	11.74
	9300.00	90.27	0.84	9014.98	494.45	494.40	7.21	388778.07	740569.21	N 32 4 1.92	W 103 41 24.58	494.45	0.84	0.00
	9400.00	90.27	0.84	9014.50	594.45	594.38	8.66	388878.06	740570.66	N 32 4 2.90	W 103 41 24.56	594.45	0.84	0.00
	9500.00	90.27	0.84	9014.02	694.45	694.37	10.12	388978.04	740572.12	N 32 4 3.89	W 103 41 24.54	694.45	0.84	0.00
	9600.00	90.27	0.84	9013.54	794.44	794.36	11.58	389078.02	740573.58	N 32 4 4.88	W 103 41 24.51	794.44	0.84	0.00
	9700.00	90.27	0.84	9013.06	894.44	894.35	13.04	389178.01	740575.04	N 32 4 5.87	W 103 41 24.49	894.44	0.84	0.00
	9800.00	90.27	0.84	9012.58	994.44	994.34	14.49	389277.99	740576.49	N 32 4 6.86	W 103 41 24.46	994.44	0.84	0.00
	9900.00	90.27	0.84	9012.10	1094.44	1094.32	15.95	389377.97	740577.95	N 32 4 7.85	W 103 41 24.44	1094.44	0.84	0.00
	10000.00	90.27	0.84	9011.63	1194.44	1194.31	17.41	389477.96	740579.41	N 32 4 8.84	W 103 41 24.42	1194.44	0.84	0.00
	10100.00	90.27	0.84	9011.15	1294.44	1294.30	18.87	389577.94	740580.87	N 32 4 9.83	W 103 41 24.39	1294.44	0.84	0.00
	10200.00	90.27	0.84	9010.67	1394.44	1394.29	20.33	389677.92	740582.33	N 32 4 10.82	W 103 41 24.37	1394.44	0.84	0.00
	10300.00	90.27	0.84	9010.19	1494.44	1494.28	21.79	389777.91	740583.78	N 32 4 11.81	W 103 41 24.34	1494.44	0.84	0.00
	10400.00	90.27	0.84	9009.71	1594.44	1594.27	23.24	389877.89	740585.24	N 32 4 12.80	W 103 41 24.32	1594.44	0.84	0.00
	10500.00	90.27	0.84	9009.23	1694.43	1694.25	24.70	389977.87	740586.70	N 32 4 13.79	W 103 41 24.30	1694.43	0.84	0.00
	10600.00	90.27	0.84	9008.76	1794.43	1794.24	26.16	390077.86	740588.16	N 32 4 14.78	W 103 41 24.27	1794.43	0.84	0.00
	10700.00	90.27	0.84	9008.28	1894.43	1894.23	27.62	390177.84	740589.62	N 32 4 15.77	W 103 41 24.25	1894.43	0.84	0.00
	10800.00	90.27	0.84	9007.80	1994.43	1994.22	29.08	390277.82	740591.08	N 32 4 16.75	W 103 41 24.23	1994.43	0.84	0.00
	10900.00	90.27	0.84	9007.32	2094.43	2094.21	30.54	390377.81	740592.54	N 32 4 17.74	W 103 41 24.20	2094.43	0.84	0.00
	11000.00	90.27	0.84	9006.84	2194.43	2194.20	32.00	390477.79	740594.00	N 32 4 18.73	W 103 41 24.18	2194.43	0.84	0.00
	11100.00	90.27	0.84	9006.37	2294.43	2294.18	33.46	390577.77	740595.46	N 32 4 19.72	W 103 41 24.15	2294.43	0.84	0.00
	11200.00	90.27	0.84	9005.89	2394.43	2394.17	34.92	390677.76	740596.92	N 32 4 20.71	W 103 41 24.13	2394.43	0.84	0.00
	11300.00	90.27	0.84	9005.41	2494.43	2494.16	36.38	390777.74	740598.38	N 32 4 21.70	W 103 41 24.11	2494.43	0.84	0.00
	11400.00	90.27	0.84	9004.94	2594.42	2594.15	37.84	390877.73	740599.84	N 32 4 22.69	W 103 41 24.08	2594.42	0.84	0.00
	11500.00	90.27	0.84	9004.46	2694.42	2694.14	39.30	390977.71	740601.30	N 32 4 23.68	W 103 41 24.06	2694.42	0.84	0.00
	11600.00	90.27	0.84	9003.98	2794.42	2794.12	40.76	391077.69	740602.76	N 32 4 24.67	W 103 41 24.03	2794.42	0.84	0.00
	11700.00	90.27	0.84	9003.51	2894.42	2894.11	42.22	391177.68	740604.22	N 32 4 25.66	W 103 41 24.01	2894.42	0.84	0.00
	11800.00	90.27	0.84	9003.03	2994.42	2994.10	43.68	391277.66	740605.68	N 32 4 26.65	W 103 41 23.99	2994.42	0.84	0.00
	11900.00	90.27	0.84	9002.55	3094.42	3094.09	45.14	391377.64	740607.14	N 32 4 27.64	W 103 41 23.96	3094.42	0.84	0.00
	12000.00	90.27	0.84	9002.08	3194.42	3194.08	46.61	391477.63	740608.60	N 32 4 28.63	W 103 41 23.94	3194.42	0.84	0.00
	12100.00	90.27	0.84	9001.60	3294.42	3294.07	48.07	391577.61	740610.06	N 32 4 29.62	W 103 41 23.91	3294.42	0.84	0.00
	12200.00	90.27	0.84	9001.13	3394.42	3394.05	49.53	391677.59	740611.53	N 32 4 30.61	W 103 41 23.89	3394.42	0.84	0.00
	12300.00	90.27	0.84	9000.65	3494.41	3494.04	50.99	391777.58	740612.99	N 32 4 31.59	W 103 41 23.87	3494.41	0.84	0.00
	12400.00	90.27	0.84	9000.18	3594.41	3594.03	52.45	391877.56	740614.45	N 32 4 32.58	W 103 41 23.84	3594.41	0.84	0.00
	12500.00	90.27	0.84	8999.70	3694.41	3694.02	53.91	391977.54	740615.91	N 32 4 33.57	W 103 41 23.82	3694.41	0.84	0.00
	12600.00	90.27	0.84	8999.23	3794.41	3794.01	55.38	392077.53	740617.37	N 32 4 34.56	W 103 41 23.80	3794.41	0.84	0.00
	12700.00	90.27	0.84	8998.75	3894.41	3893.99	56.84	392177.51	740618.84	N 32 4 35.55	W 103 41 23.77	3894.41	0.84	0.00
	12800.00	90.27	0.84	8998.28	3994.41	3993.98	58.30	392277.49	740620.30	N 32 4 36.54	W 103 41 23.75	3994.41	0.84	0.00
	12900.00	90.27	0.84	8997.80	4094.41	4093.97	59.76	392377.48	740621.76	N 32 4 37.53	W 103 41 23.72	4094.41	0.84	0.00
	13000.00	90.27	0.84	8997.33	4194.41	4193.96	61.23	392477.46	740623.22	N 32 4 38.52	W 103 41 23.70	4194.41	0.84	0.00
	13100.00	90.27	0.84	8996.85	4294.40	4293.95	62.69	392577.44	740624.69	N 32 4 39.51	W 103 41 23.68	4294.40	0.84	0.00
	13200.00	90.27	0.84	8996.38	4394.40	4393.94	64.15	392677.43	740626.15	N 32 4 40.50	W 103 41 23.65	4394.40	0.84	0.00
	13300.00	90.27	0.84	8995.90	4494.40	4493.92	65.61	392777.41	740627.61	N 32 4 41.49	W 103 41 23.63	4494.40	0.84	0.00
	13400.00	90.27	0.84	8995.43	4594.40	4593.91	67.08	392877.39	740629.07	N 32 4 42.48	W 103 41 23.60	4594.40	0.84	0.00

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (%/100ft)
Cimarex Hallertau 5 Federal #5H	13490.62	90.27	0.84	8995.00	4685.02	4684.52	68.40	392968.00	740630.40	N 32 4 43.37 W	103 41 23.58	4685.02	0.84	0.00

Survey Type: Non-Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	0.000	8527.000	1/100.000	30.000	30.000	SLB_MWD-POOR	Original Borehole / Cimarex Hallertau 5 Federal #5H Rev1
	8527.000	13490.621	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Hallertau 5 Federal #5H Rev1

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

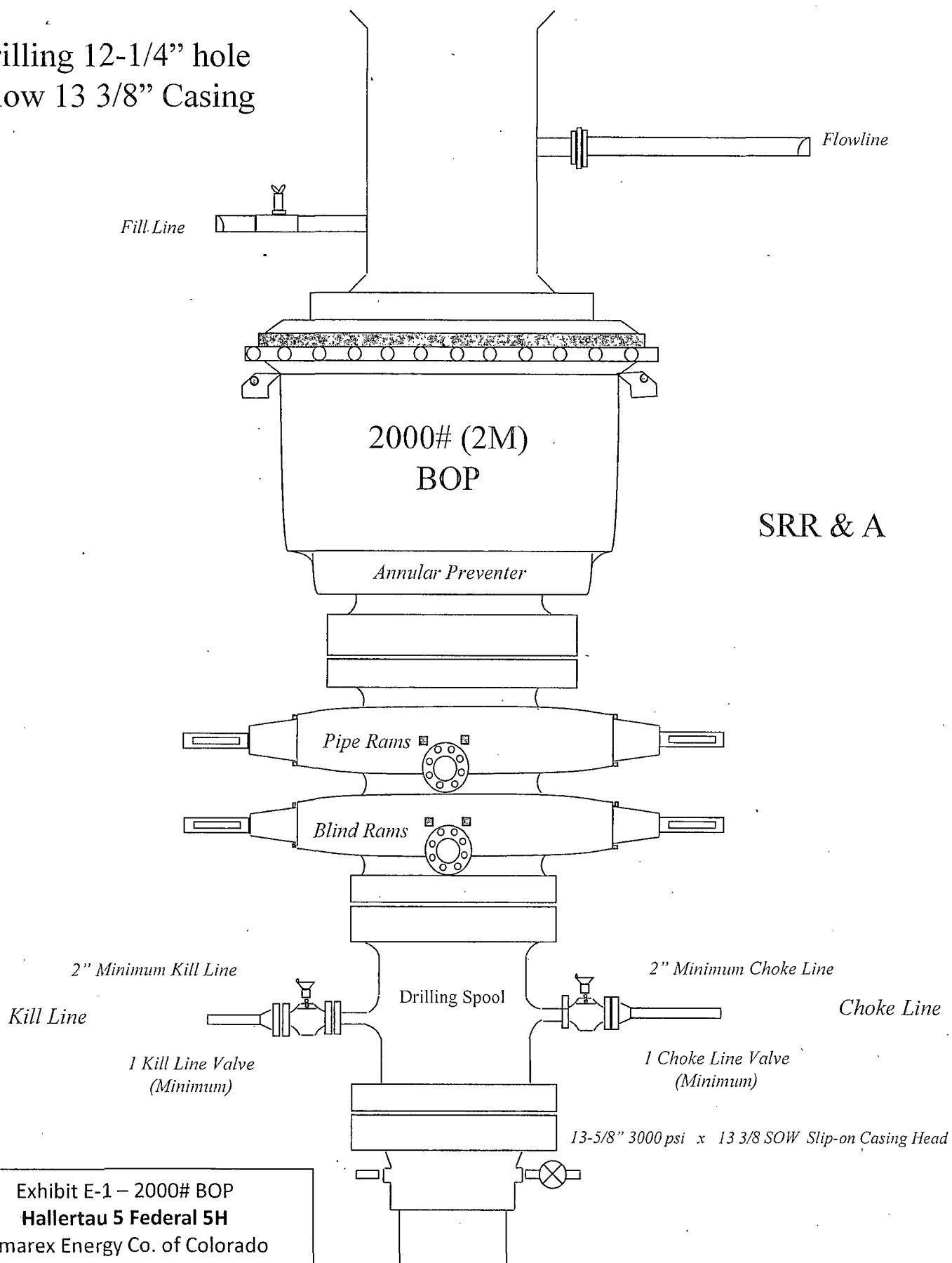


Exhibit E-1 – 2000# BOP
Hallertau 5 Federal 5H
Cimarex Energy Co. of Colorado
5-26S-32E
SHL 330' FSL & 480' FEL
BHL 330' FNL & 940' FEL
Lea County, NM

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

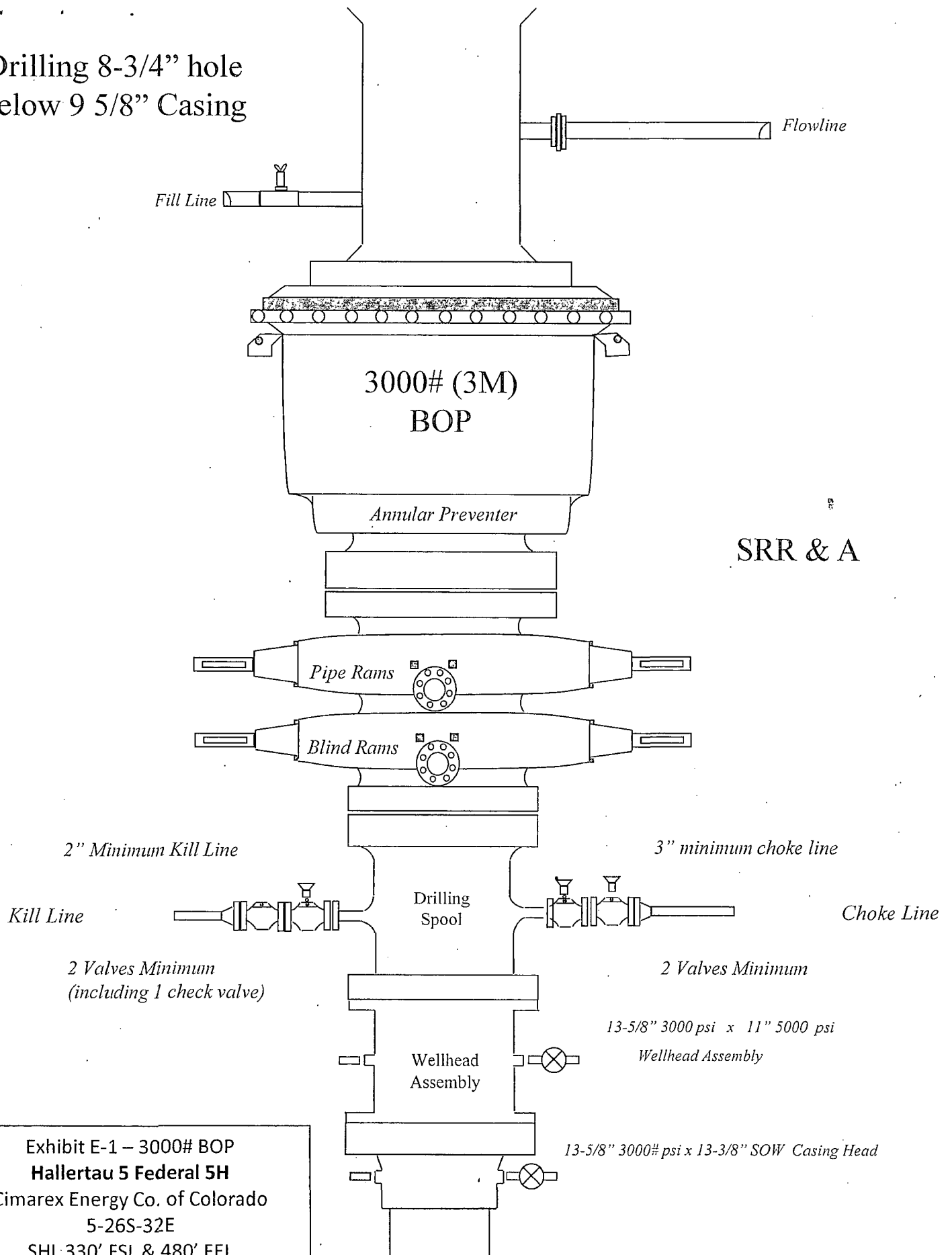
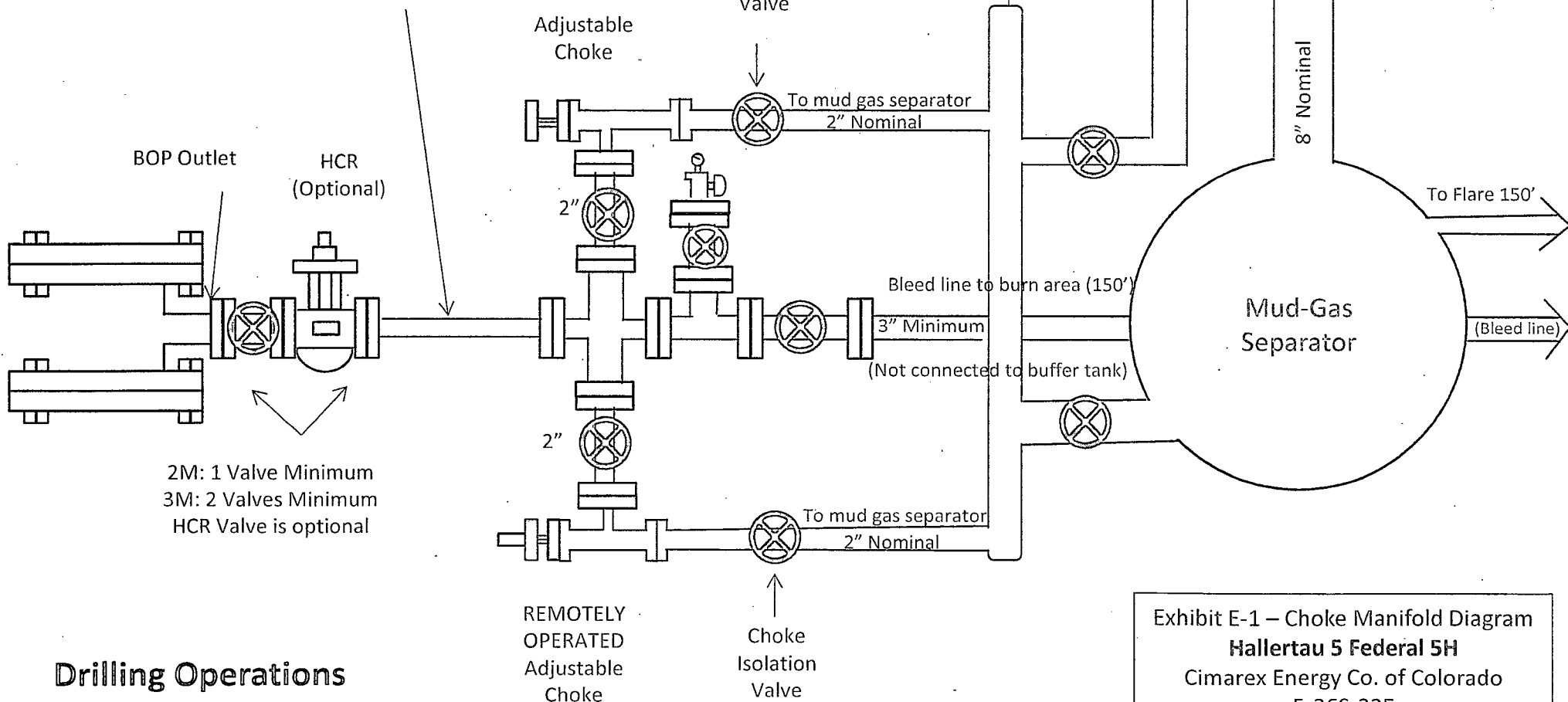


Exhibit E-1 – 3000# BOP
Hallertau 5 Federal 5H
Cimarex Energy Co. of Colorado
5-26S-32E
SHL 330' FSL & 480' FEL
BHL 330' FNL & 940' FEL
Lea County, NM

Choke Line:
 2M System: 2" Minimum
 3M System: 3" Minimum
 OPTIONAL: 4" Flex Hose may be
 used if approved in APD



Drilling Operations Choke Manifold 2M/3M Service

Exhibit E-1 – Choke Manifold Diagram
Hallertau 5 Federal 5H
 Cimarex Energy Co. of Colorado
 5-26S-32E
 SHL 330' FSL & 480' FEL
 BHL 330' FNL & 940' FEL
 Lea County, NM



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: Houston

Pick Ticket #: 94260

Hose Specifications

Hose Type

C&K

L.D.

4"

Working Pressure

10000 PSI

Length

45'

O.D.

6.09"

Burst Pressure

Standard Safety Multiplier Applies

Verification

Type of Fittings

4 1/16 10K

Die Size

6.38"

Hose Serial #

5564

Coupling Method

Swage

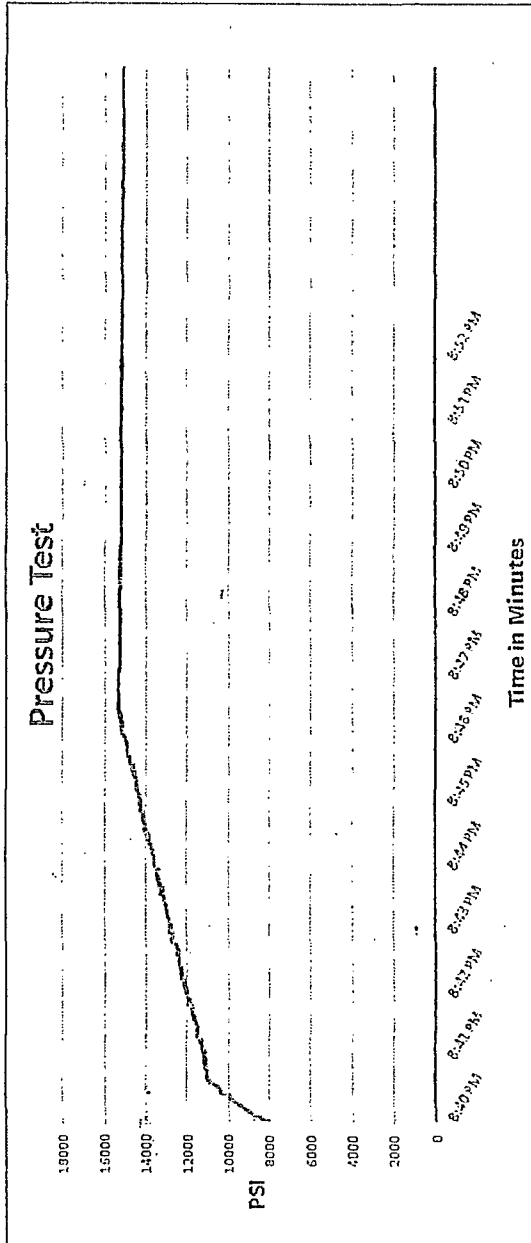
Final O.D.

6.25"

Hose Assembly Serial #

79793

Exhibit F-1 - Co-Flex Hose Hydrostatic Test
Hallertau 5 Federal 5H
Cimarex Energy Co. of Colorado
5-26S-32E
SHL 330' FSL & 480' FEL
BHL 330' FNL & 940' FEL
Lea County, NM



Test Pressure
15000 PSI

Time Held at Test Pressure
11 Minutes

Actual Burst Pressure
15483 PSI

Peak Pressure
15483 PSI

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

Tested By: *Joe McConnell*

Approved By: *Kim Thomas*

Exhibit F-1 - Co-Flex Hose Hydrostatic Test

Hallertau 5 Federal 5H
Cimarex Energy Co. of Colorado
5-26S-32E

SHL 330' FSL & 480' FEL
BHL 330' FNL & 940' FEL
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		
<u>Hose assembly pressure tested with water at ambient temperature.</u>		
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: <i>A. James Smith</i>	Approved: <i>Levi H. Hef</i>

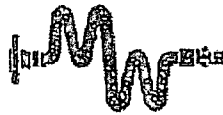
Exhibit F-2 -- Co-Flex Hose
Hallertau 5 Federal 5H
Cimarex Energy Co. of Colorado
5-26S-32E
SHL 330' FSL & 480' FEL
BHL 330' FNL & 940' FEL
Lea County, NM



Midwest Hose & Specialty, Inc.

Certificate of Conformity

Customer:		PO
DEM		ODYD-271
SPECIFICATIONS		
Sales Order	Dated:	
79793	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:
<i>James Garcia</i>		3/8/2011



Midwest Hose
& Specialty, Inc.

Exhibit F -3- Co-Flex Hose
Hallertau 5 Federal 5H
Cimarex Energy Co. of Colorado
5-26S-32E
SHL 330' FSL & 480' FEL
BHL 330' FNL & 940' FEL
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)

Exhibit F – Co-Flex Hose
Hallertau 5 Federal 5H
Cimarex Energy Co. of Colorado
5-26S-32E
SHL 330' FSL & 480' FEL
BHL 330' FNL & 940' FEL
Lea County, NM

