

HOBBS OCD

OCD Hobbs

Form 3160-3
(March 2012)

JUN 25 2013

RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Split Estate

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMINM026394	
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.		7. If Unit or CA Agreement, Name and No.	
3a. Address 600 N. Marienfeld St. Ste. 600 Midland Tx 79701		8. Lease Name and Well No. Cascade 29 Federal 3H <399817>	
3b. Phone No. (include area code) 432-571-7800		9. API Well No. 30-025- 41241	
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At Surface 330 FNL & 2310 FEL At proposed prod. Zone 330 FSL & 2310 FEL Horizontal Bone Spring test		10. Field and Pool, or Exploratory Wildcat Bone Spring <979037>	
14. Distance in miles and direction from nearest town or post office* Approximately 24 miles west of Jal, NM		11. Sec., T. R. M. or Blk. and Survey or Area 29-25S-33E	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 330'		12. County or Parish Lea	
16. No of acres in lease 2560		13. State NM	
17. Spacing Unit dedicated to this well 160			
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1065'			
19. Proposed Depth 15,095' MD 10,644' TVD		20. BLM/BIA Bond No. on File NM2575; NMB000835	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3412' GR		22. Approximate date work will start* 07.01.13	
		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 <i>Paula Brunson</i>	Name (Printed/Typed) Paula Brunson	Date 02.07.13
Title Regulatory Analyst		
Approved By (Signature) <i>/s/ James Stovall</i>	Name (Printed/Typed)	Date JUN 21 2013
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

CONDITIONS OF APPROVAL - 24 Hour call in for Spud, Casing, Cement and all other 24 Hour notices to be reported to the Office phone 575-393-6161 ext 102, 120 or 107

Leave message if no one answers
EMERGENCY ONLY PHONE 575-370-3186

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR Carlsbad Controlled Water Basin
CONDITIONS OF APPROVAL

rights in the subject lease which would entitle the applicant to

APPROVAL FOR TWO YEARS

and willfully to make to any department or agency of the United
tion.

*(Instructions on page 2)

KZ
06/26/13
JUN 27 2013

Application to Drill
Cascade 29 Federal 3H
 Cimarex Energy Co. of Colorado
 UL B - Sec 29-25S-33E
 Lea County, NM

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 FNL & 2310 FEL
 BHL 330 FSL & 2310 FEL
- 2 Elevation above sea level: 3412' 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: 15,095' MD 10,644' TVD
- 6 Estimated tops of geological markers:

Formation	Est. Top	Bearing
Rustler	988	NA
Top Salt	1215	NA
Base Salt	4686	NA
Delaware	4928	Hydrocarbons
Cherry Canyon	6020	NA
Brushy Canyon	7896	NA
Bone Spring	9050	NA
Bone Spring "A" Shale	9106	Hydrocarbons
Bone Spring "B" Carb.	9384	NA
Bone Spring "C" Shale	9737	NA
1st Bone Spring Ss	10057	NA
2nd Bone Spring Ss	10626	Hydrocarbons
Bone Spring HZ Target	10701	NA

- 7 Possible mineral bearing formation:
 Shown above

7A OSE Ground Water estimated depth: 250'

- 8 Casing Program:

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	Conditon	SI Surface Pressure & BHP (psig)	Mud Weight (ppg)	Collapse SF (1.125)	Burst SF (1.125)	Cumulative Air Weight (lbs)	Tension SF (1.6)
Surface														
0'	1038'	1038'	17 1/2	13 3/8	48	H-40	ST&C	New	467	8.4	1.63	3.7	49824	6.5
40# Intermediate														
0'	4900'	4900'	12 1/4	9 5/8	36	J-55	LT&C	New	2205	10	1.09	1.6	176400	3.2
Per Operator Production 6/19/13 CRV														
0'	10200'	10200'	8 3/4	5 1/2	17	P-110	LT&C	New	2448	8.4	1.68	4.3	180948	2.5
10200'	15095'	10644'	8 3/4	5 1/2	17	P-110	BT&C	New	4790	8.4	1.61	2.2	7548	72.3

Casing Design Criteria and Casing Loading Assumptions:

Surface, Intermediate and Production Casing:

Tension: A 1.6 design factor without effects of buoyancy.

Collapse: A 1.125 design factor with full internal evacuation.

Burst: A 1.125 design with a surface pressure equal to the fracture gradient at setting depth less gas gradient to surface.

Intermediate: Collapse - 1.125 design factor based on an internal evacuation equal to 1/3 of the proposed TVD of the well.

Drilling Plan
Cascade 29 Federal 3H
 Cimarex Energy Co. of Colorado
 UL B - Sec 29-25S-33E
 Lea County, NM

9 Cementing Program:

<i>Surface</i>	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	660	1.75	13.5	1154	Class C + Bentonite + Calcium Chloride + LCM
Tail	140	1.34	14.8	180	Class C + LCM
TOC: 0' 85% Excess Centralizers per Onshore Order 2.III.B.1f					

<i>Intermediate</i>	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	1130	1.88	12.9	2118	35:65 (poz/C) + Salt + Bentonite + LCM + retarder
Tail	300	1.34	14.8	392	Class C + retarder + LCM
TOC: 0' 81% Excess					

<i>Production</i>	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	684	2.4	11.9	1642	35:65 (poz/H) + salt + Sodium Metasilcate + Bentonite + Fluid Loss + Dispersant + LCM + Retarder
Tail	1374	1.24	14.5	1704	50:50 (poz/H) + Bentonite + Salt + Fluid Loss + Dispersant + LCM + Retarder

Cement volumes will be adjusted depending on hole size.

TOC: 4400' 25% Excess Centralizers every 3rd joint through the curve or legal location hardline to provide adequate cement coverage every 100' unless hole conditions require greater spacing between centralizers.

10 Pressure Control Equipment:

Exhibit "E-1". A 13 1/8" 5000 PSI working pressure BOP, tested to 3000 psi on the surface casing and 5000 psi on the intermediate, consisting of one set of blind rams and one set of pipe rams and a 5000# annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Rotating head 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 unit will be hydraulically operated. BOP will be installed and operated at least once a day while drilling and the blind rams will be operated when out of hole during trips. No abnormal pressure or temperature is expected while drilling.

BOPS will be tested by an independent service company to 250 psi low and 3000 psi high on the surface casing and 250 psi low and 5000 psi high on the intermediate. Hydril will be tested to 250 psi low and 2500 psi high on the surface and intermediate casings.

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
Cascade 29 Federal 3H
 Cimarex Energy Co. of Colorado
 UL B - Sec 29-25S-33E
 Lea County, NM

11 Proposed Mud Circulating System:

Depth			Mud Wt	Visc	Fluid Loss	Type Mud
0'	to	1038'	8.4	28	NC	FW Spud Mud
1038'	to	4900'	10	30-32	NC	Brine water
4900'	to	15095'	8.4	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 Proposed Drilling Plan

Pilot Hole TD: No Pilot Hole KOP: 10,200' EOC: 10953'
 Set Surface and Intermediate casing strings. Drill production hole to KOP.
 Continue drilling lateral through the curve to TD. Run prod casing & cement.

13 Testing, Logging and Coring Program:

- A. Mud logging program: 2 man unit from 4900 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

See CoA

14 Potential Hazards:

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 **4789.8 psi** Estimated BHT **170°**

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

Drilling expected to take : **35 days**
 If production casing is run an additional 30 days will be required to complete and construct surface facilities.

16 Other Facets of Operations:

After running casing, cased hole gamma ray neutron collar logs will be run from TD over possible pay intervals.
Bone Spring pay will be perforated and stimulated.
 The proposed well will be tested and potential as **Oil**



Cimarex

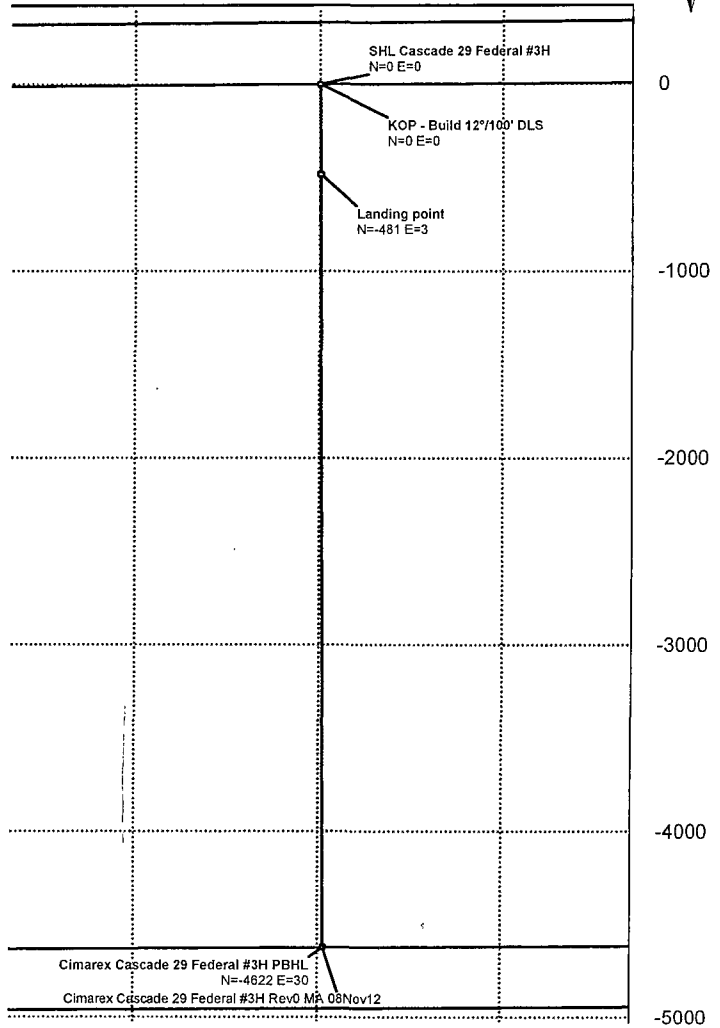
PATHFINDER
A Schlumberger Company

WELL Cascade 29 Federal #3H			FIELD NM Lea County			STRUCTURE Cascade 29 Federal #3H		
Magnetic Parameters Model: BGGM 2012 Dip: 59.999° Mag Dec: 7.516°			Surface Location Lat: N 32 6 28.538 Lon: W 103 35 35.618 Northing: 403787.00 HUS Easting: 770495.20 HUS NAD83 New Mexico State Plane, Eastern Zone, US Feet Grid Conv: 0.393° Scale Fact: 0.99956924			Miscellaneous Slot: Cascade 29 Federal #3H Plan: Rev0 MA 08Nov12 TVD Ref: Drillsite Elevation(3412ft above MSL) Sny Date: November 08, 2012		
Date: November 08, 2012 FS: 48390.7mT								

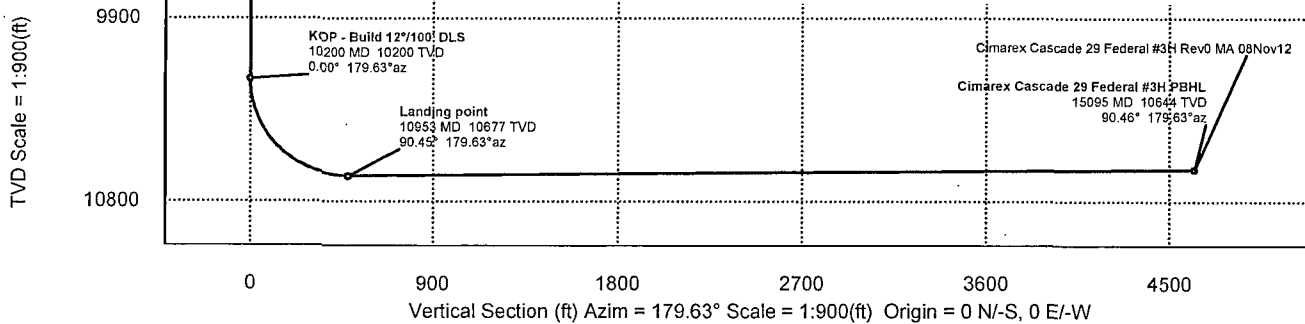


Grid North
Tot Corr (M->G 7.1228°)
Mag Dec (7.516°)
Grid Conv (0.393°)

<<< W Scale = 1:1000(ft) E >>>
-1000 0 1000



<<< S Scale = 1:1000(ft) N >>>



Critical Point	MD	INCL	AZIM	TVD	YSEC	N(+) / S(-)	E(+) / W(-)	DLS
SHL Cascade 29 Federal #3H	0.00	0.00	179.63	0.00	0.00	0.00	0.00	
KOP - Build 12°/100' DLS	10200.00	0.00	179.63	10200.00	0.00	0.00	0.00	0.00
Landing point	10953.08	90.46	179.63	10677.00	480.80	-480.79	3.10	12.01
Cimarex Cascade 29 Federal #3H PBHL	15094.66	90.46	179.63	10644.00	4622.25	-4622.15	29.90	0.00



Cimarex Cascade 29 Federal #3H Rev0 MA 08Nov12 Proposal Report

(Non-Def Plan)

Report Date: November 08, 2012 - 04:54 PM Client: Cimarex Field: NM Lea County (NAD 83) Structure / Slot: Cimarex Cascade 29 Federal #3H / Cimarex Cascade 29 Federal #3H Well: Cimarex Cascade 29 Federal #3H Borehole: Original Borehole UWI / API#: Unknown / Unknown Survey Name: Cimarex Cascade 29 Federal #3H Rev0 MA 08Nov12 Survey Date: November 08, 2012 Tort / AHD / DDI / ERD Ratio: 90.458 ° / 4622.248 ft / 5.772 / 0.433 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet Location Lat / Long: N 32° 6' 28.53761", W 103° 35' 35.61808" Location Grid N/E Y/X: N 403787.000 ftUS, E 770495.200 ftUS CRS Grid Convergence Angle: 0.3934 ° Grid Scale Factor: 0.99996924	Survey / DLS Computation: Minimum Curvature / Lubinski Vertical Section Azimuth: 179.629 ° (Grid North) Vertical Section Origin: 0.000 ft, 0.000 ft TVD Reference Datum: Drillsite Elevation TVD Reference Elevation: 3412.000 ft above MSL Seabed / Ground Elevation: 3412.000 ft above MSL Magnetic Declination: 7.516 ° Total Gravity Field Strength: 999.1544 mgn (9.8 based) Total Magnetic Field Strength: 48390.686 nT Magnetic Dip Angle: 59.999 ° Declination Date: November 08, 2012 Magnetic Declination Model: BGM 2012 North Reference: Grid North Grid Convergence Used: 0.3934 ° Total Corr Mag North->Grid North: 7.1228 ° Local Coord Referenced To: Structure Reference Point	
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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)
SHL Cascade 29 Federal #3H	0.00	0.00	179.63	0.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	N/A
	100.00	0.00	179.63	100.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	200.00	0.00	179.63	200.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	300.00	0.00	179.63	300.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	400.00	0.00	179.63	400.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	500.00	0.00	179.63	500.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	600.00	0.00	179.63	600.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	700.00	0.00	179.63	700.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	800.00	0.00	179.63	800.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	900.00	0.00	179.63	900.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	1000.00	0.00	179.63	1000.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	1100.00	0.00	179.63	1100.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	1200.00	0.00	179.63	1200.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	1300.00	0.00	179.63	1300.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	1400.00	0.00	179.63	1400.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	1500.00	0.00	179.63	1500.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	1600.00	0.00	179.63	1600.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	1700.00	0.00	179.63	1700.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	1800.00	0.00	179.63	1800.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	1900.00	0.00	179.63	1900.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	2000.00	0.00	179.63	2000.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	2100.00	0.00	179.63	2100.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	2200.00	0.00	179.63	2200.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	2300.00	0.00	179.63	2300.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	2400.00	0.00	179.63	2400.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	2500.00	0.00	179.63	2500.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	2600.00	0.00	179.63	2600.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	2700.00	0.00	179.63	2700.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	2800.00	0.00	179.63	2800.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	2900.00	0.00	179.63	2900.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	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)
	8500.00	0.00	179.63	8500.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	8600.00	0.00	179.63	8600.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	8700.00	0.00	179.63	8700.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	8800.00	0.00	179.63	8800.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	8900.00	0.00	179.63	8900.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	9000.00	0.00	179.63	9000.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	9100.00	0.00	179.63	9100.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	9200.00	0.00	179.63	9200.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	9300.00	0.00	179.63	9300.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	9400.00	0.00	179.63	9400.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	9500.00	0.00	179.63	9500.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	9600.00	0.00	179.63	9600.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	9700.00	0.00	179.63	9700.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	9800.00	0.00	179.63	9800.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	9900.00	0.00	179.63	9900.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
KOP - Build 12"/100' DLS	10000.00	0.00	179.63	10000.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	10100.00	0.00	179.63	10100.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	10200.00	0.00	179.63	10200.00	0.00	0.00	0.00	403787.00	770495.20	N 32 6 28.54	W 103 35 35.62	0.00	0.00	0.00
	10300.00	12.01	179.63	10299.27	10.44	-10.44	0.07	403776.56	770495.27	N 32 6 28.43	W 103 35 35.62	10.44	179.63	12.01
	10400.00	24.02	179.63	10394.19	41.32	-41.32	0.27	403745.69	770495.47	N 32 6 28.13	W 103 35 35.62	41.32	179.63	12.01
	10500.00	36.03	179.63	10480.61	91.27	-91.27	0.59	403695.74	770495.79	N 32 6 27.63	W 103 35 35.62	91.27	179.63	12.01
	10600.00	48.05	179.63	10554.74	158.11	-158.11	1.02	403628.90	770496.22	N 32 6 26.97	W 103 35 35.62	158.11	179.63	12.01
	10700.00	60.06	179.63	10613.34	238.92	-238.91	1.54	403548.10	770496.74	N 32 6 26.17	W 103 35 35.62	238.92	179.63	12.01
	10800.00	72.07	179.63	10653.84	330.15	-330.14	2.13	403456.87	770497.33	N 32 6 25.27	W 103 35 35.62	330.15	179.63	12.01
	10900.00	84.08	179.63	10674.47	427.81	-427.80	2.76	403359.21	770497.96	N 32 6 24.30	W 103 35 35.62	427.81	179.63	12.01
Landing point	10953.08	90.46	179.63	10677.00	480.80	-480.79	3.10	403306.22	770498.30	N 32 6 23.78	W 103 35 35.62	480.80	179.63	12.01
	11000.00	90.46	179.63	10676.63	527.72	-527.71	3.41	403259.31	770498.61	N 32 6 23.32	W 103 35 35.62	527.72	179.63	0.00
	11100.00	90.46	179.63	10675.83	627.72	-627.70	4.05	403159.32	770499.25	N 32 6 22.33	W 103 35 35.62	627.72	179.63	0.00
	11200.00	90.46	179.63	10675.04	727.71	-727.70	4.70	403059.33	770499.90	N 32 6 21.34	W 103 35 35.62	727.71	179.63	0.00
	11300.00	90.46	179.63	10674.24	827.71	-827.69	5.35	402959.33	770500.55	N 32 6 20.35	W 103 35 35.62	827.71	179.63	0.00
	11400.00	90.46	179.63	10673.45	927.71	-927.69	5.99	402859.34	770501.19	N 32 6 19.36	W 103 35 35.62	927.71	179.63	0.00
	11500.00	90.46	179.63	10672.65	1027.70	-1027.68	6.64	402759.35	770501.84	N 32 6 18.37	W 103 35 35.62	1027.70	179.63	0.00
	11600.00	90.46	179.63	10671.86	1127.70	-1127.68	7.28	402659.36	770502.48	N 32 6 17.38	W 103 35 35.62	1127.70	179.63	0.00
	11700.00	90.46	179.63	10671.06	1227.70	-1227.67	7.93	402559.37	770503.13	N 32 6 16.39	W 103 35 35.62	1227.70	179.63	0.00
	11800.00	90.46	179.63	10670.27	1327.69	-1327.67	8.58	402459.38	770503.78	N 32 6 15.40	W 103 35 35.62	1327.69	179.63	0.00
	11900.00	90.46	179.63	10669.47	1427.69	-1427.66	9.22	402359.38	770504.42	N 32 6 14.41	W 103 35 35.62	1427.69	179.63	0.00
	12000.00	90.46	179.63	10668.68	1527.69	-1527.66	9.87	402259.39	770505.07	N 32 6 13.42	W 103 35 35.63	1527.69	179.63	0.00
	12100.00	90.46	179.63	10667.88	1627.69	-1627.65	10.52	402159.40	770505.71	N 32 6 12.43	W 103 35 35.63	1627.69	179.63	0.00
	12200.00	90.46	179.63	10667.09	1727.68	-1727.65	11.16	402059.41	770506.36	N 32 6 11.44	W 103 35 35.63	1727.68	179.63	0.00
	12300.00	90.46	179.63	10666.29	1827.68	-1827.64	11.81	401959.42	770507.01	N 32 6 10.45	W 103 35 35.63	1827.68	179.63	0.00
	12400.00	90.46	179.63	10665.50	1927.68	-1927.64	12.45	401859.43	770507.65	N 32 6 9.46	W 103 35 35.63	1927.68	179.63	0.00
	12500.00	90.46	179.63	10664.70	2027.67	-2027.63	13.10	401759.44	770508.30	N 32 6 8.47	W 103 35 35.63	2027.67	179.63	0.00
	12600.00	90.46	179.63	10663.90	2127.67	-2127.63	13.75	401659.44	770508.95	N 32 6 7.48	W 103 35 35.63	2127.67	179.63	0.00
	12700.00	90.46	179.63	10663.11	2227.67	-2227.62	14.39	401559.45	770509.59	N 32 6 6.49	W 103 35 35.63	2227.67	179.63	0.00
	12800.00	90.46	179.63	10662.31	2327.66	-2327.61	15.04	401459.46	770510.24	N 32 6 5.50	W 103 35 35.63	2327.66	179.63	0.00
	12900.00	90.46	179.63	10661.51	2427.66	-2427.61	15.69	401359.47	770510.89	N 32 6 4.52	W 103 35 35.63	2427.66	179.63	0.00
	13000.00	90.46	179.63	10660.72	2527.66	-2527.60	16.34	401259.48	770511.53	N 32 6 3.53	W 103 35 35.63	2527.66	179.63	0.00
	13100.00	90.46	179.63	10659.92	2627.65	-2627.60	16.98	401159.49	770512.18	N 32 6 2.54	W 103 35 35.63	2627.65	179.63	0.00
	13200.00	90.46	179.63	10659.12	2727.65	-2727.59	17.63	401059.50	770512.83	N 32 6 1.55	W 103 35 35.63	2727.65	179.63	0.00
	13300.00	90.46	179.63	10658.33	2827.65	-2827.59	18.28	400959.50	770513.48	N 32 6 0.56	W 103 35 35.63	2827.65	179.63	0.00
	13400.00	90.46	179.63	10657.53	2927.64	-2927.58	18.92	400859.51	770514.12	N 32 5 59.57	W 103 35 35.63	2927.64	179.63	0.00
	13500.00	90.46	179.63	10656.73	3027.64	-3027.58	19.57	400759.52	770514.77	N 32 5 58.58	W 103 35 35.63	3027.64	179.63	0.00
	13600.00	90.46	179.63	10655.94	3127.64	-3127.57	20.22	400659.53	770515.42	N 32 5 57.59	W 103 35 35.63	3127.64	179.63	0.00
	13700.00	90.46	179.63	10655.14	3227.63	-3227.57	20.87	400559.54	770516.07	N 32 5 56.60	W 103 35 35.63	3227.63	179.63	0.00
	13800.00	90.46	179.63	10654.34	3327.63	-3327.56	21.51	400459.55	770516.71	N 32 5 55.61	W 103 35 35.63	3327.63	179.63	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)
	13900.00	90.46	179.63	10653.54	3427.63	-3427.56	22.16	400359.56	770517.36	N 32 5 54.62	W 103 35 35.63	3427.63	179.63	0.00
	14000.00	90.46	179.63	10652.74	3527.62	-3527.55	22.81	400259.56	770518.01	N 32 5 53.63	W 103 35 35.63	3527.62	179.63	0.00
	14100.00	90.46	179.63	10651.95	3627.62	-3627.55	23.46	400159.57	770518.66	N 32 5 52.64	W 103 35 35.63	3627.62	179.63	0.00
	14200.00	90.46	179.63	10651.15	3727.62	-3727.54	24.10	400059.58	770519.30	N 32 5 51.65	W 103 35 35.64	3727.62	179.63	0.00
	14300.00	90.46	179.63	10650.35	3827.62	-3827.54	24.75	399959.59	770519.95	N 32 5 50.66	W 103 35 35.64	3827.62	179.63	0.00
	14400.00	90.46	179.63	10649.55	3927.61	-3927.53	25.40	399859.60	770520.60	N 32 5 49.67	W 103 35 35.64	3927.61	179.63	0.00
	14500.00	90.46	179.63	10648.75	4027.61	-4027.52	26.05	399759.61	770521.25	N 32 5 48.68	W 103 35 35.64	4027.61	179.63	0.00
	14600.00	90.46	179.63	10647.95	4127.61	-4127.52	26.70	399659.62	770521.89	N 32 5 47.69	W 103 35 35.64	4127.61	179.63	0.00
	14700.00	90.46	179.63	10647.15	4227.60	-4227.51	27.34	399559.62	770522.54	N 32 5 46.70	W 103 35 35.64	4227.60	179.63	0.00
	14800.00	90.46	179.63	10646.36	4327.60	-4327.51	27.99	399459.63	770523.19	N 32 5 45.71	W 103 35 35.64	4327.60	179.63	0.00
	14900.00	90.46	179.63	10645.56	4427.60	-4427.50	28.64	399359.64	770523.84	N 32 5 44.73	W 103 35 35.64	4427.60	179.63	0.00
	15000.00	90.46	179.63	10644.76	4527.59	-4527.50	29.29	399259.65	770524.49	N 32 5 43.74	W 103 35 35.64	4527.59	179.63	0.00
Cimarex Cascade 29 Federal #3H PBHL	15094.66	90.46	179.63	10644.00	4622.25	-4622.15	29.90	399165.00	770525.10	N 32 5 42.80	W 103 35 35.64	4622.25	179.63	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	15094.658	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Cascade 29 Federal #3H Rev0

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

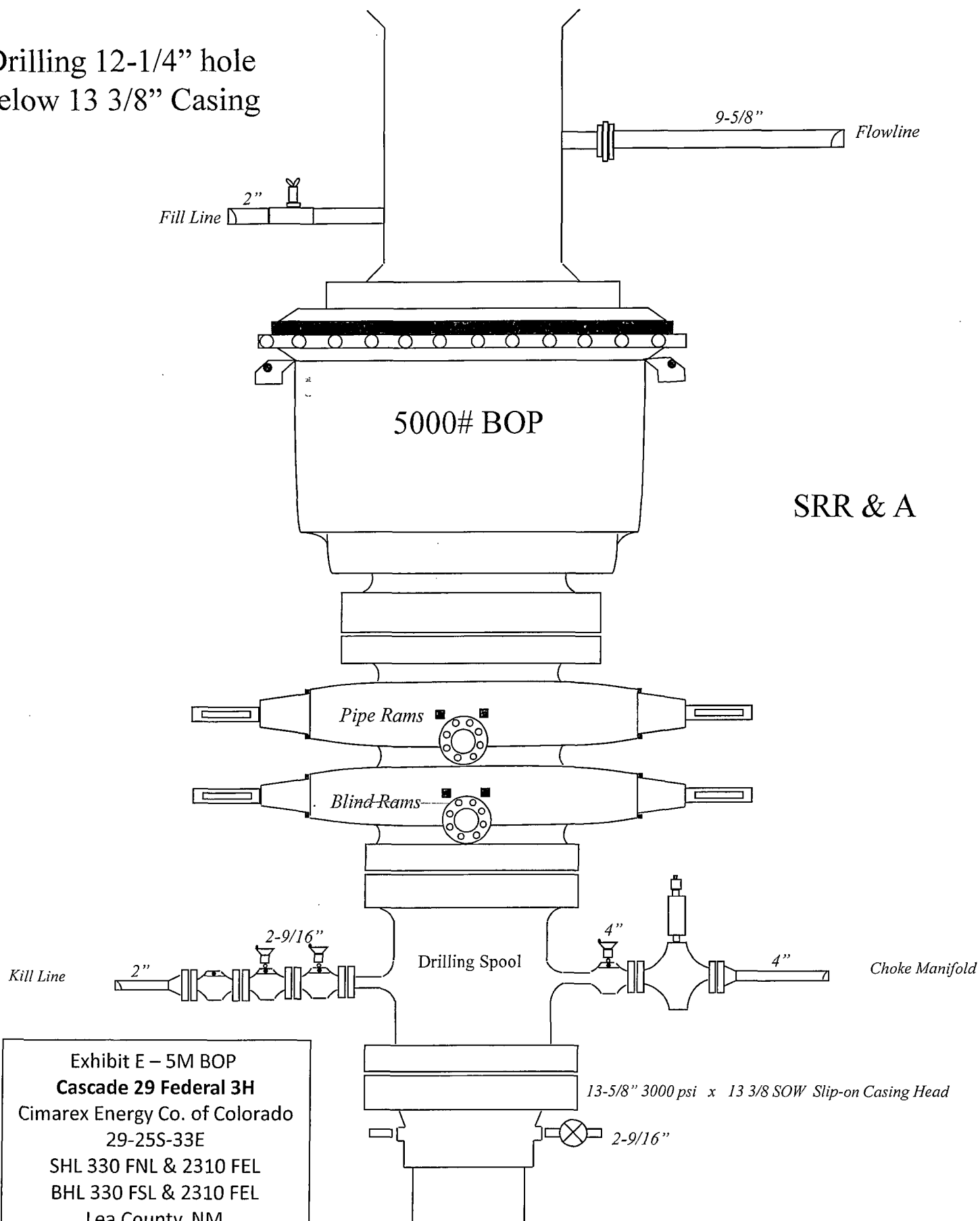
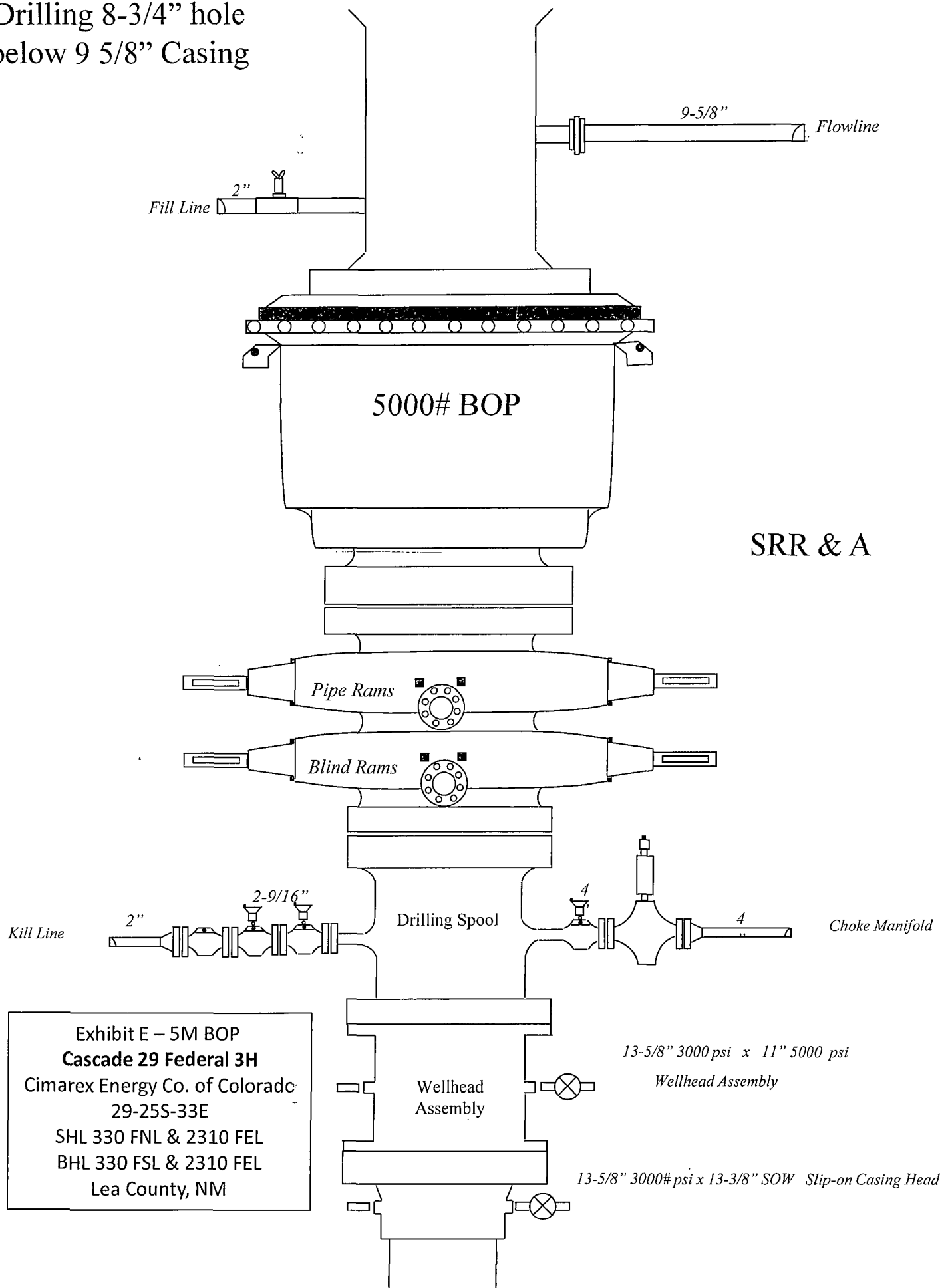


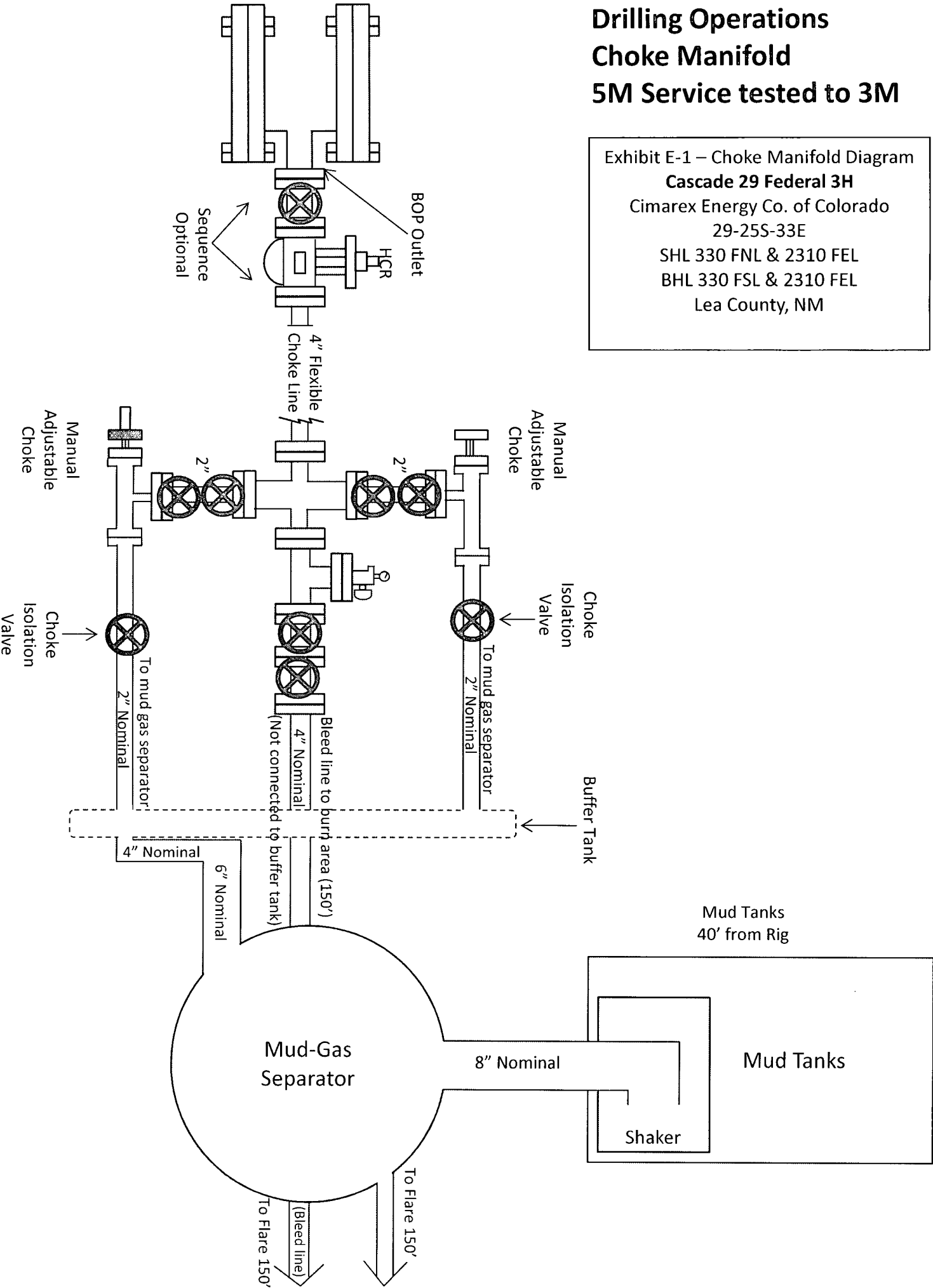
Exhibit E – 5M BOP
Cascade 29 Federal 3H
Cimarex Energy Co. of Colorado
29-25S-33E
SHL 330 FNL & 2310 FEL
BHL 330 FSL & 2310 FEL
Lea County, NM

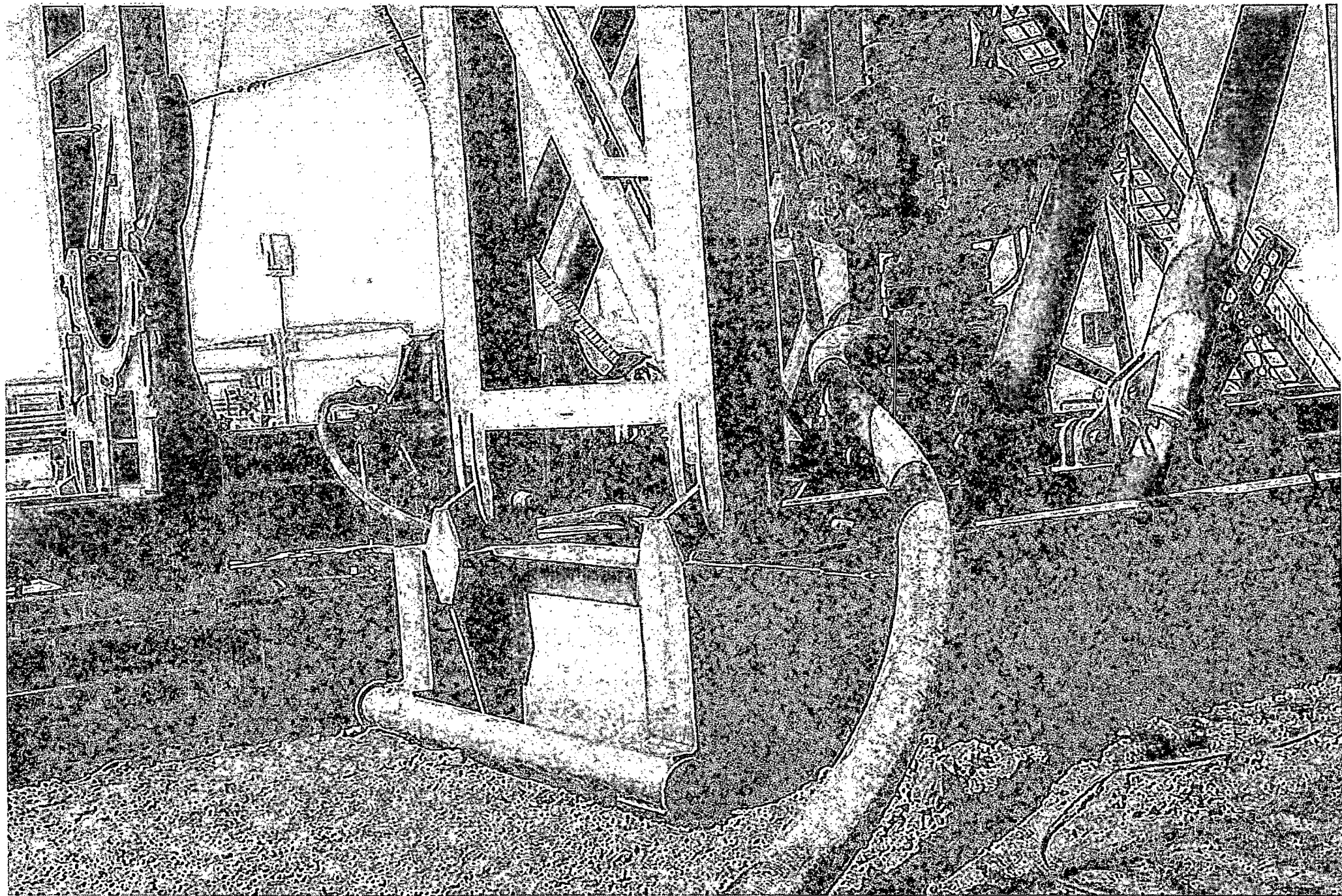
Drilling 8-3/4" hole
below 9 5/8" Casing



Drilling Operations
Choke Manifold
5M Service tested to 3M

Exhibit E-1 – Choke Manifold Diagram
Cascade 29 Federal 3H
Cimarex Energy Co. of Colorado
29-25S-33E
SHL 330 FNL & 2310 FEL
BHL 330 FSL & 2310 FEL
Lea County, NM







Midwest Hose
& Specialty, Inc.

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:

James L. Bunch

Date:

3/8/2011



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. John Jones</i>		Approved: <i>Kevin [Signature]</i>



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

March 3, 2011

Customer: Houston

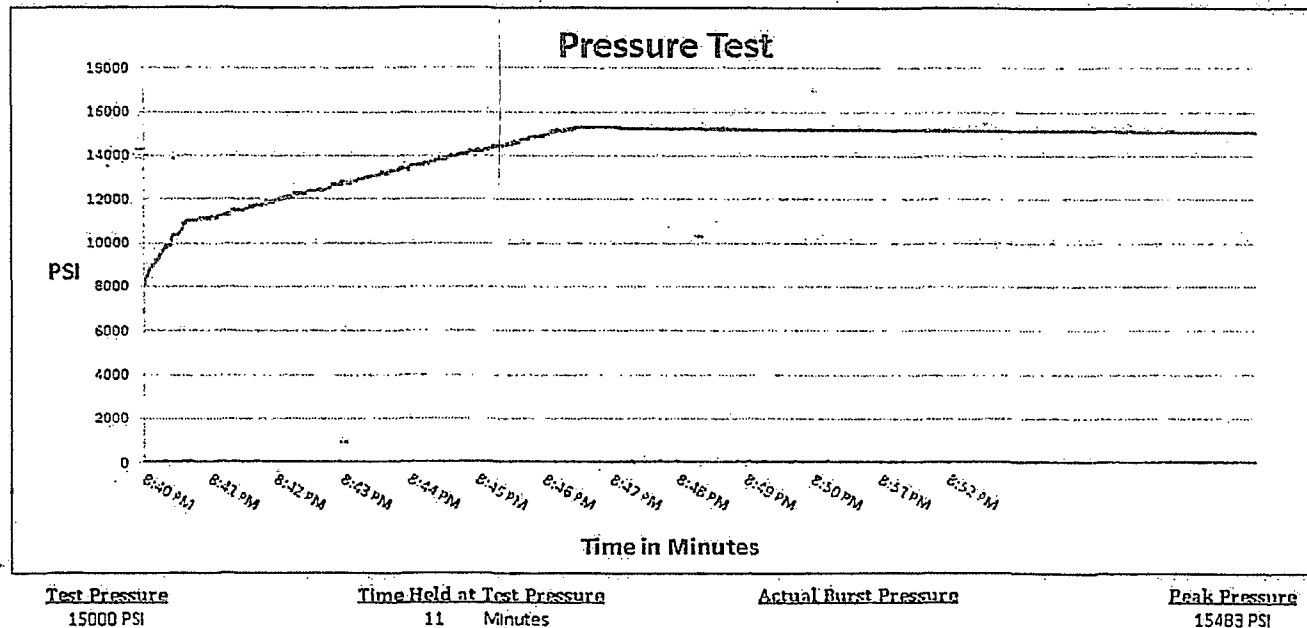
Pick Ticket #: 94260

Hose Specifications

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

Verification

<u>Type of Fitting</u>	<u>Coupling Method</u>
4 1/16 10K	Swage
<u>Die Size</u>	<u>Final O.D.</u>
6.38"	6.25"
<u>Hose Serial #</u>	<u>Hose Assembly Serial #</u>
5544	79793



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

Tested By: Zac McConnell

Approved By: Kim Thomas

[Signature]

[Signature]

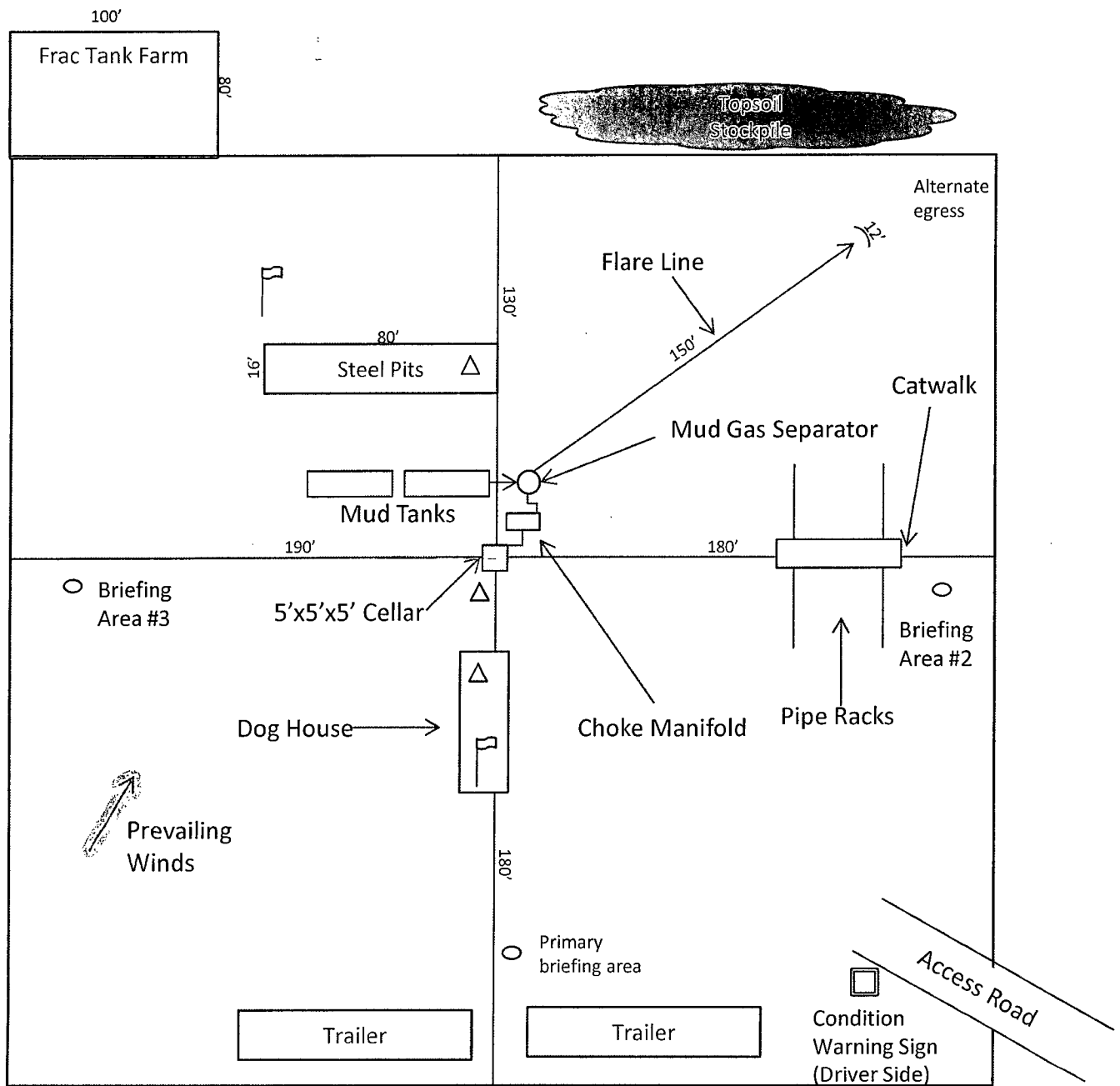


Exhibit D – Rig Diagram
Cascade 29 Federal 3H
 Cimarex Energy Co. of Colorado
 29-25S-33E
 SHL 330 FNL & 2310 FEL
 BHL 330 FSL & 2310 FEL
 Lea County, NM

N



Wind Direction Indicators
 (wind sock or streamers)



H2S Monitors
 (alarms at bell nipple and shale shaker)



Briefing Areas