

13-368

Form 3160-3
(March 2012)

HOEBS OCD

OCD Hobbs

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

JUN 25 2013

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

5. Lease Serial No.

NMNM043562

6. If Indian, Allottee or Tribe Name

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER

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

1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.

Cascade 29 Federal 2H

2. Name of Operator

Cimarex Energy Co.

9. API Well No.

30-025-41240

3a. Address

600 N. Marienfeld St. Ste. 600 Midland Tx 79701

3b. Phone No. (include area code)

432-571-7800

10. Field and Pool, or Exploratory

Wildcat Bone Spring

4. Location of Well (Report location clearly and in accordance with any State requirements.)

At Surface

330 FNL & 1905 FWL

11. Sec., T. R. M. or Blk. and Survey or Area

At proposed prod. Zone

330 FSL & 1700 FWL

Horizontal Bone Spring test

29-25S-33E

14. Distance in miles and direction from nearest town or post office*

Approximately 24 miles west of Jal, NM

12. County or Parish

Lea

13. State

NM

15. Distance from proposed*

location to nearest
property or lease line, ft.
(Also to nearest drig. unit line if
any)

330'

16. No of acres in lease

640

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

15,107' MD 10,657' TVD

20. BLM/BIA Bond No. on File

NM2575; NMB000835

21. Elevations (Show whether DF, KDB, RT, GL, etc.)

3417' GR

22. Approximate date work will start*

08.01.13

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

2. A Drilling Plan

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).

4. Bond to cover the operations unless covered by an existing bond on file (see
Item 20 above).

5. Operator Certification

6. Such other site specific information and/or plans as may be required by the
authorized officer.

25. Signature

Paula Brunson

Name (Printed/Typed)

Paula Brunson

Date

02.07.13

Title

Regulatory Analyst

Approved By (Signature)

/s/ James Stovall

Name (Printed/Typed)

CARLSBAD FIELD OFFICE

Date

JUN 21 2013

Title

FIELD MANAGER

Application

use rights in the subject lease which would entitle the applicant to

APPROVAL FOR TWO YEARS

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

*(Instructions on page 2)

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
CONDITIONS OF APPROVAL**

Carlsbad Controlled Water Basin

Kx
06/26/13

JUN 27 2013

Application to Drill
Cascade 29 Federal 2H
 Cimarex Energy Co.
 UL C - 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 & 1905 FWL
 BHL 330 FSL & 1700 FWL
- 2 Elevation above sea level: 3417' 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: 15,107' MD 10,657' TVD
- 6 Estimated tops of geological markers:

Formation	Est. Top	Bearing
Rustler	1003	NA
Top Salt	1179	NA
Base Salt	4686	NA
Delaware	4923	Hydrocarbons
Cherry Canyon	6015	NA
Brushy Canyon	7906	NA
Bone Spring	9048	NA
Bone Spring "A" Shale	9103	Hydrocarbons
Bone Spring "B" Carb.	9364	NA
Bone Spring "C" Shale	9727	NA
1st Bone Spring Ss	10053	NA
2nd Bone Spring Ss	10619	Hydrocarbons
Bone Spring HZ Target	10678	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	Condition	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'	1000' 1053'	1053'	17 1/2	13 3/8	48	H-40	ST&C	New	474	8.4	1.61	3.7	50544	6.4
Intermediate														
0'	4900'	4900'	12 1/4	9 5/8	26	J-55	LT&C	New	2205	10	1.09	1.6	176400	3.2
Production														
0'	10207'	10207'	8 3/4	5 1/2	17	P-110	LT&C	New	2451	8.4	1.68	4.3	181169	2.5
10207'	15107'	10657'	8 3/4	5 1/2	17	P-110	BT&C	New	4796	8.4	1.61	2.2	7650	71.4

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.

9 Cementing Program:

<i>Surface</i>	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	670	1.75	13.5	1170	Class C + Bentonite + Calcium Chloride + LCM
Tail	140	1.34	14.8	183	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	2113	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 Metasilicate + Bentonite + Fluid Loss + Dispersant + LCM + Retarder
Tail	1377	1.24	14.5	1707	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 13½" 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 2H
 Cimarex Energy Co.
 UL C - Sec 29-25S-33E
 Lea County, NM

11 Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 1053' <i>1000</i>	8.4	28	NC	FW Spud Mud
1053' to 4900'	10	30-32	NC	Brine water
4900' to 15107'	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: 10,207' EOC: 10961'
 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:

- See COA*
- 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 *See COA*
 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

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 **4795.65 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 potentialized as **Oil**



Cimarex

PATHFINDER

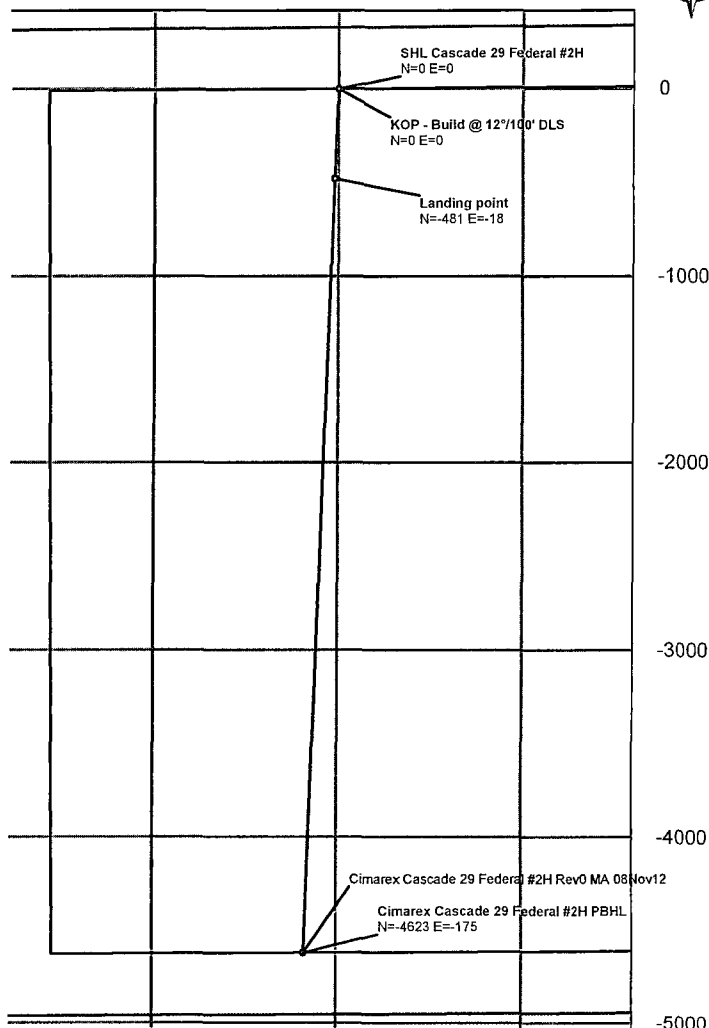
A Schlumberger Company

WELL	Cascade 29 Federal #2H	FIELD	NM Lea County	STRUCTURE	Cascade 29 Federal #2H
Magnetic Parameters Model: BGGM 2012 Dip: 59.999° Date: November 08, 2012 Mag Dec: 7.518° FS: 48390.2nT					
Surface Location Lat: N 32 6 26.539 Northing: 403779.80 RUS Grid Conv: 0.392° Lon: W 103 35 48.102 Easting: 769421.50 RUS Scale Fact: 0.99996067					
Miscellaneous Sket: Cascade 29 Federal #2H TVD Ref: Drillsite Elevation (3417ft above MSL) Plan: Rev0 MA 08Nov12 Srvy Date: November 08, 2012					



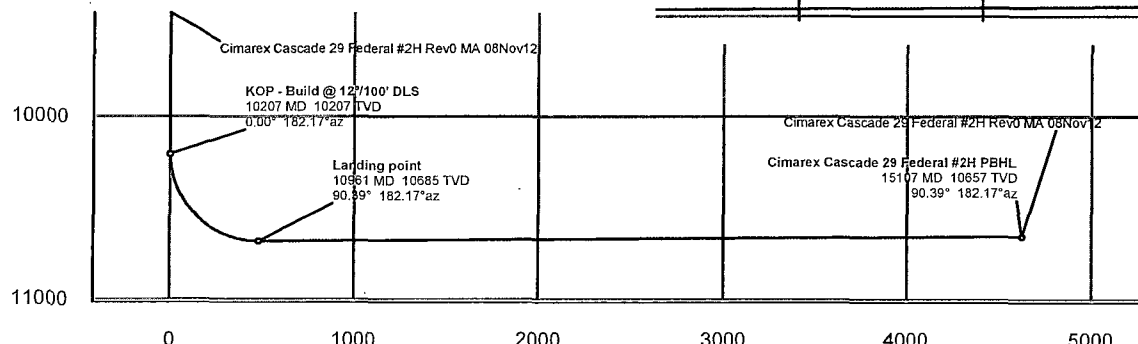
Grid North
Tot Corr (M->G 7.1263°)
Mag Dec (7.518°)
Grid Conv (0.392°)

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



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

TVD Scale = 1:1000(ft)



Vertical Section (ft) Azim = 182.17° Scale = 1:1000(ft) Origin = 0 N/-S, 0 E/-W

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+) / S(-)	E(+) / W(-)	DLS
SHL Cascade 29 Federal #2H	0.00	0.00	182.17	0.00	0.00	0.00	0.00	
KOP - Build @ 12°/100' DLS	10207.00	0.00	182.17	10207.00	0.00	0.00	0.00	0.00
Landing point	10961.07	90.39	182.17	10685.00	481.22	-180.88	-18.22	11.99
Cimarex Cascade 29 Federal #2H PBHL	15106.76	90.39	182.17	10657.00	4626.82	-4623.50	-175.35	0.00



Cimarex Cascade 29 Federal #2H Rev0 MA 08Nov12 Proposal Report

(Non-Def Plan)

Report Date:	November 08, 2012 - 04:59 PM	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	Cimarex	Vertical Section Azimuth:	182.172 ° (Grid North)
Field:	NM Lea County (NAD 83)	Vertical Section Origin:	0.000 ft, 0.000 ft
Structure / Slot:	Cimarex Cascade 29 Federal #2H / Cimarex Cascade 29 Federal #2H	TVD Reference Datum:	Drillsite Elevation
Well:	Cimarex Cascade 29 Federal #2H	TVD Reference Elevation:	3417.000 ft above MSL
Borehole:	Original Borehole	Seabed / Ground Elevation:	3417.000 ft above MSL
UWI / API#:	Unknown / Unknown	Magnetic Declination:	7.518 °
Survey Name:	Cimarex Cascade 29 Federal #2H Rev0 MA 08Nov12	Total Gravity Field Strength:	999.1539 mgn (9.8 based)
Survey Date:	November 08, 2012	Total Magnetic Field Strength:	48390.229 nT
Tort / AHD / DDI / ERD Ratio:	90.391 ° / 4626.819 ft / 5.772 / 0.433	Magnetic Dip Angle:	59.999 °
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Declination Date:	November 08, 2012
Location Lat / Long:	N 32° 6' 28.53915", W 103° 35' 48.10151"	Magnetic Declination Model:	BGGM 2012
Location Grid N/E Y/X:	N 403779.800 ftUS, E 769421.500 ftUS	North Reference:	Grid North
CRS Grid Convergence Angle:	0.3916 °	Grid Convergence Used:	0.3916 °
Grid Scale Factor:	0.99996867	Total Corr Mag North→Grid North:	7.1263 °

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 Cascade 29 Federal #2H	0.00	0.00	182.17	0.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	N/A
	100.00	0.00	182.17	100.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	200.00	0.00	182.17	200.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	300.00	0.00	182.17	300.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	400.00	0.00	182.17	400.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	500.00	0.00	182.17	500.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	600.00	0.00	182.17	600.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	700.00	0.00	182.17	700.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	800.00	0.00	182.17	800.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	900.00	0.00	182.17	900.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	1000.00	0.00	182.17	1000.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	1100.00	0.00	182.17	1100.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	1200.00	0.00	182.17	1200.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	1300.00	0.00	182.17	1300.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	1400.00	0.00	182.17	1400.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	1500.00	0.00	182.17	1500.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	1600.00	0.00	182.17	1600.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	1700.00	0.00	182.17	1700.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	1800.00	0.00	182.17	1800.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	1900.00	0.00	182.17	1900.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	2000.00	0.00	182.17	2000.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	2100.00	0.00	182.17	2100.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	2200.00	0.00	182.17	2200.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	2300.00	0.00	182.17	2300.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	2400.00	0.00	182.17	2400.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	2500.00	0.00	182.17	2500.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	2600.00	0.00	182.17	2600.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	2700.00	0.00	182.17	2700.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	2800.00	0.00	182.17	2800.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	2900.00	0.00	182.17	2900.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	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)
	3000.00	0.00	182.17	3000.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	3100.00	0.00	182.17	3100.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	3200.00	0.00	182.17	3200.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	3300.00	0.00	182.17	3300.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	3400.00	0.00	182.17	3400.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	3500.00	0.00	182.17	3500.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	3600.00	0.00	182.17	3600.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	3700.00	0.00	182.17	3700.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	3800.00	0.00	182.17	3800.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	3900.00	0.00	182.17	3900.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	4000.00	0.00	182.17	4000.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	4100.00	0.00	182.17	4100.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	4200.00	0.00	182.17	4200.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	4300.00	0.00	182.17	4300.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	4400.00	0.00	182.17	4400.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	4500.00	0.00	182.17	4500.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	4600.00	0.00	182.17	4600.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	4700.00	0.00	182.17	4700.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	4800.00	0.00	182.17	4800.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	4900.00	0.00	182.17	4900.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	5000.00	0.00	182.17	5000.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	DLS
	5100.00	0.00	182.17	5100.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	5200.00	0.00	182.17	5200.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	5300.00	0.00	182.17	5300.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	5400.00	0.00	182.17	5400.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	5500.00	0.00	182.17	5500.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	5600.00	0.00	182.17	5600.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	5700.00	0.00	182.17	5700.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	5800.00	0.00	182.17	5800.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	5900.00	0.00	182.17	5900.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	6000.00	0.00	182.17	6000.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	6100.00	0.00	182.17	6100.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	6200.00	0.00	182.17	6200.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	6300.00	0.00	182.17	6300.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	6400.00	0.00	182.17	6400.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	6500.00	0.00	182.17	6500.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	6600.00	0.00	182.17	6600.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	6700.00	0.00	182.17	6700.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	6800.00	0.00	182.17	6800.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	6900.00	0.00	182.17	6900.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	7000.00	0.00	182.17	7000.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	7100.00	0.00	182.17	7100.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	7200.00	0.00	182.17	7200.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	7300.00	0.00	182.17	7300.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	7400.00	0.00	182.17	7400.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	7500.00	0.00	182.17	7500.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	7600.00	0.00	182.17	7600.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	7700.00	0.00	182.17	7700.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	7800.00	0.00	182.17	7800.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	7900.00	0.00	182.17	7900.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	8000.00	0.00	182.17	8000.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	8100.00	0.00	182.17	8100.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	8200.00	0.00	182.17	8200.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	8300.00	0.00	182.17	8300.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	0.00	0.00	0.00
	8400.00	0.00	182.17	8400.00	0.00	0.00	0.00	403779.80	769421.50	N 32° 6' 28.54"	W 103° 35' 48.10"	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	182.17	8500.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	8600.00	0.00	182.17	8600.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	8700.00	0.00	182.17	8700.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	8800.00	0.00	182.17	8800.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	8900.00	0.00	182.17	8900.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	9000.00	0.00	182.17	9000.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	9100.00	0.00	182.17	9100.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	9200.00	0.00	182.17	9200.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	9300.00	0.00	182.17	9300.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	9400.00	0.00	182.17	9400.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	9500.00	0.00	182.17	9500.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	9600.00	0.00	182.17	9600.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	9700.00	0.00	182.17	9700.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	9800.00	0.00	182.17	9800.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	9900.00	0.00	182.17	9900.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
KOP - Build @ 12"/100' DLS	10000.00	0.00	182.17	10000.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	10100.00	0.00	182.17	10100.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	10200.00	0.00	182.17	10200.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	10207.00	0.00	182.17	10207.00	0.00	0.00	0.00	403779.80	769421.50	N 32 6 28.54	W 103 35 48.10	0.00	0.00	0.00
	10300.00	11.15	182.17	10299.41	9.02	-9.01	-0.34	403770.79	769421.16	N 32 6 28.45	W 103 35 48.11	9.02	182.17	11.99
	10400.00	23.13	182.17	10394.80	38.44	-38.41	-1.46	403741.39	769420.04	N 32 6 28.16	W 103 35 48.12	38.44	182.17	11.99
	10500.00	35.12	182.17	10481.99	87.02	-86.96	-3.30	403692.84	769418.21	N 32 6 27.68	W 103 35 48.15	87.02	182.17	11.99
	10600.00	47.11	182.17	10557.20	152.66	-152.55	-5.78	403627.26	769415.72	N 32 6 27.03	W 103 35 48.18	152.66	182.17	11.99
	10700.00	59.09	182.17	10617.13	232.48	-232.31	-8.80	403547.50	769412.70	N 32 6 26.24	W 103 35 48.22	232.48	182.17	11.99
	10800.00	71.08	182.17	10659.18	323.01	-322.78	-12.23	403457.04	769409.27	N 32 6 25.35	W 103 35 48.27	323.01	182.17	11.99
Landing point	10900.00	83.07	182.17	10681.51	420.29	-419.99	-15.91	403359.82	769405.59	N 32 6 24.38	W 103 35 48.32	420.29	182.17	11.99
	10961.07	90.39	182.17	10685.00	481.22	-480.88	-18.22	403298.94	769403.28	N 32 6 23.78	W 103 35 48.35	481.22	182.17	11.99
	11000.00	90.39	182.17	10684.74	520.15	-519.78	-19.70	403260.04	769401.81	N 32 6 23.40	W 103 35 48.37	520.15	182.17	0.00
	11100.00	90.39	182.17	10684.07	620.15	-619.71	-23.48	403160.12	769398.02	N 32 6 22.41	W 103 35 48.42	620.15	182.17	0.00
	11200.00	90.39	182.17	10683.39	720.15	-719.63	-27.27	403060.19	769394.23	N 32 6 21.42	W 103 35 48.48	720.15	182.17	0.00
	11300.00	90.39	182.17	10682.72	820.15	-819.56	-31.06	402960.27	769390.45	N 32 6 20.43	W 103 35 48.53	820.15	182.17	0.00
	11400.00	90.39	182.17	10682.05	920.14	-919.48	-34.84	402860.35	769386.66	N 32 6 19.44	W 103 35 48.58	920.14	182.17	0.00
	11500.00	90.39	182.17	10681.38	1020.14	-1019.41	-38.63	402760.42	769382.87	N 32 6 18.45	W 103 35 48.63	1020.14	182.17	0.00
	11600.00	90.39	182.17	10680.70	1120.14	-1119.34	-42.42	402660.50	769379.08	N 32 6 17.47	W 103 35 48.68	1120.14	182.17	0.00
	11700.00	90.39	182.17	10680.03	1220.14	-1219.26	-46.21	402560.58	769375.30	N 32 6 16.48	W 103 35 48.74	1220.14	182.17	0.00
	11800.00	90.39	182.17	10679.36	1320.13	-1319.19	-49.99	402460.66	769371.51	N 32 6 15.49	W 103 35 48.79	1320.13	182.17	0.00
	11900.00	90.39	182.17	10678.68	1420.13	-1419.11	-53.78	402360.73	769367.72	N 32 6 14.50	W 103 35 48.84	1420.13	182.17	0.00
	12000.00	90.39	182.17	10678.01	1520.13	-1519.04	-57.57	402260.81	769363.93	N 32 6 13.51	W 103 35 48.89	1520.13	182.17	0.00
	12100.00	90.39	182.17	10677.34	1620.13	-1618.97	-61.36	402160.89	769360.14	N 32 6 12.52	W 103 35 48.94	1620.13	182.17	0.00
	12200.00	90.39	182.17	10676.66	1720.13	-1718.89	-65.15	402060.97	769356.36	N 32 6 11.53	W 103 35 49.00	1720.13	182.17	0.00
	12300.00	90.39	182.17	10675.99	1820.12	-1818.82	-68.94	401961.04	769352.57	N 32 6 10.55	W 103 35 49.05	1820.12	182.17	0.00
	12400.00	90.39	182.17	10675.31	1920.12	-1918.74	-72.72	401861.12	769348.78	N 32 6 9.56	W 103 35 49.10	1920.12	182.17	0.00
	12500.00	90.39	182.17	10674.64	2020.12	-2018.67	-76.51	401761.20	769344.99	N 32 6 8.57	W 103 35 49.15	2020.12	182.17	0.00
	12600.00	90.39	182.17	10673.96	2120.12	-2118.59	-80.30	401661.28	769341.20	N 32 6 7.58	W 103 35 49.20	2120.12	182.17	0.00
	12700.00	90.39	182.17	10673.29	2220.11	-2218.52	-84.09	401561.35	769337.41	N 32 6 6.59	W 103 35 49.26	2220.11	182.17	0.00
	12800.00	90.39	182.17	10672.62	2320.11	-2318.45	-87.88	401461.43	769333.62	N 32 6 5.60	W 103 35 49.31	2320.11	182.17	0.00
	12900.00	90.39	182.17	10671.94	2420.11	-2418.37	-91.67	401361.51	769329.83	N 32 6 4.62	W 103 35 49.36	2420.11	182.17	0.00
	13000.00	90.39	182.17	10671.26	2520.11	-2518.30	-95.46	401261.59	769326.04	N 32 6 3.63	W 103 35 49.41	2520.11	182.17	0.00
	13100.00	90.39	182.17	10670.59	2620.10	-2618.22	-99.25	401161.66	769322.25	N 32 6 2.64	W 103 35 49.46	2620.10	182.17	0.00
	13200.00	90.39	182.17	10669.91	2720.10	-2718.15	-103.04	401061.74	769318.46	N 32 6 1.65	W 103 35 49.52	2720.10	182.17	0.00
	13300.00	90.39	182.17	10669.24	2820.10	-2818.08	-106.83	400961.82	769314.67	N 32 6 0.66	W 103 35 49.57	2820.10	182.17	0.00
	13400.00	90.39	182.17	10668.56	2920.10	-2918.00	-110.62	400861.90	769310.88	N 32 5 59.67	W 103 35 49.62	2920.10	182.17	0.00
	13500.00	90.39	182.17	10667.89	3020.10	-3017.93	-114.42	400761.97	769307.09	N 32 5 58.68	W 103 35 49.67	3020.10	182.17	0.00
	13600.00	90.39	182.17	10667.21	3120.09	-3117.85	-118.21	400662.05	769303.30	N 32 5 57.70	W 103 35 49.72	3120.09	182.17	0.00
	13700.00	90.39	182.17	10666.53	3220.09	-3217.78	-122.00	400562.13	769299.51	N 32 5 56.71	W 103 35 49.78	3220.09	182.17	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)
	13800.00	90.39	182.17	10665.86	3320.09	-3317.70	-125.79	400462.21	769295.71	N 32 5 55.72	W 103 35 49.83	3320.09	182.17	0.00
	13900.00	90.39	182.17	10665.18	3420.09	-3417.63	-129.58	400362.28	769291.92	N 32 5 54.73	W 103 35 49.88	3420.09	182.17	0.00
	14000.00	90.39	182.17	10664.50	3520.08	-3517.56	-133.37	400262.36	769288.13	N 32 5 53.74	W 103 35 49.93	3520.08	182.17	0.00
	14100.00	90.39	182.17	10663.83	3620.08	-3617.48	-137.17	400162.44	769284.34	N 32 5 52.75	W 103 35 49.98	3620.08	182.17	0.00
	14200.00	90.39	182.17	10663.15	3720.08	-3717.41	-140.96	400062.52	769280.55	N 32 5 51.76	W 103 35 50.04	3720.08	182.17	0.00
	14300.00	90.39	182.17	10662.47	3820.08	-3817.33	-144.75	399962.59	769276.75	N 32 5 50.78	W 103 35 50.09	3820.08	182.17	0.00
	14400.00	90.39	182.17	10661.79	3920.07	-3917.26	-148.54	399862.67	769272.96	N 32 5 49.79	W 103 35 50.14	3920.07	182.17	0.00
	14500.00	90.39	182.17	10661.12	4020.07	-4017.19	-152.34	399762.75	769269.17	N 32 5 48.80	W 103 35 50.19	4020.07	182.17	0.00
	14600.00	90.39	182.17	10660.44	4120.07	-4117.11	-156.13	399662.83	769265.38	N 32 5 47.81	W 103 35 50.24	4120.07	182.17	0.00
	14700.00	90.39	182.17	10659.76	4220.07	-4217.04	-159.92	399562.90	769261.58	N 32 5 46.82	W 103 35 50.30	4220.07	182.17	0.00
	14800.00	90.39	182.17	10659.08	4320.07	-4316.96	-163.72	399462.98	769257.79	N 32 5 45.83	W 103 35 50.35	4320.07	182.17	0.00
	14900.00	90.39	182.17	10658.40	4420.06	-4416.89	-167.51	399363.06	769254.00	N 32 5 44.84	W 103 35 50.40	4420.06	182.17	0.00
	15000.00	90.39	182.17	10657.72	4520.06	-4516.81	-171.30	399263.14	769250.20	N 32 5 43.86	W 103 35 50.45	4520.06	182.17	0.00
	15100.00	90.39	182.17	10657.05	4620.06	-4616.74	-175.10	399163.21	769246.41	N 32 5 42.87	W 103 35 50.50	4620.06	182.17	0.00
Cimarex Cascade 29 Federal #2H PBHL	15106.76	90.39	182.17	10657.00	4626.82	-4623.50	-175.35	399156.46	769246.15	N 32 5 42.80	W 103 35 50.51	4626.82	182.17	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	15106.761	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Cascade 29 Federal #2H Rev0

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

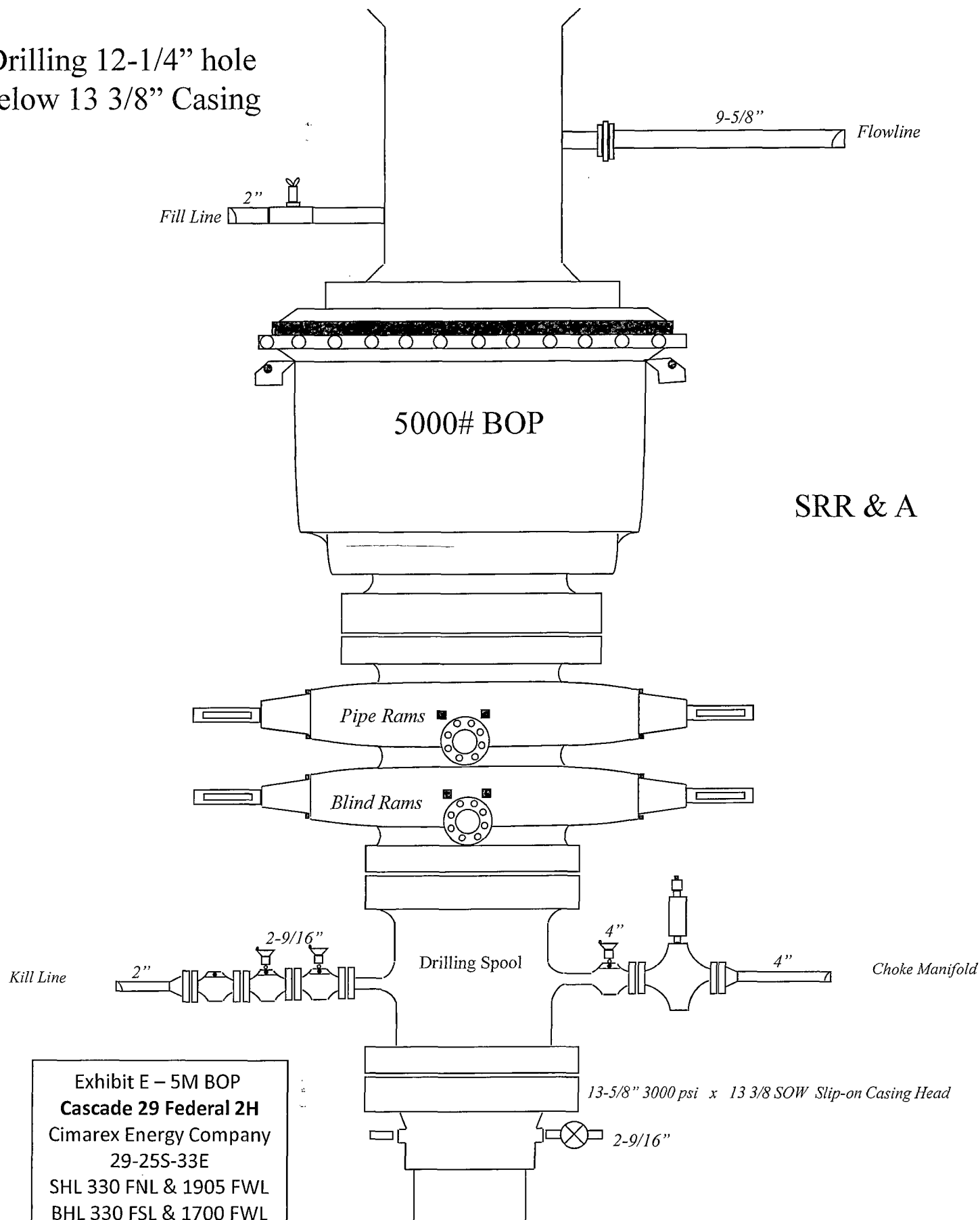


Exhibit E – 5M BOP
Cascade 29 Federal 2H
Cimarex Energy Company
29-25S-33E
SHL 330 FNL & 1905 FWL
BHL 330 FSL & 1700 FWL
Lea County, NM

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

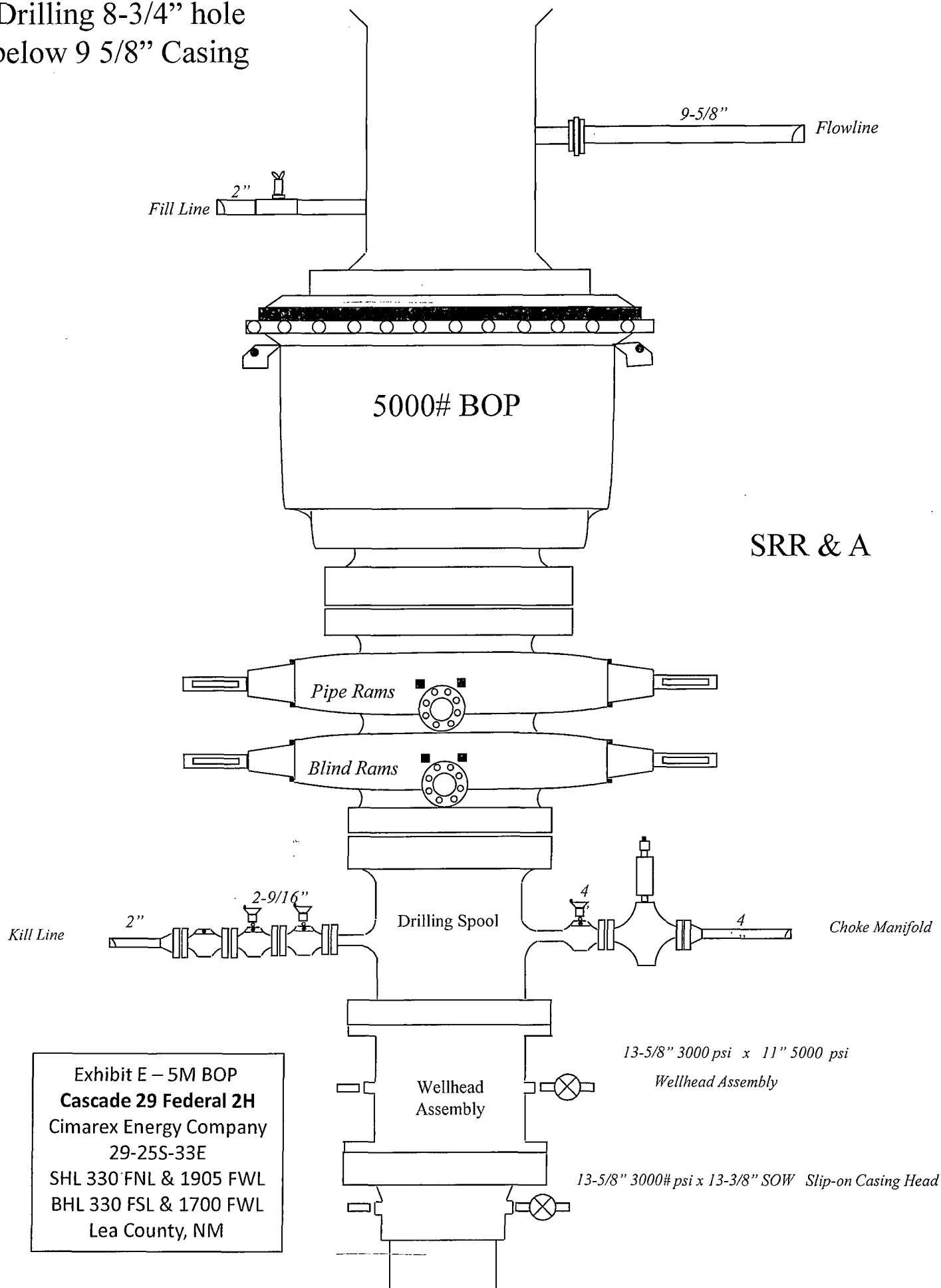
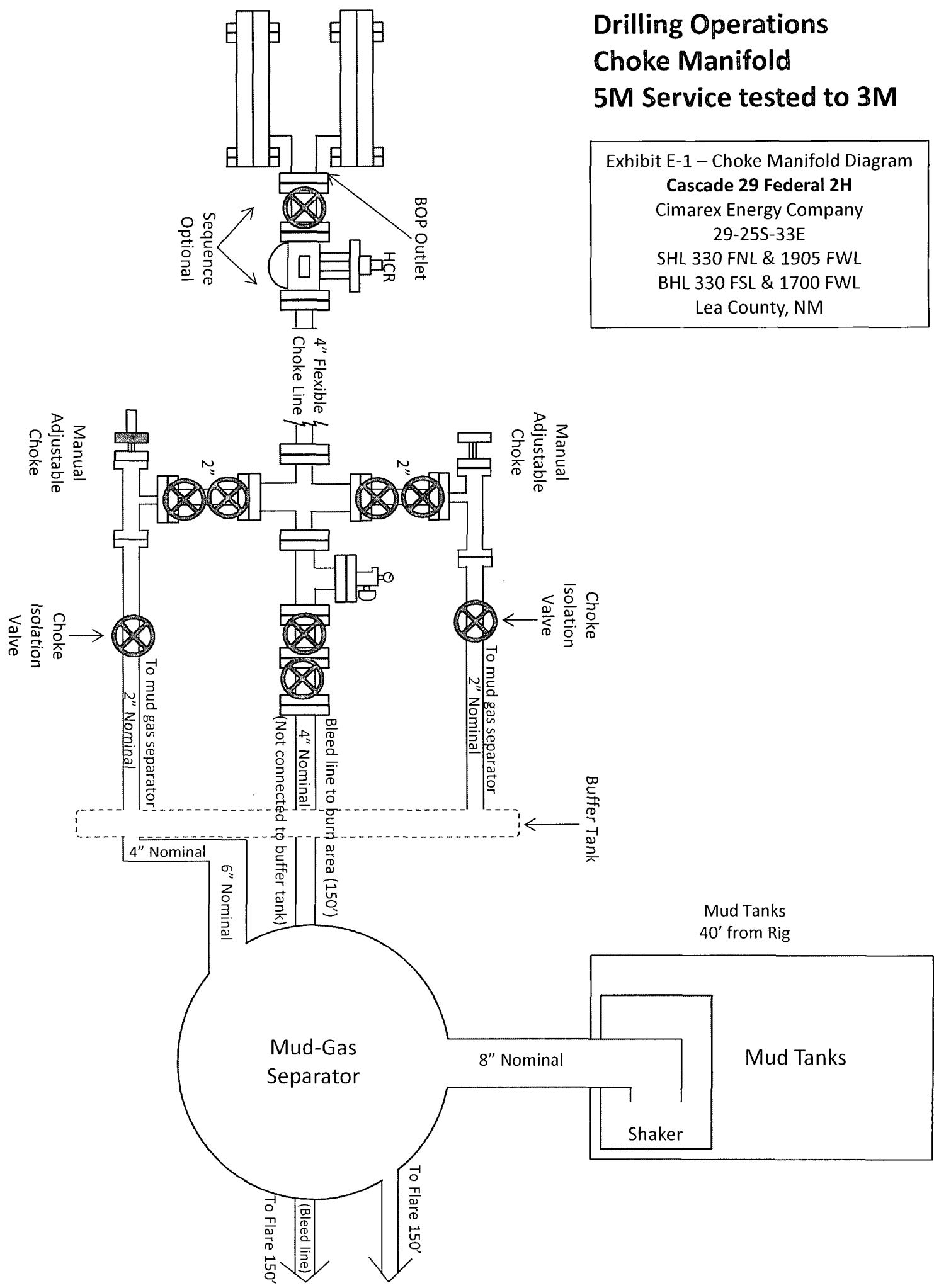
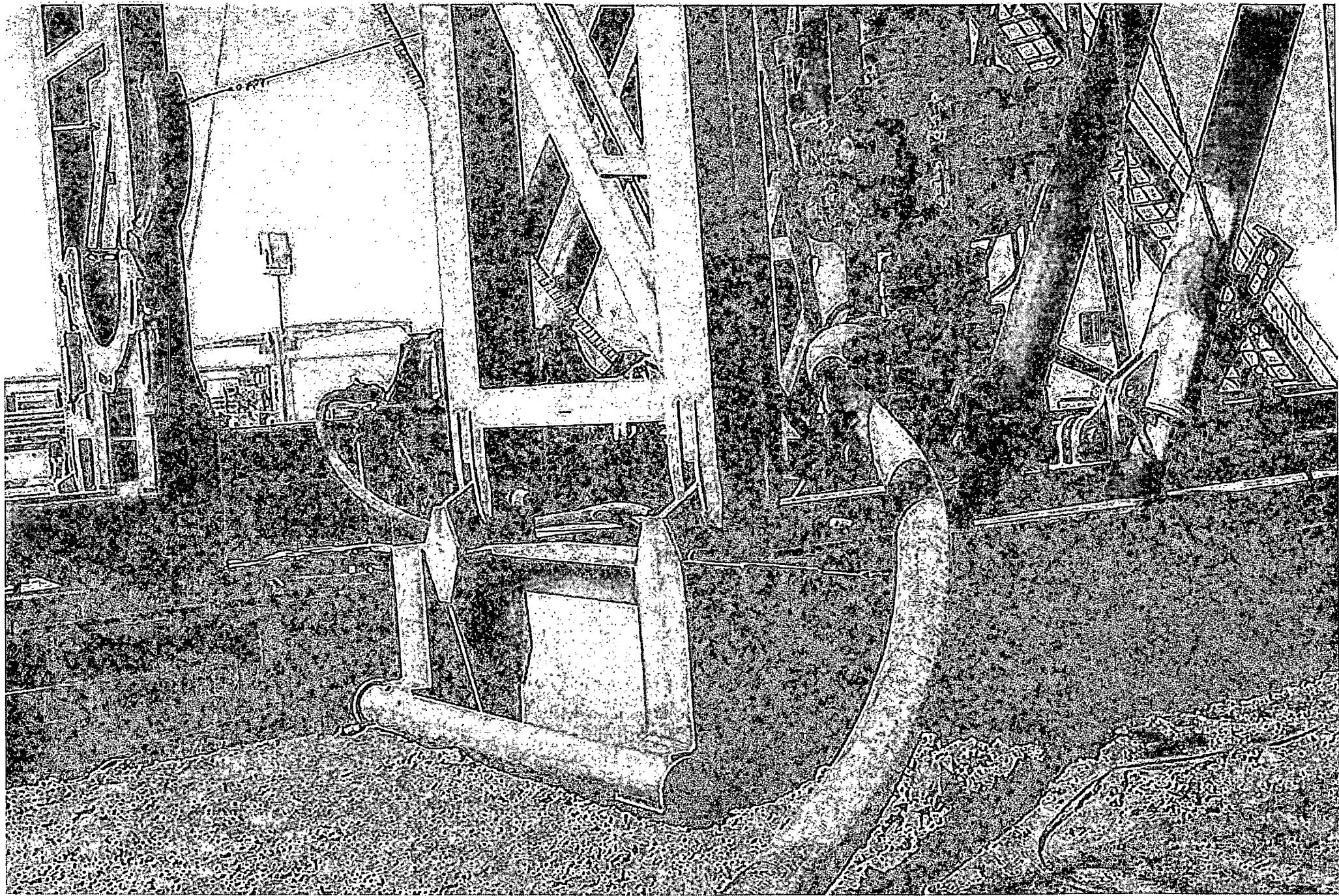


Exhibit E – 5M BOP
Cascade 29 Federal 2H
Cimarex Energy Company
29-25S-33E
SHL 330 FNL & 1905 FWL
BHL 330 FSL & 1700 FWL
Lea County, NM

Drilling Operations
Choke Manifold
5M Service tested to 3M

Exhibit E-1 – Choke Manifold Diagram
Cascade 29 Federal 2H
Cimarex Energy Company
29-25S-33E
SHL 330 FNL & 1905 FWL
BHL 330 FSL & 1700 FWL
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. Garcia

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. Jaine</i>	Approved: <i>[Signature]</i>



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

March 3, 2011

Customer: Houston

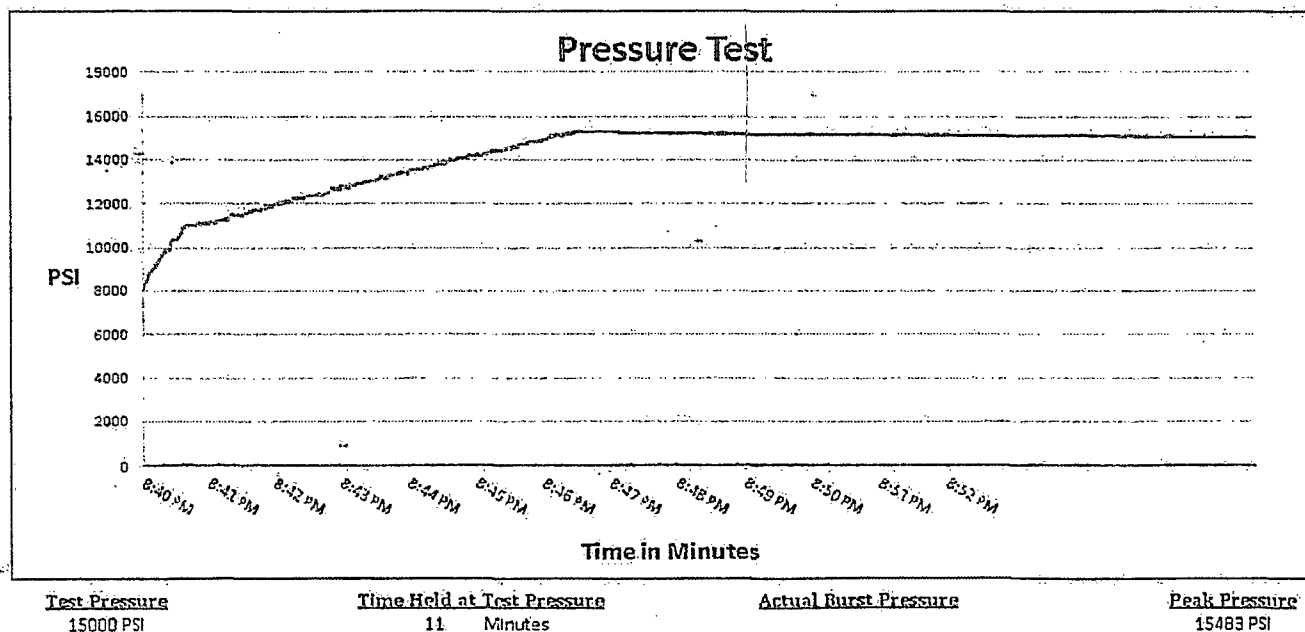
Pick Ticket #: 94260

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]

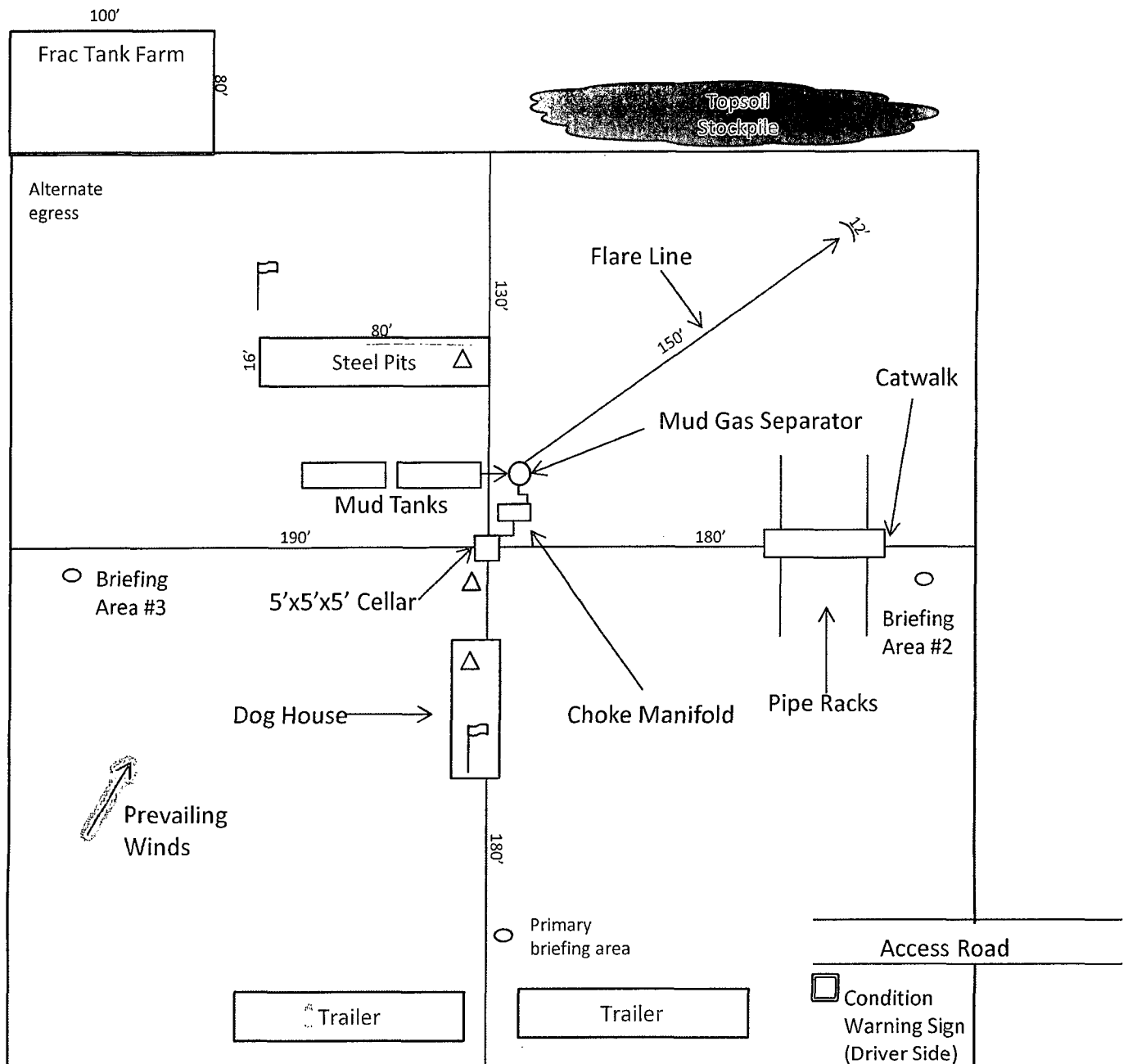


Exhibit D – Rig Diagram
Cascade 29 Federal 2H
 Cimarex Energy Company
 29-25S-33E
 SHL 330 FNL & 1905 FWL
 BHL 330 FSL & 1700 FWL
 Lea County, NM



Wind Direction Indicators
 (wind sock or streamers)



• H2S Monitors
 (alarms at bell nipple and shale shaker)



Briefing Areas