

Resubmittal

New Mexico Oil Conservation Division, District I
1625 N. French Drive
Hobbs, NM 88240

Form 3160-3
(March 2012)

Approval Subject To The Flex Hose
Being Anchored At Both Ends With
No More Than A 30 Degree Bend.

REC'D

HOBBS OCD

APR 09 2013

RECEIVED

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

☒ DRILL ☐ REENTER

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

2. Name of Operator

Cimarex Energy Co.

3a. Address

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

3b. Phone No. (include area code)

432-571-7800

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

At Surface

510' FNL & 2310' FEL

At proposed prod. Zone

660' FNL & 330' FEL

Horizontal Abo test

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

0

12. County or Parish

Chaves

13. State

NM

15. Distance from proposed*

location to nearest
property or lease line, ft.
(Also to nearest drig. unit line if
any) 510'

16. No of acres in lease

LC060850-442.24
LC069832B-280

17. Spacing Unit dedicated to this well

240 acres

18. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft.

1320' to #2

19. Proposed Depth

Pilot Hole: 9100'

15,765' MD 8,615' TVD

20. BLM/BIA Bond No. on File

NM2575; NMB000835

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

4440' GR

22. Approximate date work will start*

04.15.12

23. Estimated duration

35 days

24. Attachments

ROSWELL CONTROLLED WATER BASIN

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

02.01.13

Title

Regulatory Compliance

Approved By (Signature)

1st Angel Mayes

Name (Printed/Typed)

Angel Mayes

Date

APR 05 2013

Title

Assistant Field Manager,
Lands And Minerals

Office

ROSWELL 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.

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)

DECLARED WATER BASIN

CEMENT BEHIND THE 133"
CASING MUST BE CIRCULATED

WITNESS

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS ATTACHED

APR 17 2013

Application to Drill
Independence 8 Federal Com #1
 Cimarex Energy Co.
 UL: B, Sec. 8, 15S, 31E
 Chaves Co., 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 510' FNL & 2310' FEL
 BHL 660' FNL & 330' FEL
- 2 Elevation above sea level: 4440' 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: 15,765' MD 8,615' TVD
- 6 Estimated tops of geological markers:

Formation	Est. Top	Bearing
Yates	2470	NA
Queen	3050	NA
San Andres	3745	NA
Abo Shale	7425	Hydrocarbons
Lower Abo Dolomite	8715	Hydrocarbons
Wolfcamp LS	8970	Hydrocarbons

- 7 Possible mineral bearing formation:
 Shown above

- 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	SF Surface Pressure & BHP (psia)	Mud Weight (ppg)	Collapse SF (1.125)	Burst SF (1.125)	Cumulative Air Weight (lbs)	Tension SF (1.6)
Surface														
0'	340'	340'	17 1/2	13 3/8	48	H-40	ST&C	New	153	8.4	4.98	11.3	16320	19.7
Intermediate														
0'	3950'	3950'	12 1/4	9 5/8	40	J-55	LT&C	New	1778	10	1.25	2.2	158000	3.3
Production														
0'	8395'	8395'	8 3/4	5 1/2	17	P-110	LT&C	New	1981	8.4	2.04	5.4	146455	3.0
8395'	15765'	8615'	8 3/4	5 1/2	17	P-110	BT&C	New	3877	8.4	1.99	2.7	3740	146.0

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.

Drilling Plan
Independence 8 Federal Com #1
Cimarex Energy Co.
UL: B, Sec. 8, 15S, 31E
Chaves Co., NM

9 Cementing Program:

Surface	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	30	1.75	13.5	56	Class C + Bentonite + Calcium Chloride + LCM
Tail	200	1.34	14.8	261	Class C + LCM
TOC: 0' 34% Excess Centralizers per Onshore Order 2.III.B.1f					

Intermediate	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	980	1.88	12.9	1835	35:65 (poz/C) + Salt + Bentonite + LCM + retarder
Tail	250	1.34	14.8	333	Class C + retarder + LCM
TOC: 0' 82% Excess					

Production	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	467	2.4	11.9	1120	35:65 (poz/H) + salt + Sodium Metasilicate + Bentonite + Fluid Loss + Dispersant + LCM + Retarder
Tail	100	1.24	14.5	124	50:50 (poz/H) + Bentonite + Salt + Fluid Loss + Dispersant + LCM + Retarder

Cement volumes will be adjusted depending on hole size.

TOC: 3750' -60% 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.

On 5.5" Production casing, will run open hole packers in the lateral from TD up to +/- 8400', then an open hole packer and DV tool. Will set packer and cement from +/- 8400' up to 3750'

10 Pressure Control Equipment:

Exhibit "E-1". A 13 3/8" 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.

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11 Proposed Mud Circulating System:

Depth			Mud Wt	Visc	Fluid Loss	Type Mud
0'	to	340'	8.4	28	NC	FW Spud Mud
340'	to	3950'	10	30-32	NC	Brine water
3950'	to	15765'	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: 9,100' KOP: 8,395' EOC: 8694'

Set OH mechanical whipstock w/ 650 ft of 2.875 tubing and pump 30 bbls of Mudpush @ 12 ppg, followed by 320 sks Type H cement, dispersant 0.080 gals/sk, retarder 0.045 gals/sk @ 17.5 ppg, 0.94 cuft/sk, & 0 % excess from pilot hole TD to KOP. KO lateral and drill through the curve to TD. Run production csg to TD & cement.

13 Testing, Logging and Coring Program:

- A. Mud logging program: 2 man unit from 3950 to TD
- B. Electric logging program: CNL / LDT / CAL / GR, DLL / CAL / GR -- Inter. Csg to TD
- 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 **3876.75 psi**

Estimated BHT **138°**

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.

Abo/Wolfcamp pay will be perforated and stimulated.

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



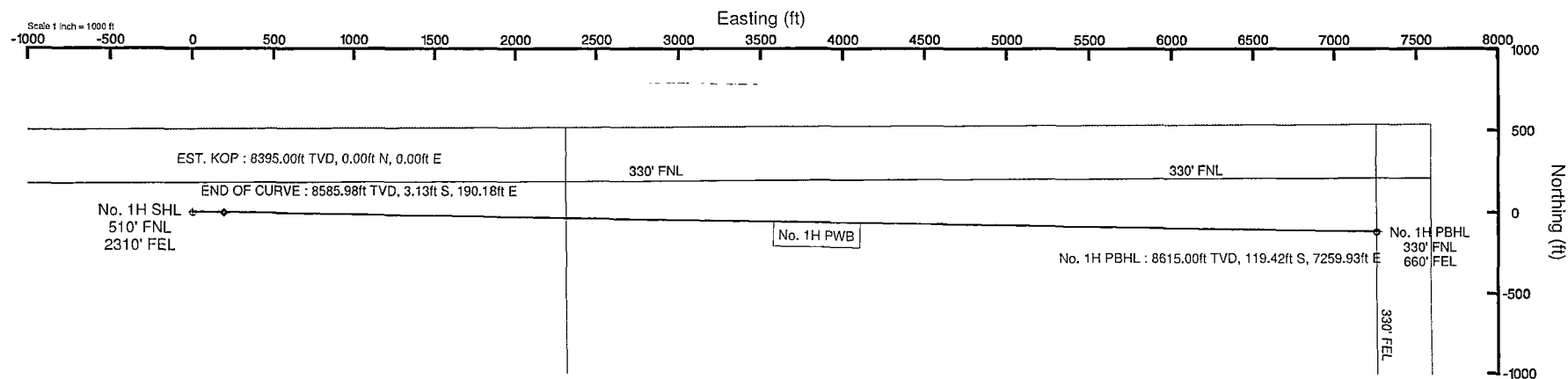
Cimarex Energy Co.

Location: Chaves County, NM
Field: (Independence) Sec 8, T15S, R31E
Facility: Independence 8 Fed Com No. 1H

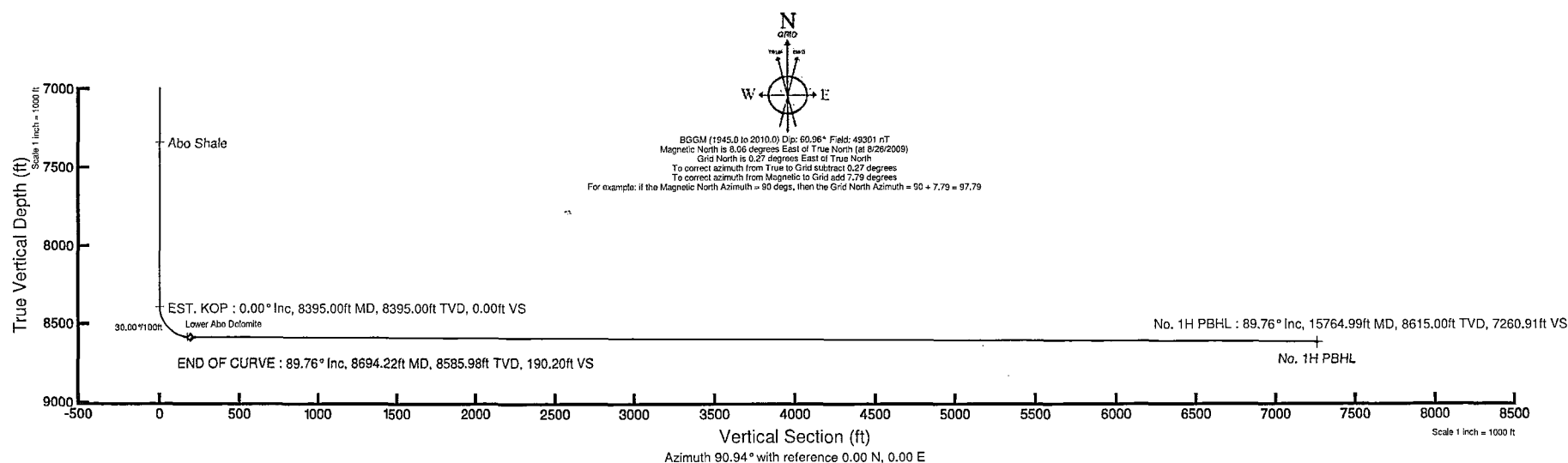
Slot: No. 1H SHL
Well: No. 1H
Wellbore: No. 1H PWB

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (%100ft)	VS (ft)
Tie On	0.00	0.000	90.942	0.00	0.00	0.00	0.00	0.00
EST. KOP	8395.00	0.000	90.942	8395.00	0.00	0.00	0.00	0.00
END OF CURVE	8694.22	89.765	90.942	8585.98	-3.13	190.18	30.00	190.20
No. 1H PBHL	15764.99	89.765	90.942	8615.00	-119.42	7259.93	0.00	7260.91



Plot reference wellpath is Plan #1	
True vertical depths are referenced to Rig on No. 1H SHL (RT)	Grid System: NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No. 1H SHL (RT)	North Reference: Grid north
Rig on No. 1H SHL (RT) to Mean Sea Level: 4458 feet	Scale: True distance
Mean Sea Level to Mud line (Facility: Independence 8 Fed Com No. 1H): -4440 feet	Depths are in feet
Coordinates are in feet referenced to Facility Center	Created by: Victor Hernandez on 8/27/2009





Declination & Convergence Report

Slot: No. 1H SHL

Page 1 of 2



INTEQ

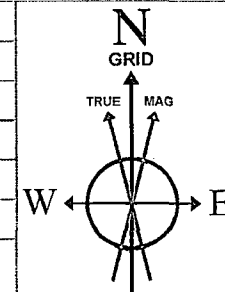
FIELD INFORMATION		
Field: (Independence) Sec 8, T15S, R31E	Operator: Cimarex Energy Co.	Area: Chaves County, NM
Field Grid System: NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet	North Reference: Grid North	Scale: True Distance
Field Reference	Horizontal Ref Pt: Field Center	Vertical Ref Pt: Mean Sea Level
	Easting: 691614.60USft Northing: 741074.70USft	Lat: 33°02'10.489"N Long: 103°50'34.646"W

FACILITY INFORMATION				
Facility: Independence 8 Fed Com No. 1H	Horizontal Ref Pt: Facility Center			Vertical Ref Pt: Facility Vertical Datum
	Easting: 691614.60USft Northing: 741074.70USft			Lat: 33°02'10.489"N Long: 103°50'34.646"W
Horiz Offset from Field Ref 0.00ft North 0.00ft East	Facility Vert Ref Pt	Field Vert Ref Pt	Distance	Facility Vertical Datum to Mud Line: 0.00ft
	Facility Vertical Datum	to Mean Sea Level	4440.00ft	
Facility Location Uncertainty	Horizontal Error Radius: 3.000ft			Vertical Error Radius: 3.000ft

SLOT INFORMATION													
Slot Name	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Elev above Fac [ft]	Elev above Mudline [ft]	Active Decl [°]	Grid Conv [°]	Scale Factor	Horiz Err Radius [ft]	Vert Err Radius [ft]
No. 1H SHL	0.00	0.00	691614.60	741074.70	33°02'10.489"N	103°50'34.646"W	18.00	18.00	8.06E	0.27E	0.999935	2.00	1.00

DECLINATION AND CONVERGENCE INFORMATION		
Data Source: BGGM (1945.0 to 2010.0)	Calculation Date: 8/26/2009	
Magnetic Flux Dip Angle: 60.96°	Magnetic Field Strength: 49301 nT	
Declination: 8.06° East	Convergence: 0.27° East	
Magnetic North is 8.06 degrees East of True North		
Grid North is 0.27 degrees East of True North		
To correct azimuth from True to Grid subtract 0.27 degrees		
To correct azimuth from Magnetic to Grid add 7.79 degrees		
For example: if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.79 = 97.79		

The diagram is a circular compass rose. A vertical line with an arrow at the top is labeled 'N GRID'. Two other lines with arrows originate from the center: one is slightly to the right of the vertical line, and the other is further to the right. To the left of the circle is a horizontal arrow labeled 'W', and to the right is a horizontal arrow labeled 'E'. The labels 'TRUE' and 'MAG' are placed near the top of the vertical line.





Planned Wellpath Report

Plan #1
Page 1 of 5



REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Chaves County, NM	Well	No. 1H
Field	(Independence) Sec 8, T15S, R31E	Wellbore	No. 1H PWB
Facility	Independence 8 Fed Com No. 1H		

REPORT SETUP INFORMATION

Projection System	NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet	Software System	WellArchitect® 2.0
North Reference	Grid	User	Victor Hernandez
Scale	0.999935	Report Generated	8/26/2009 at 3:17:22 PM
Convergence at slot	0.27° East	Database/Source file	WA_Midland/No. 1H_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	0.00	0.00	691614.60	741074.70	33°02'10.489"N	103°50'34.646"W
Facility Reference Pt			691614.60	741074.70	33°02'10.489"N	103°50'34.646"W
Field Reference Pt			691614.60	741074.70	33°02'10.489"N	103°50'34.646"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 1H SHL (RT) to Facility Vertical Datum	18.00ft
Horizontal Reference Pt	Facility Center	Rig on No. 1H SHL (RT) to Mean Sea Level	4458.00ft
Vertical Reference Pt	Rig on No. 1H SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 1H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	90.94°



Planned Wellpath Report

Plan #1
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Field	(Independence) Sec 8, T15S, R31E	Wellbore	No. 1H PWB
Facility	Independence 8 Fed Com No. 1H		

WELLPATH DATA (82 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	DLS [°/100ft]	Comments
0.00	0.000	90.942	0.00	0.00	0.00	0.00	691614.60	741074.70	0.00	Tie On
2312.00†	0.000	90.942	2312.00	0.00	0.00	0.00	691614.60	741074.70	0.00	Yates
3090.00†	0.000	90.942	3090.00	0.00	0.00	0.00	691614.60	741074.70	0.00	Queen
3940.00†	0.000	90.942	3940.00	0.00	0.00	0.00	691614.60	741074.70	0.00	SanAndres
7340.00†	0.000	90.942	7340.00	0.00	0.00	0.00	691614.60	741074.70	0.00	Abo Shale
8395.00	0.000	90.942	8395.00	0.00	0.00	0.00	691614.60	741074.70	0.00	EST. KOP
8495.00†	30.000	90.942	8490.49	25.59	-0.42	25.58	691640.18	741074.28	30.00	
8595.00†	60.000	90.942	8560.40	95.49	-1.57	95.48	691710.07	741073.13	30.00	
8675.59†	84.176	90.942	8585.00	171.60	-2.82	171.58	691786.17	741071.88	30.00	Lower Abo Dolomite
8694.22	89.765	90.942	8585.98	190.20	-3.13	190.18	691804.76	741071.57	30.00	END OF CURVE
8695.00†	89.765	90.942	8585.99	190.99	-3.14	190.96	691805.55	741071.56	0.00	
8795.00†	89.765	90.942	8586.40	290.99	-4.79	290.95	691905.53	741069.91	0.00	
8895.00†	89.765	90.942	8586.81	390.98	-6.43	390.93	692005.51	741068.27	0.00	
8995.00†	89.765	90.942	8587.22	490.98	-8.08	490.92	692105.48	741066.63	0.00	
9095.00†	89.765	90.942	8587.63	590.98	-9.72	590.90	692205.46	741064.98	0.00	
9195.00†	89.765	90.942	8588.04	690.98	-11.36	690.89	692305.44	741063.34	0.00	
9295.00†	89.765	90.942	8588.45	790.98	-13.01	790.87	692405.42	741061.69	0.00	
9395.00†	89.765	90.942	8588.86	890.98	-14.65	890.86	692505.40	741060.05	0.00	
9495.00†	89.765	90.942	8589.27	990.98	-16.30	990.85	692605.38	741058.40	0.00	
9595.00†	89.765	90.942	8589.68	1090.98	-17.94	1090.83	692705.36	741056.76	0.00	
9695.00†	89.765	90.942	8590.09	1190.98	-19.59	1190.82	692805.34	741055.11	0.00	
9795.00†	89.765	90.942	8590.50	1290.98	-21.23	1290.80	692905.32	741053.47	0.00	
9895.00†	89.765	90.942	8590.91	1390.98	-22.88	1390.79	693005.29	741051.82	0.00	
9995.00†	89.765	90.942	8591.32	1490.97	-24.52	1490.77	693105.27	741050.18	0.00	
10095.00†	89.765	90.942	8591.73	1590.97	-26.17	1590.76	693205.25	741048.53	0.00	
10195.00†	89.765	90.942	8592.14	1690.97	-27.81	1690.74	693305.23	741046.89	0.00	
10295.00†	89.765	90.942	8592.55	1790.97	-29.46	1790.73	693405.21	741045.25	0.00	
10395.00†	89.765	90.942	8592.96	1890.97	-31.10	1890.72	693505.19	741043.60	0.00	
10495.00†	89.765	90.942	8593.37	1990.97	-32.75	1990.70	693605.17	741041.96	0.00	
10595.00†	89.765	90.942	8593.78	2090.97	-34.39	2090.69	693705.15	741040.31	0.00	



Planned Wellpath Report

Plan #1

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Chaves County, NM	Well	No. 1H
Field	(Independence) Sec 8, T15S, R31E	Wellbore	No. 1H PWB
Facility	Independence 8 Fed Com No. 1H		

WELLPATH DATA (82 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	DLS [°/100ft]	Comments
10695.00†	89.765	90.942	8594.19	2190.97	-36.04	2190.67	693805.13	741038.67	0.00	
10795.00†	89.765	90.942	8594.61	2290.97	-37.68	2290.66	693905.10	741037.02	0.00	
10895.00†	89.765	90.942	8595.02	2390.97	-39.32	2390.64	694005.08	741035.38	0.00	
10995.00†	89.765	90.942	8595.43	2490.97	-40.97	2490.63	694105.06	741033.73	0.00	
11095.00†	89.765	90.942	8595.84	2590.97	-42.61	2590.62	694205.04	741032.09	0.00	
11195.00†	89.765	90.942	8596.25	2690.96	-44.26	2690.60	694305.02	741030.44	0.00	
11295.00†	89.765	90.942	8596.66	2790.96	-45.90	2790.59	694405.00	741028.80	0.00	
11395.00†	89.765	90.942	8597.07	2890.96	-47.55	2890.57	694504.98	741027.16	0.00	
11495.00†	89.765	90.942	8597.48	2990.96	-49.19	2990.56	694604.96	741025.51	0.00	
11595.00†	89.765	90.942	8597.89	3090.96	-50.84	3090.54	694704.94	741023.87	0.00	
11695.00†	89.765	90.942	8598.30	3190.96	-52.48	3190.53	694804.92	741022.22	0.00	
11795.00†	89.765	90.942	8598.71	3290.96	-54.13	3290.51	694904.89	741020.58	0.00	
11895.00†	89.765	90.942	8599.12	3390.96	-55.77	3390.50	695004.87	741018.93	0.00	
11995.00†	89.765	90.942	8599.53	3490.96	-57.42	3490.49	695104.85	741017.29	0.00	
12095.00†	89.765	90.942	8599.94	3590.96	-59.06	3590.47	695204.83	741015.64	0.00	
12195.00†	89.765	90.942	8600.35	3690.96	-60.71	3690.46	695304.81	741014.00	0.00	
12295.00†	89.765	90.942	8600.76	3790.96	-62.35	3790.44	695404.79	741012.35	0.00	
12395.00†	89.765	90.942	8601.17	3890.95	-63.99	3890.43	695504.77	741010.71	0.00	
12495.00†	89.765	90.942	8601.58	3990.95	-65.64	3990.41	695604.75	741009.06	0.00	
12595.00†	89.765	90.942	8601.99	4090.95	-67.28	4090.40	695704.73	741007.42	0.00	
12695.00†	89.765	90.942	8602.40	4190.95	-68.93	4190.39	695804.70	741005.78	0.00	
12795.00†	89.765	90.942	8602.81	4290.95	-70.57	4290.37	695904.68	741004.13	0.00	
12895.00†	89.765	90.942	8603.22	4390.95	-72.22	4390.36	696004.66	741002.49	0.00	
12995.00†	89.765	90.942	8603.63	4490.95	-73.86	4490.34	696104.64	741000.84	0.00	
13095.00†	89.765	90.942	8604.04	4590.95	-75.51	4590.33	696204.62	740999.20	0.00	
13195.00†	89.765	90.942	8604.45	4690.95	-77.15	4690.31	696304.60	740997.55	0.00	
13295.00†	89.765	90.942	8604.86	4790.95	-78.80	4790.30	696404.58	740995.91	0.00	
13395.00†	89.765	90.942	8605.27	4890.95	-80.44	4890.28	696504.56	740994.26	0.00	
13495.00†	89.765	90.942	8605.68	4990.95	-82.09	4990.27	696604.54	740992.62	0.00	
13595.00†	89.765	90.942	8606.10	5090.94	-83.73	5090.26	696704.51	740990.97	0.00	



Planned Wellpath Report

Plan #1
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INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Chaves County, NM	Well	No. 1H
Field	(Independence) Sec 8, T15S, R31E	Wellbore	No. 1H PWB
Facility	Independence 8 Fed Com No. 1H		

WELLPATH DATA (82 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	DLS [°/100ft]	Comments
13695.00†	89.765	90.942	8606.51	5190.94	-85.38	5190.24	696804.49	740989.33	0.00	
13795.00†	89.765	90.942	8606.92	5290.94	-87.02	5290.23	696904.47	740987.69	0.00	
13895.00†	89.765	90.942	8607.33	5390.94	-88.67	5390.21	697004.45	740986.04	0.00	
13995.00†	89.765	90.942	8607.74	5490.94	-90.31	5490.20	697104.43	740984.40	0.00	
14095.00†	89.765	90.942	8608.15	5590.94	-91.95	5590.18	697204.41	740982.75	0.00	
14195.00†	89.765	90.942	8608.56	5690.94	-93.60	5690.17	697304.39	740981.11	0.00	
14295.00†	89.765	90.942	8608.97	5790.94	-95.24	5790.16	697404.37	740979.46	0.00	
14395.00†	89.765	90.942	8609.38	5890.94	-96.89	5890.14	697504.35	740977.82	0.00	
14495.00†	89.765	90.942	8609.79	5990.94	-98.53	5990.13	697604.33	740976.17	0.00	
14595.00†	89.765	90.942	8610.20	6090.94	-100.18	6090.11	697704.30	740974.53	0.00	
14695.00†	89.765	90.942	8610.61	6190.94	-101.82	6190.10	697804.28	740972.88	0.00	
14795.00†	89.765	90.942	8611.02	6290.93	-103.47	6290.08	697904.26	740971.24	0.00	
14895.00†	89.765	90.942	8611.43	6390.93	-105.11	6390.07	698004.24	740969.59	0.00	
14995.00†	89.765	90.942	8611.84	6490.93	-106.76	6490.05	698104.22	740967.95	0.00	
15095.00†	89.765	90.942	8612.25	6590.93	-108.40	6590.04	698204.20	740966.31	0.00	
15195.00†	89.765	90.942	8612.66	6690.93	-110.05	6690.03	698304.18	740964.66	0.00	
15295.00†	89.765	90.942	8613.07	6790.93	-111.69	6790.01	698404.16	740963.02	0.00	
15395.00†	89.765	90.942	8613.48	6890.93	-113.34	6890.00	698504.14	740961.37	0.00	
15495.00†	89.765	90.942	8613.89	6990.93	-114.98	6989.98	698604.11	740959.73	0.00	
15595.00†	89.765	90.942	8614.30	7090.93	-116.63	7089.97	698704.09	740958.08	0.00	
15695.00†	89.765	90.942	8614.71	7190.93	-118.27	7189.95	698804.07	740956.44	0.00	
15764.99	89.765	90.942	8615.00	7260.91	-119.42	7259.93	698874.04	740955.29	0.00	No. 1H PBHL



Planned Wellpath Report

Plan #1
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Chaves County, NM	Well	No. 1H
Field	(Independence) Sec 8, T15S, R31E	Wellbore	No. 1H PWB
Facility	Independence 8 Fed Com No. 1H		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No. 1H PBHL	15764.99	8615.00	-119.42	7259.93	698874.04	740955.29	33°02'08.964"N	103°49'09.376"W	point

SURVEY PROGRAM Ref Wellbore: No. 1H PWB Ref Wellpath: Plan #1				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
18.00	8694.00	NaviTrak (Standard)		No. 1H PWB
8694.00	15764.99	AutoTrak G3 (Standard)		No. 1H PWB

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

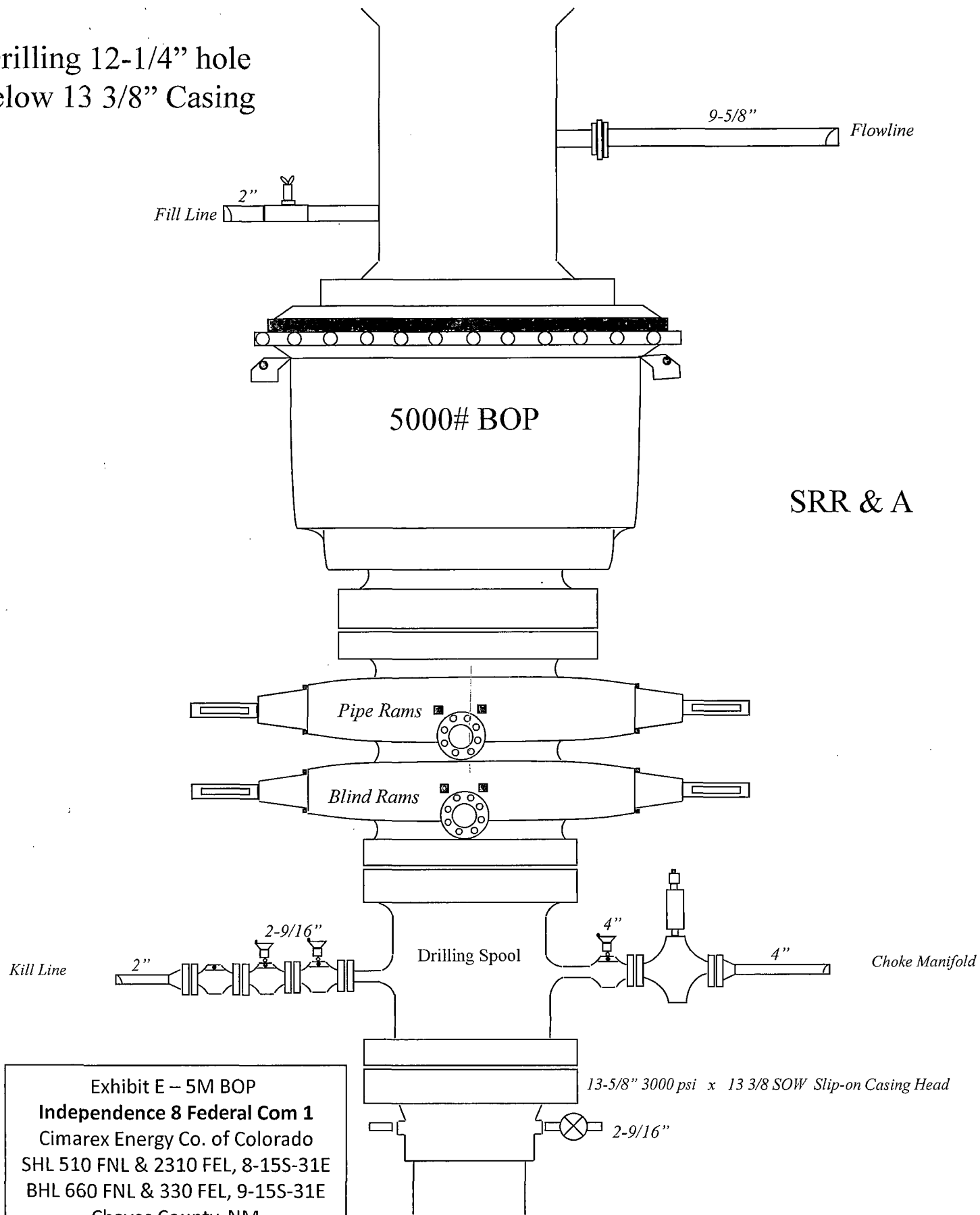


Exhibit E – 5M BOP

Independence 8 Federal Com 1

Cimarex Energy Co. of Colorado

SHL 510 FNL & 2310 FEL, 8-15S-31E

BHL 660 FNL & 330 FEL, 9-15S-31E

Chaves County, NM

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

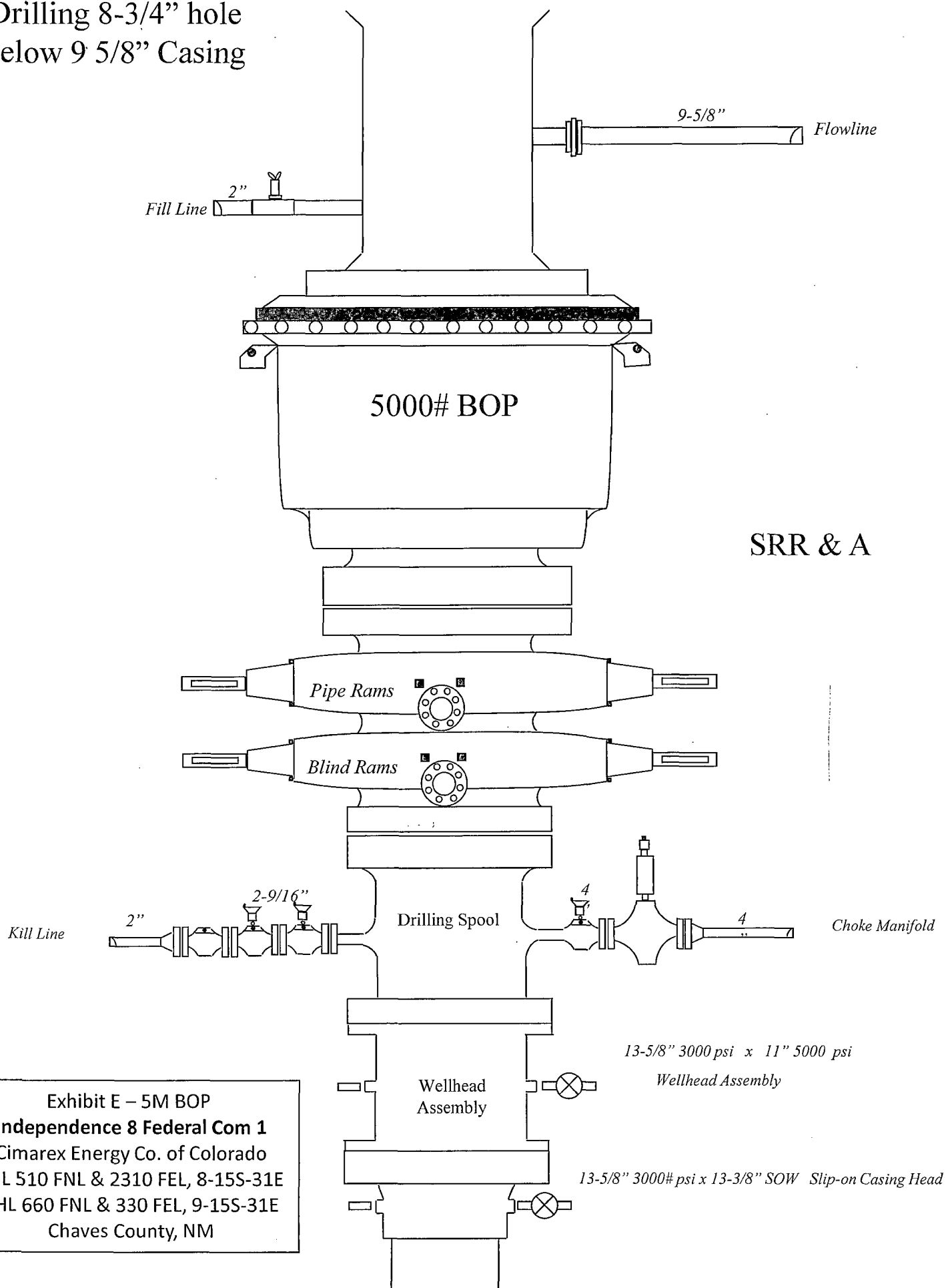
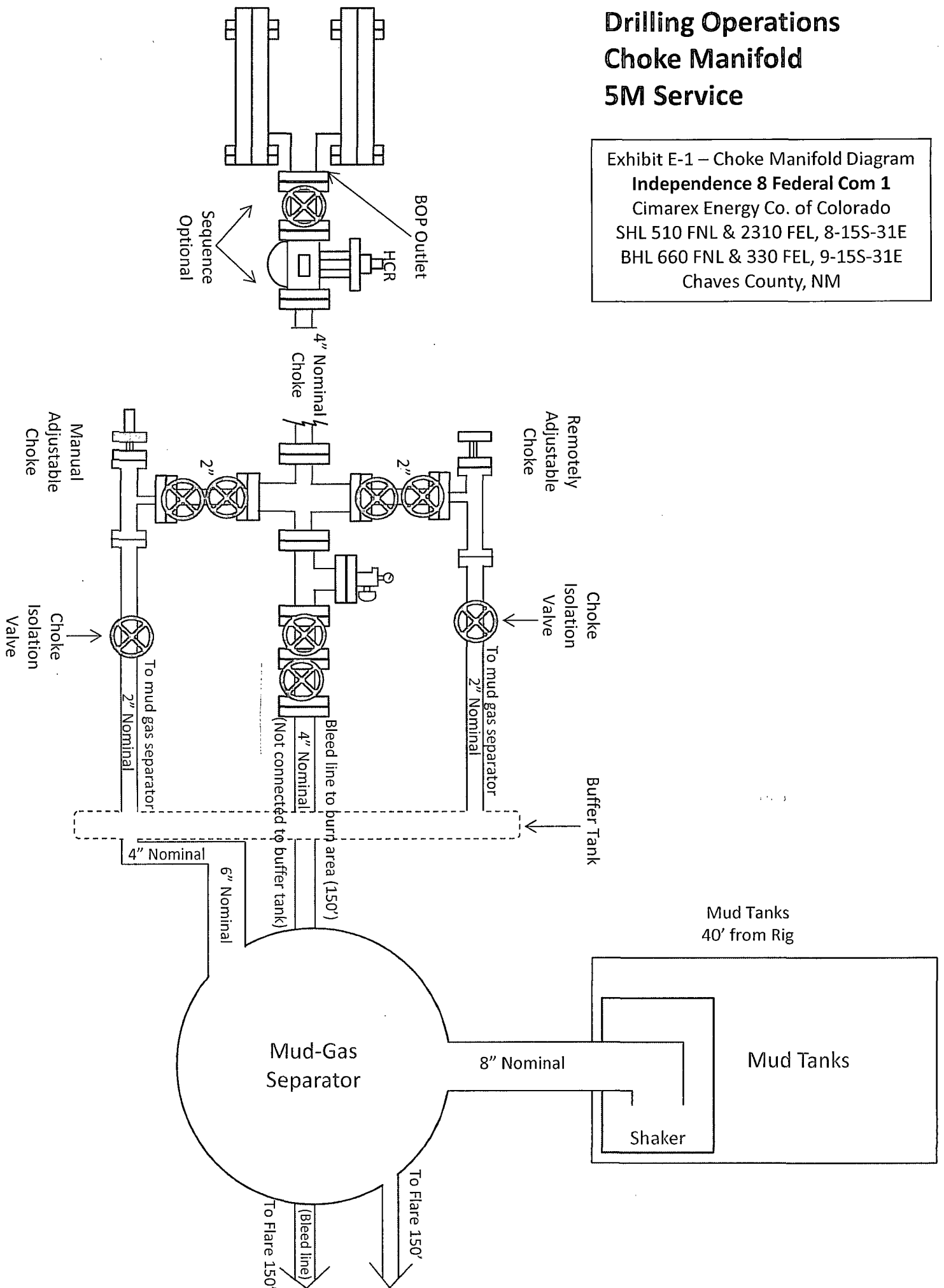


Exhibit E – 5M BOP
Independence 8 Federal Com 1
Cimarex Energy Co. of Colorado
SHL 510 FNL & 2310 FEL, 8-15S-31E
BHL 660 FNL & 330 FEL, 9-15S-31E
Chaves County, NM

Drilling Operations Choke Manifold 5M Service

Exhibit E-1 – Choke Manifold Diagram
Independence 8 Federal Com 1
Cimarex Energy Co. of Colorado
SHL 510 FNL & 2310 FEL, 8-15S-31E
BHL 660 FNL & 330 FEL, 9-15S-31E
Chaves 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:

Samuel 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. James Jones</i>		Approved: <i>Kevin Hef</i>



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

March 3, 2011

Customer: Houston

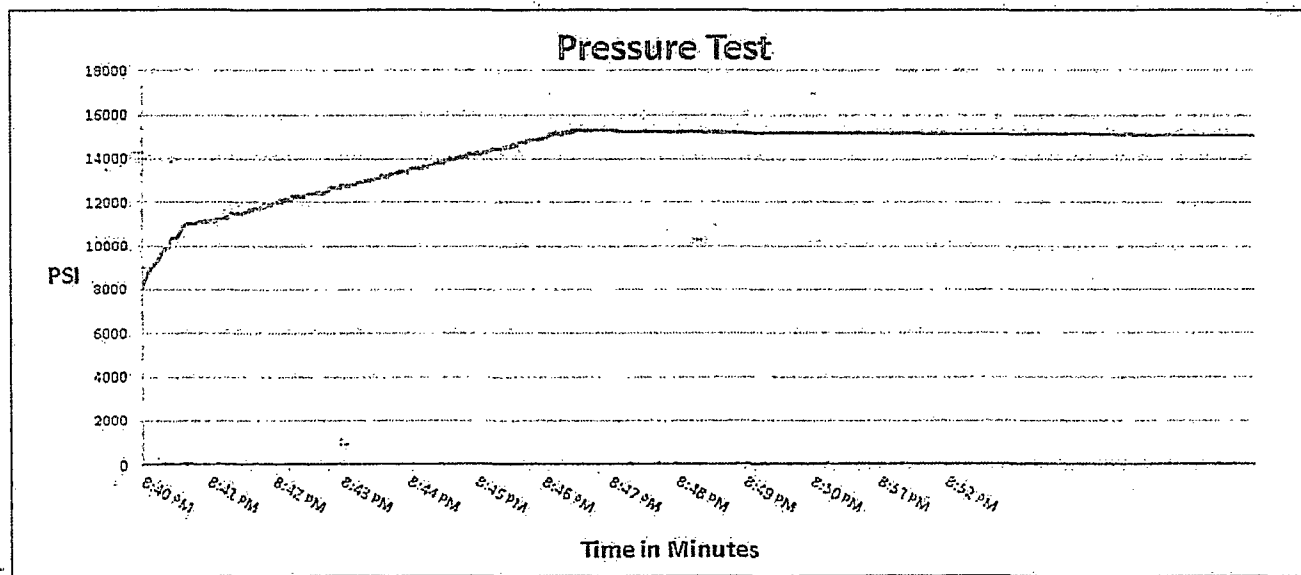
Pick Ticket #: 94260

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 Applied

Verification

<u>Type of Fitting</u>	<u>Coupling Method</u>
41/16 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



Test Pressure
15000 PSI

Time Held at Test Pressure
11 Minutes

Actual Burst Pressure

Peak Pressure
15483 PSI

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

Tested By: Zac McConnell

Approved By: Kim Thomas

[Signature]

[Signature]

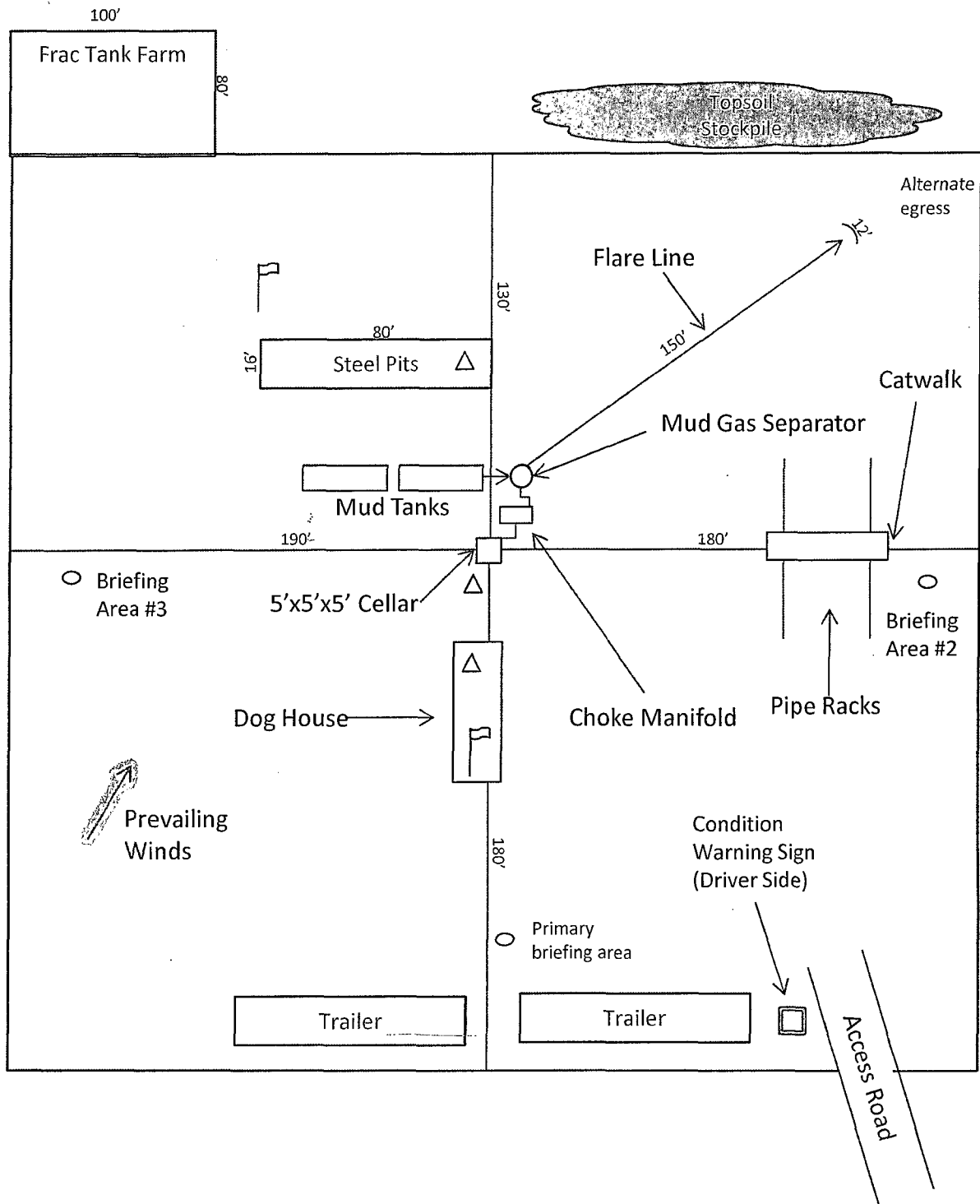


Exhibit D – Rig Diagram
Independence 8 Federal Com 1
 Cimarex Energy Co. of Colorado
 SHL 510 FNL & 2310 FEL, 8-15S-31E
 BHL 660 FNL & 330 FEL, 9-15S-31E
 Chaves County, NM



-  Wind Direction Indicators (wind sock or streamers)
-  • H2S Monitors (alarms at bell nipple and shale shaker)
-  Briefing Areas