12-1186

HOBBS OCD

APR 2 6 2013

Form 3160-3
(April 2004) RECEIVED

OCD Hobbs

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER	5. Lease Serial No. NMNM031224
	6. If Indian, Allotee or Tribe Name
	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. Triste Draw 30 Federal 2H <398967
2. Name of Operator Cimarex Energy Co. ~~of Colorado~~ <215099>	9. API Well No. 30-025- 41175
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 <96674> TRIPLE X; Bone Spring, WEST
4. Location of Well *(Report location clearly and in accordance with any State requirements.*)* At Surface 330 FSL & 1980 FWL At proposed prod. Zone 330 FNL & 1980 FWL *Horizontal Bone Spring test*	11. Sec., T. R. M. or Blk. and Survey or Area 30-23S-33E
14. Distance in miles and direction from nearest town or post office* 27 miles NE 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 591.68	17. Spacing Unit dedicated to this well 160 acres
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1320' from #1	19. Proposed Depth Pilot Hole 11300 MD 15516 TVD 11150	20. BLM/BIA Bond No. on File NM2575; NMB000835
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3696' GR	22. Approximate date work will start* 12.01.12	23. Estimated duration 30-35 days

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 Tracie J Cherry	Name *(Printed/Typed)* Tracie J Cherry	Date 08.24.12
Title Sr. Regulatory Analyst		
Approved By *(Signature)* /s/George MacDonell	Name (Printed/Typed)	Date APR 24 2013
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached. APPROVAL FOR TWO YEARS

Title 18 U.S.S. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

* *(Instructions on page 2)*

Carlsbad Controlled Water Basin

SEE ATTACHED FOR CONDITIONS OF APPROVAL

KZ 05/15/13

Approval Subject to General Requirements & Special Stipulations Attached

MAY 20 2013

Operator - Landowner Agreement

Company: Cimarex Energy Co. of Colorado

Proposed Well: Triste Draw 30 Federal 2

Federal Lease Number: NMNM031224

This is to advise that Cimarex Energy Co. of Colorado has an agreement with: Brininstool XL Ranch LLC (424 XL Road, Jal NM 88252, (575) 390-1881), the surface owner, concerning entry and surface restoration after completion of drilling operations at the above described well.

After abandonment of the well, all pits will be filled and levelled and all equipment and trash will be removed from the well site. No other requirements were made concerning restoration of the well site.

August 24, 2012
Date

Signature

Tracie J Cherry
Sr. Regulatory Analyst

Application to Drill
Triste Draw 30 Federal 2
Cimarex Energy Co. of Colorado
Unit N, Section 30
T23S-R33E; 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 FSL & 1980 FWL
BHL 330 FNL & 1980 FWL

2 Elevation above sea level: 3696 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: MD 15516 TVD 11150 Pilot Hole 11300

6 Estimated tops of geological markers:

Groundwater per OSE	475	
Rustler	1220	
T. Salt	1440	
Castille	3450	
B. Salt	4780	
Lamar	5050	Hydrocarbons
Bell Canyon	5150	Hydrocarbons
Cherry Canyon	6000	Hydrocarbons
Brushy Canyon	7400	Hydrocarbons
Basal Brushy Canyon	8625	Hydrocarbons
Bone Spring	8850	Hydrocarbons
Avalon Shale	9300	Hydrocarbons
1st Bone Spring	10050	Hydrocarbons
2nd Bone Spring	10675	Hydrocarbons
3rd Bone Spring	11250	Hydrocarbons
TD Pilot Hole	11300	

7 Possible mineral bearing formation:
Shown above

8 Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to ~~1245'~~ 1350	8.4 - 8.6	28	NC	FW
~~1245'~~ to ~~4900'~~ 5000'	10.0	30-32	NC	Brine water
~~4900'~~ to 15516'	8.4	30-32	NC	2% KCL

See COA

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.

Proposed Drilling Plan

Drill 8¾" pilot hole to 11300 and log. Pump 30bbls MUDPUSHII 12ppg, followed by 230 sks Type H Cement, + 0.5% Halad-322 + 0.2% HR-601; 15.6 ppg, 1.2 yield, Cement with open hole whipstock and til pipe from 10800 to 11265. Set whipstock and kick off 8¾" lateral @ 10800 and drill to TD @ 15516 MD, 11150 TVD. Run 5½" from 0-15516 and cement.

Application to Drill
Triste Draw 30 Federal 2
Cimarex Energy Co. of Colorado
Unit N, Section 30
T23S-R33E; Lea County, NM

9 Casing & Cementing Program:

String	Hole Size	Depth			Casing OD		Weight	Collar	Grade
Surface	17 1/2"	0'	to	~~1245'~~ 1350'	New	13 3/8"	48#	STC	H-40
Intermediate	12 1/4"	0'	to	3400'	New	9 5/8"	36#	LTC	J-55
Intermediate	12 1/4"	3400'	to	~~4900'~~ 5000'	New	9 5/8"	40#	LTC	N-80
Production	7 7/8" or 8 3/4"	0'	to	10800'	New	5 1/2"	17#	LTC	P-110
Production	7 7/8"or 8 3/4"	10800'	to	15516'	New	5 1/2"	17#	BTC	P-110

See COA

10 Cementing:

Surface Lead: 750 sks Premium Plus + 2% CaCl 4% gel 13.5ppg 1.75yield
Tail: 200 sks Premium Plus + 2% CaCl 14.8ppg 1.34 yield
85% Excess **TOC Surface** **Centralizers per Onshore Order 2.III.B.1.f**

Intermediate Lead: 1555 sks HLPP + 5% Salt + 5# Gilsonite 12.9 ppg 1.92 yield
Tail: 235 sks Premium Plus + 1% CaCl 14.8 ppg 1.34 yield
60% Excess **TOC Surface**

Production Lead: 835 sks Econocem H + 0.5/10% HR-601 0.5/10% Halad-322 (fluid loss/friction control) 11.9 ppg 2.48 yield
Tail: 1385 sks Versacem H + 0.5% Halad(R)-344 (fluid loss) + 0.4% CFR-3 + 1# Salt + 0.2% HR-601 (retarder) 14.5 ppg 1.22 yield
Cement volumes will be adjusted depending on hole size.

See COA 25% Excess **TOC 3600'** **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.**

Collapse Factor	*Burst Factor*	*Tension Factor*
1.125	1.125	1.6

11 Pressure control Equipment:
Exhibit "E". A 13⅝" 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 nippled up 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.

See COA Certification for proposed co-flex hose is attached. 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
Triste Draw 30 Federal 2
Cimarex Energy Co. of Colorado
Unit N, Section 30
T23S-R33E; Lea County, NM

12 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 / CAL / GR Inter. Csg from surface to TD
C. No DSTs or cores are planned at this time.

13 Potential Hazards:

No abnormal pressures or temperatures are expected. In accordance with Onshore Order 6, Cimarex does not anticipate that there will be enough H_2S from the surface to the Bone Spring formations to meet the BLM's minimum requirements for the submission of an "H_2S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have an H_2S Safety package on all wells, attached is an "H_2S 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 **4995 psi** Estimated BHT **138°**

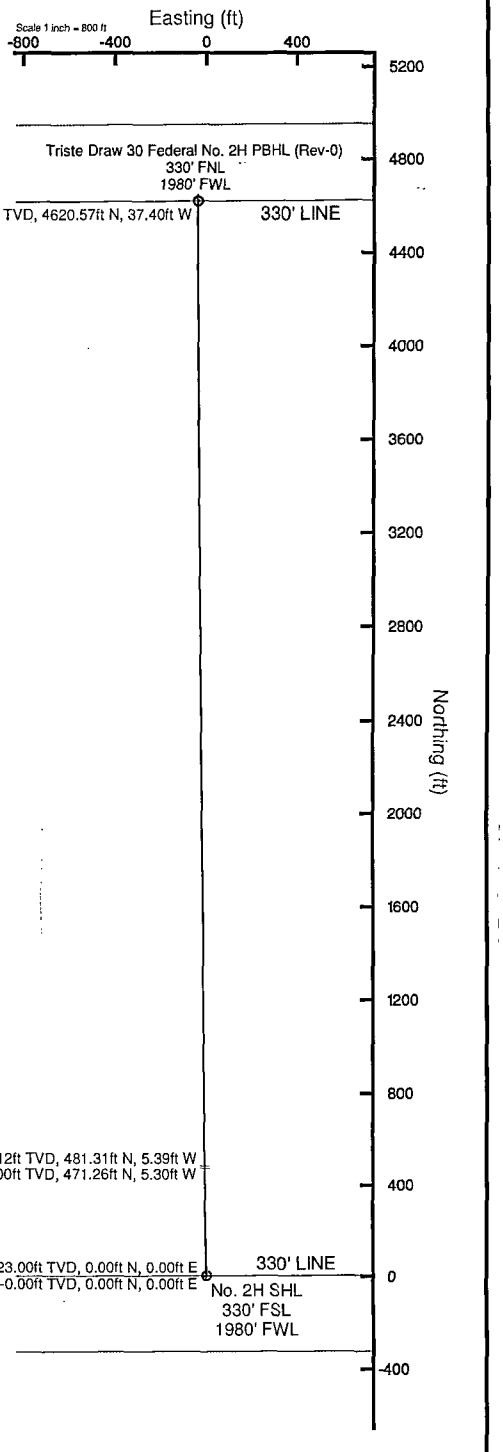
14 Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved.
Drilling expected to take 30-35 days
If production casing is run an additional 30 days will be required to complete and construct surface facilities.

15 Other Facets of Operations:

After running casing, cased hole gamma ray neutron collar logs will be run from total depth over possible pay intervals.
Bone Spring pay will be perforated and stimulated.
The proposed well will be tested and potentialed as **an oil well.**

Cimarex Energy Co. of Colorado

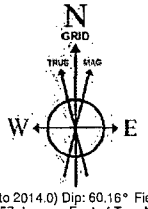
Location:	Lea County, New Mexico	Slot:	No. 2H SHL
Field:	(Triste Draw) Sec 30, T23S, R33E	Well:	No. 2H
Facility:	Triste Draw 30 Federal No. 2H	Wellbore:	No. 2H PWB



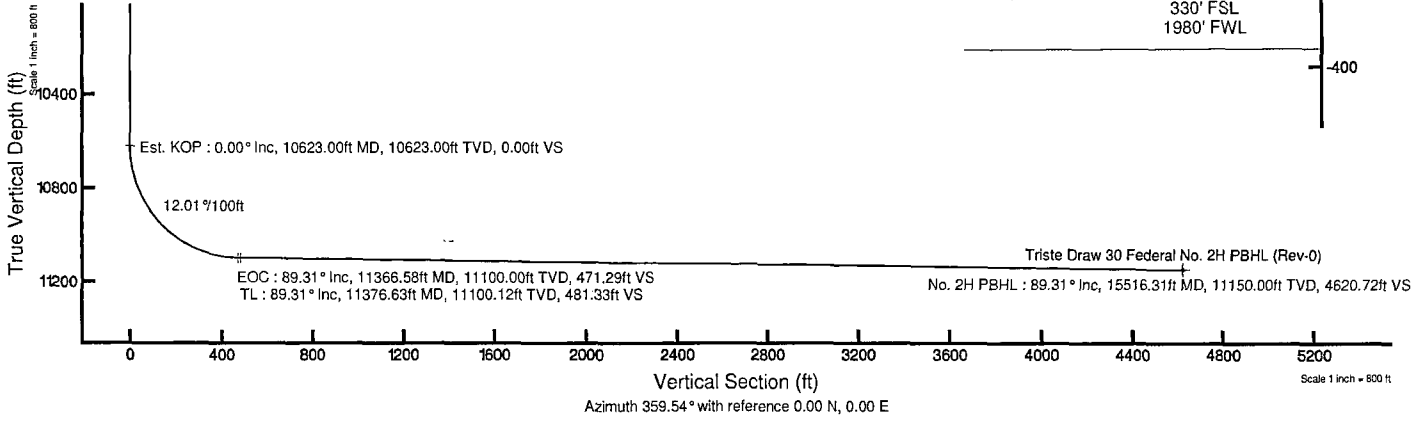
Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	0.00	0.000	359.356	0.00	0.00	0.00	0.00	0.00
Est. KOP	10623.00	0.000	359.356	10623.00	0.00	0.00	0.00	0.00
EOC	11366.58	89.310	359.356	11100.00	471.26	-5.30	12.01	471.29
TL	11376.63	89.310	359.557	11100.12	481.31	-5.39	2.00	481.33
No. 2H PBHL	15516.31	89.310	359.557	11150.00	4620.57	-37.40	0.00	4620.72

Plot reference wellpath is Rev-A.0	
True vertical depths are referenced to Rig on Slot #1 (RT)	Grid System: NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on Slot #1 (RT)	North Reference: Grid north
Rig on Slot #1 (RT) to Mean Sea Level: 3696 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: No. 2H SHL): -3696 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: harrkol on 7/26/2012



BGGM (1945.0 to 2014.0) Dip: 60.16° Field: 48520.7 nT
Magnetic North is 7.57 degrees East of True North (at 7/26/2012)
Grid North is 0.38 degrees East of True North
To correct azimuth from True to Grid subtract 0.38 degrees
To correct azimuth from Magnetic to Grid add 7.19 degrees
For example: if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.19 = 97.19



Azimuth 359.54° with reference 0.00 N, 0.00 E

Rev-A.0

Planned Wellpath Report

Rev-A.0

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Cimarex Energy Co. of Colorado**	Slot	**No. 2H SHL**
Area	**Lea County, New Mexico**	Well	**No. 2H**
Field	**(Triste Draw) Sec 30, T23S, R33E**	Wellbore	**No. 2H PWB**
Facility	**Triste Draw 30 Federal No. 2H**		

REPORT SETUP INFORMATION			
Projection System	**NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet**	Software System	**WellArchitect® 3.0.0**
North Reference	**Grid**	User	**Harrkol**
Scale	**0.999966**	Report Generated	**7/26/2012** at **4:51:38 PM**
Convergence at slot	**0.38° East**	Database/Source file	**WA Midland/No._2H_PWB.xml**

WELLPATH LOCATION	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	**East[ft]**	**Easting[US ft]**	**Northing[US ft]**	**Latitude**	**Longitude**
Slot Location	**0.00**	**0.00**	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W
Facility Reference Pt			**763879.40**	**462496.10**	32°16'09.927"N	103°36'47.964"W
Field Reference Pt			**0.00**	**0.00**	30°59'18.404"N	106°03'38.987"W

WELLPATH DATUM			
Calculation method	**Minimum curvature**	Rig on Slot #1 (RT) to Facility Vertical Datum	**0.00ft**
Horizontal Reference Pt	**Slot**	Rig on Slot #1 (RT) to Mean Sea Level	**3696.00ft**
Vertical Reference Pt	**Rig on Slot #1 (RT)**	Rig on Slot #1 (RT) to Mud Line at Slot (No. 2H SHL)	**0.00ft**
MD Reference Pt	**Rig on Slot #1 (RT)**	Section Origin	**N 0.00, E 0.00 ft**
Field Vertical Reference	**Mean Sea Level**	Section Azimuth	**359.54°**

Planned Wellpath Report

Rev-A.0

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co. of Colorado	Slot	No. 2H SHL
Area	Lea County, New Mexico	Well	No. 2H
Field	(Triste Draw) Sec 30, T23S, R33E	Wellbore	No. 2H PWB
Facility	Triste Draw 30 Federal No. 2H		

WELLPATH DATA (165 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	359.356	0.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	Tie On
100.00†	0.000	359.356	100.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
200.00†	0.000	359.356	200.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
300.00†	0.000	359.356	300.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
400.00†	0.000	359.356	400.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
500.00†	0.000	359.356	500.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
600.00†	0.000	359.356	600.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
700.00†	0.000	359.356	700.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
800.00†	0.000	359.356	800.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
900.00†	0.000	359.356	900.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
1000.00†	0.000	359.356	1000.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
1100.00†	0.000	359.356	1100.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
1200.00†	0.000	359.356	1200.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
1300.00†	0.000	359.356	1300.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
1400.00†	0.000	359.356	1400.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
1500.00†	0.000	359.356	1500.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
1600.00†	0.000	359.356	1600.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
1700.00†	0.000	359.356	1700.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
1800.00†	0.000	359.356	1800.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
1900.00†	0.000	359.356	1900.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
2000.00†	0.000	359.356	2000.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
2100.00†	0.000	359.356	2100.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
2200.00†	0.000	359.356	2200.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
2300.00†	0.000	359.356	2300.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
2400.00†	0.000	359.356	2400.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
2500.00†	0.000	359.356	2500.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
2600.00†	0.000	359.356	2600.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
2700.00†	0.000	359.356	2700.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
2800.00†	0.000	359.356	2800.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
2900.00†	0.000	359.356	2900.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
3000.00†	0.000	359.356	3000.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
3100.00†	0.000	359.356	3100.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
3200.00†	0.000	359.356	3200.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
3300.00†	0.000	359.356	3300.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
3400.00†	0.000	359.356	3400.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
3500.00†	0.000	359.356	3500.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
3600.00†	0.000	359.356	3600.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
3700.00†	0.000	359.356	3700.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
3800.00†	0.000	359.356	3800.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
3900.00†	0.000	359.356	3900.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
4000.00†	0.000	359.356	4000.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
4100.00†	0.000	359.356	4100.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
4200.00†	0.000	359.356	4200.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
4300.00†	0.000	359.356	4300.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
4400.00†	0.000	359.356	4400.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co. of Colorado	Slot	No. 2H SHL
Area	Lea County, New Mexico	Well	No. 2H
Field	(Triste Draw) Sec 30, T23S, R33E	Wellbore	No. 2H PWB
Facility	Triste Draw 30 Federal No. 2H		

WELLPATH DATA (165 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4500.00†	0.000	359.356	4500.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
4600.00†	0.000	359.356	4600.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
4700.00†	0.000	359.356	4700.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
4800.00†	0.000	359.356	4800.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
4900.00†	0.000	359.356	4900.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
5000.00†	0.000	359.356	5000.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
5020.00†	0.000	359.356	5020.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	Delaware Sands
5100.00†	0.000	359.356	5100.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
5200.00†	0.000	359.356	5200.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
5300.00†	0.000	359.356	5300.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
5400.00†	0.000	359.356	5400.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
5500.00†	0.000	359.356	5500.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
5600.00†	0.000	359.356	5600.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
5700.00†	0.000	359.356	5700.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
5800.00†	0.000	359.356	5800.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
5900.00†	0.000	359.356	5900.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
6000.00†	0.000	359.356	6000.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
6100.00†	0.000	359.356	6100.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
6200.00†	0.000	359.356	6200.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
6300.00†	0.000	359.356	6300.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
6400.00†	0.000	359.356	6400.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
6500.00†	0.000	359.356	6500.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
6600.00†	0.000	359.356	6600.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
6700.00†	0.000	359.356	6700.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
6800.00†	0.000	359.356	6800.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
6900.00†	0.000	359.356	6900.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
7000.00†	0.000	359.356	7000.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
7100.00†	0.000	359.356	7100.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
7200.00†	0.000	359.356	7200.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
7300.00†	0.000	359.356	7300.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
7400.00†	0.000	359.356	7400.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
7500.00†	0.000	359.356	7500.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
7600.00†	0.000	359.356	7600.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
7700.00†	0.000	359.356	7700.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
7800.00†	0.000	359.356	7800.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
7900.00†	0.000	359.356	7900.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
8000.00†	0.000	359.356	8000.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
8100.00†	0.000	359.356	8100.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
8200.00†	0.000	359.356	8200.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
8300.00†	0.000	359.356	8300.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
8400.00†	0.000	359.356	8400.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
8500.00†	0.000	359.356	8500.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
8600.00†	0.000	359.356	8600.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
8625.00†	0.000	359.356	8625.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	Basal Brushy Canyon
8700.00†	0.000	359.356	8700.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	

Planned Wellpath Report

Rev-A.0

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co. of Colorado	Slot	No. 2H SHL
Area	Lea County, New Mexico	Well	No. 2H
Field	(Triste Draw) Sec 30, T23S, R33E	Wellbore	No. 2H PWB
Facility	Triste Draw 30 Federal No. 2H		

WELLPATH DATA (165 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8800.00†	0.000	359.356	8800.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
8850.00†	0.000	359.356	8850.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	Bone Spring
8900.00†	0.000	359.356	8900.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
9000.00†	0.000	359.356	9000.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
9100.00†	0.000	359.356	9100.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
9200.00†	0.000	359.356	9200.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
9300.00†	0.000	359.356	9300.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	Avalon Shale
9400.00†	0.000	359.356	9400.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
9500.00†	0.000	359.356	9500.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
9600.00†	0.000	359.356	9600.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
9700.00†	0.000	359.356	9700.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
9800.00†	0.000	359.356	9800.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
9900.00†	0.000	359.356	9900.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
10000.00†	0.000	359.356	10000.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
10050.00†	0.000	359.356	10050.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	1st BSS
10100.00†	0.000	359.356	10100.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
10200.00†	0.000	359.356	10200.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
10300.00†	0.000	359.356	10300.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
10400.00†	0.000	359.356	10400.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
10500.00†	0.000	359.356	10500.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
10600.00†	0.000	359.356	10600.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	
10623.00	0.000	359.356	10623.00	0.00	0.00	0.00	763879.40	462496.10	32°16'09.927"N	103°36'47.964"W	0.00	Est. KOP
10675.10†	6.258	359.356	10675.00	2.84	2.84	-0.03	763879.37	462498.94	32°16'09.955"N	103°36'47.964"W	12.01	2nd BSS
10700.00†	9.248	359.356	10699.67	6.20	6.20	-0.07	763879.33	462502.30	32°16'09.988"N	103°36'47.965"W	12.01	
10800.00†	21.259	359.356	10795.97	32.46	32.46	-0.36	763879.04	462528.56	32°16'10.248"N	103°36'47.966"W	12.01	
10900.00†	33.270	359.356	10884.69	78.19	78.18	-0.88	763878.52	462574.28	32°16'10.701"N	103°36'47.968"W	12.01	
11000.00†	45.281	359.356	10961.96	141.38	141.37	-1.59	763877.81	462637.46	32°16'11.326"N	103°36'47.972"W	12.01	
11100.00†	57.292	359.356	11024.39	219.26	219.25	-2.46	763876.94	462715.34	32°16'12.097"N	103°36'47.976"W	12.01	
11200.00†	69.302	359.356	11069.25	308.43	308.41	-3.47	763875.93	462804.50	32°16'12.979"N	103°36'47.980"W	12.01	
11300.00†	81.313	359.356	11094.56	404.99	404.96	-4.55	763874.85	462901.05	32°16'13.934"N	103°36'47.986"W	12.01	
11366.58	89.310	359.356	11100.00	471.29	471.26	-5.30	763874.10	462967.34	32°16'14.590"N	103°36'47.989"W	12.01	EOC
11376.63	89.310	359.557	11100.12	481.33	481.31	-5.39	763874.01	462977.39	32°16'14.690"N	103°36'47.989"W	2.00	TL
11400.00†	89.310	359.557	11100.40	504.71	504.68	-5.57	763873.83	463000.76	32°16'14.921"N	103°36'47.990"W	0.00	
11500.00†	89.310	359.557	11101.61	604.70	604.67	-6.35	763873.05	463100.75	32°16'15.911"N	103°36'47.991"W	0.00	
11600.00†	89.310	359.557	11102.81	704.69	704.66	-7.12	763872.28	463200.73	32°16'16.900"N	103°36'47.992"W	0.00	
11700.00†	89.310	359.557	11104.02	804.68	804.65	-7.89	763871.51	463300.72	32°16'17.889"N	103°36'47.993"W	0.00	
11800.00†	89.310	359.557	11105.22	904.68	904.64	-8.67	763870.73	463400.70	32°16'18.879"N	103°36'47.994"W	0.00	
11900.00†	89.310	359.557	11106.43	1004.67	1004.63	-9.44	763869.96	463500.69	32°16'19.868"N	103°36'47.996"W	0.00	
12000.00†	89.310	359.557	11107.63	1104.66	1104.62	-10.21	763869.19	463600.68	32°16'20.858"N	103°36'47.997"W	0.00	
12100.00†	89.310	359.557	11108.84	1204.65	1204.61	-10.99	763868.41	463700.66	32°16'21.847"N	103°36'47.998"W	0.00	
12200.00†	89.310	359.557	11110.04	1304.65	1304.60	-11.76	763867.64	463800.65	32°16'22.837"N	103°36'47.999"W	0.00	
12300.00†	89.310	359.557	11111.25	1404.64	1404.58	-12.53	763866.87	463900.63	32°16'23.826"N	103°36'48.000"W	0.00	
12400.00†	89.310	359.557	11112.45	1504.63	1504.57	-13.31	763866.10	464000.62	32°16'24.815"N	103°36'48.002"W	0.00	
12500.00†	89.310	359.557	11113.66	1604.63	1604.56	-14.08	763865.32	464100.61	32°16'25.805"N	103°36'48.003"W	0.00	
12600.00†	89.310	359.557	11114.86	1704.62	1704.55	-14.85	763864.55	464200.59	32°16'26.794"N	103°36'48.004"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co. of Colorado	Slot	No. 2H SHL
Area	Lea County, New Mexico	Well	No. 2H
Field	(Triste Draw) Sec 30, T23S, R33E	Wellbore	No. 2H PWB
Facility	Triste Draw 30 Federal No. 2H		

WELLPATH DATA (165 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12700.00†	89.310	359.557	11116.07	1804.61	1804.54	-15.63	763863.78	464300.58	32°16'27.784"N	103°36'48.005"W	0.00	
12800.00†	89.310	359.557	11117.27	1904.60	1904.53	-16.40	763863.00	464400.56	32°16'28.773"N	103°36'48.006"W	0.00	
12900.00†	89.310	359.557	11118.48	2004.60	2004.52	-17.17	763862.23	464500.55	32°16'29.763"N	103°36'48.008"W	0.00	
13000.00†	89.310	359.557	11119.68	2104.59	2104.51	-17.94	763861.46	464600.54	32°16'30.752"N	103°36'48.009"W	0.00	
13100.00†	89.310	359.557	11120.89	2204.58	2204.50	-18.72	763860.68	464700.52	32°16'31.741"N	103°36'48.010"W	0.00	
13200.00†	89.310	359.557	11122.09	2304.57	2304.49	-19.49	763859.91	464800.51	32°16'32.731"N	103°36'48.011"W	0.00	
13300.00†	89.310	359.557	11123.30	2404.57	2404.48	-20.26	763859.14	464900.50	32°16'33.720"N	103°36'48.012"W	0.00	
13400.00†	89.310	359.557	11124.50	2504.56	2504.47	-21.04	763858.36	465000.48	32°16'34.710"N	103°36'48.014"W	0.00	
13500.00†	89.310	359.557	11125.71	2604.55	2604.46	-21.81	763857.59	465100.47	32°16'35.699"N	103°36'48.015"W	0.00	
13600.00†	89.310	359.557	11126.91	2704.55	2704.45	-22.58	763856.82	465200.45	32°16'36.689"N	103°36'48.016"W	0.00	
13700.00†	89.310	359.557	11128.12	2804.54	2804.44	-23.36	763856.04	465300.44	32°16'37.678"N	103°36'48.017"W	0.00	
13800.00†	89.310	359.557	11129.32	2904.53	2904.43	-24.13	763855.27	465400.43	32°16'38.667"N	103°36'48.018"W	0.00	
13900.00†	89.310	359.557	11130.53	3004.52	3004.42	-24.90	763854.50	465500.41	32°16'39.657"N	103°36'48.019"W	0.00	
14000.00†	89.310	359.557	11131.73	3104.52	3104.41	-25.68	763853.72	465600.40	32°16'40.646"N	103°36'48.021"W	0.00	
14100.00†	89.310	359.557	11132.93	3204.51	3204.40	-26.45	763852.95	465700.38	32°16'41.636"N	103°36'48.022"W	0.00	
14200.00†	89.310	359.557	11134.14	3304.50	3304.39	-27.22	763852.18	465800.37	32°16'42.625"N	103°36'48.023"W	0.00	
14300.00†	89.310	359.557	11135.34	3404.50	3404.38	-28.00	763851.40	465900.36	32°16'43.615"N	103°36'48.024"W	0.00	
14400.00†	89.310	359.557	11136.55	3504.49	3504.37	-28.77	763850.63	466000.34	32°16'44.604"N	103°36'48.025"W	0.00	
14500.00†	89.310	359.557	11137.75	3604.48	3604.36	-29.54	763849.86	466100.33	32°16'45.594"N	103°36'48.027"W	0.00	
14600.00†	89.310	359.557	11138.96	3704.47	3704.35	-30.32	763849.08	466200.32	32°16'46.583"N	103°36'48.028"W	0.00	
14700.00†	89.310	359.557	11140.16	3804.47	3804.34	-31.09	763848.31	466300.30	32°16'47.572"N	103°36'48.029"W	0.00	
14800.00†	89.310	359.557	11141.37	3904.46	3904.33	-31.86	763847.54	466400.29	32°16'48.562"N	103°36'48.030"W	0.00	
14900.00†	89.310	359.557	11142.57	4004.45	4004.32	-32.64	763846.77	466500.27	32°16'49.551"N	103°36'48.031"W	0.00	
15000.00†	89.310	359.557	11143.78	4104.44	4104.31	-33.41	763845.99	466600.26	32°16'50.541"N	103°36'48.033"W	0.00	
15100.00†	89.310	359.557	11144.98	4204.44	4204.30	-34.18	763845.22	466700.25	32°16'51.530"N	103°36'48.034"W	0.00	
15200.00†	89.310	359.557	11146.19	4304.43	4304.29	-34.96	763844.45	466800.23	32°16'52.520"N	103°36'48.035"W	0.00	
15300.00†	89.310	359.557	11147.39	4404.42	4404.28	-35.73	763843.67	466900.22	32°16'53.509"N	103°36'48.036"W	0.00	
15400.00†	89.310	359.557	11148.60	4504.42	4504.27	-36.50	763842.90	467000.20	32°16'54.498"N	103°36'48.037"W	0.00	
15500.00†	89.310	359.557	11149.80	4604.41	4604.26	-37.28	763842.13	467100.19	32°16'55.488"N	103°36'48.038"W	0.00	
15516.31	89.310	359.557	11150.00	4620.72	4620.57	-37.40	763842.00	467116.50	32°16'55.649"N	103°36'48.039"W	0.00	No. 2H PBHL

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Cimarex Energy Co. of Colorado**	Slot	**No. 2H SHL**
Area	**Lea County, New Mexico**	Well	**No. 2H**
Field	**(Triste Draw) Sec 30, T23S, R33E**	Wellbore	**No. 2H PWB**
Facility	**Triste Draw 30 Federal No. 2H**		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) Triste Draw 30 Federal No. 2H PBHL (Rev-0)	15516.31	11150.00	4620.57	-37.40	**763842.00**	**467116.50**	32°16'55.649"N	103°36'48.039"W	point

SURVEY PROGRAM - Ref Wellbore: No. 2H PWB Ref Wellpath: Rev-A.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	15516.31	NaviTrak (Standard)		No. 2H PWB

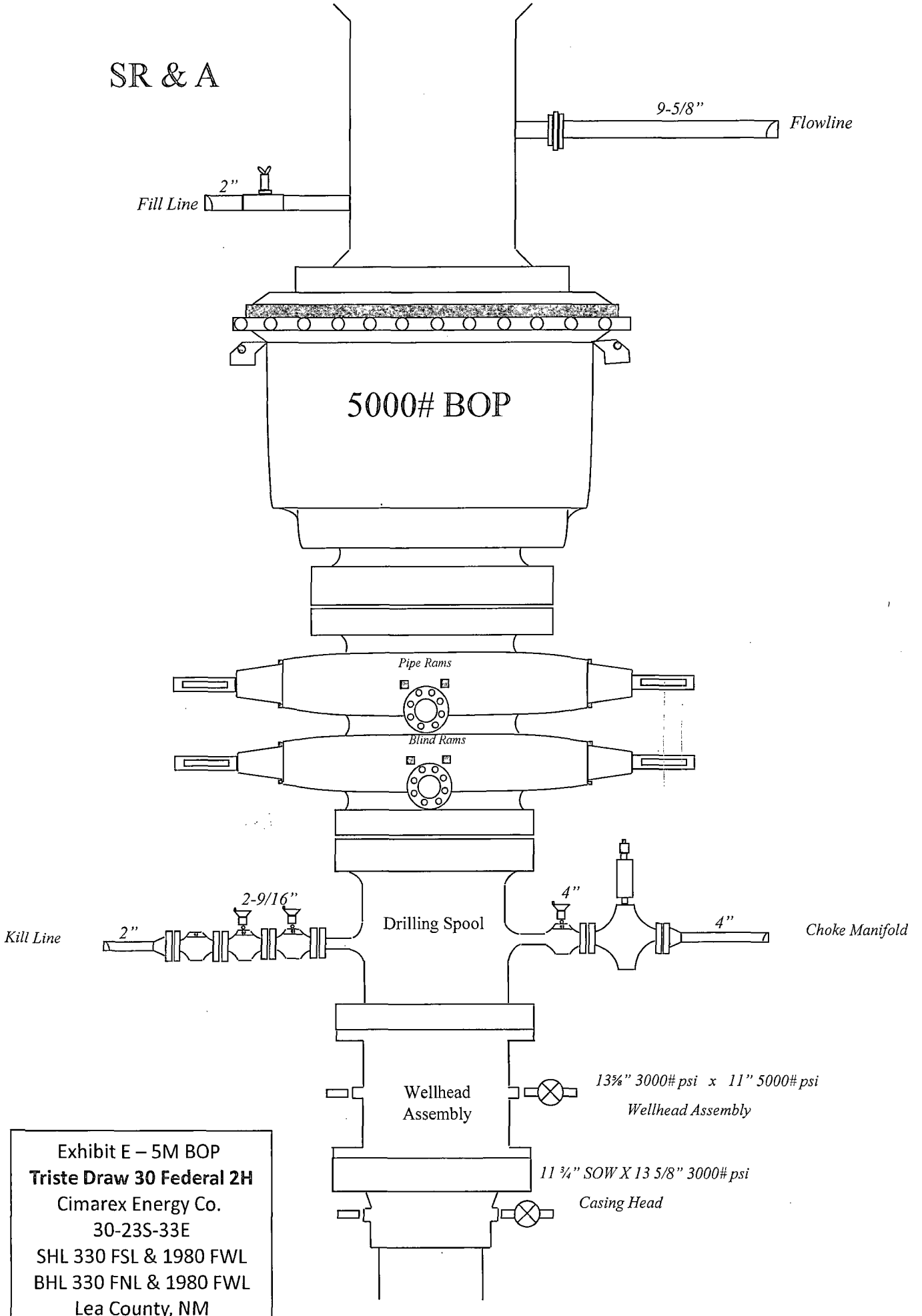
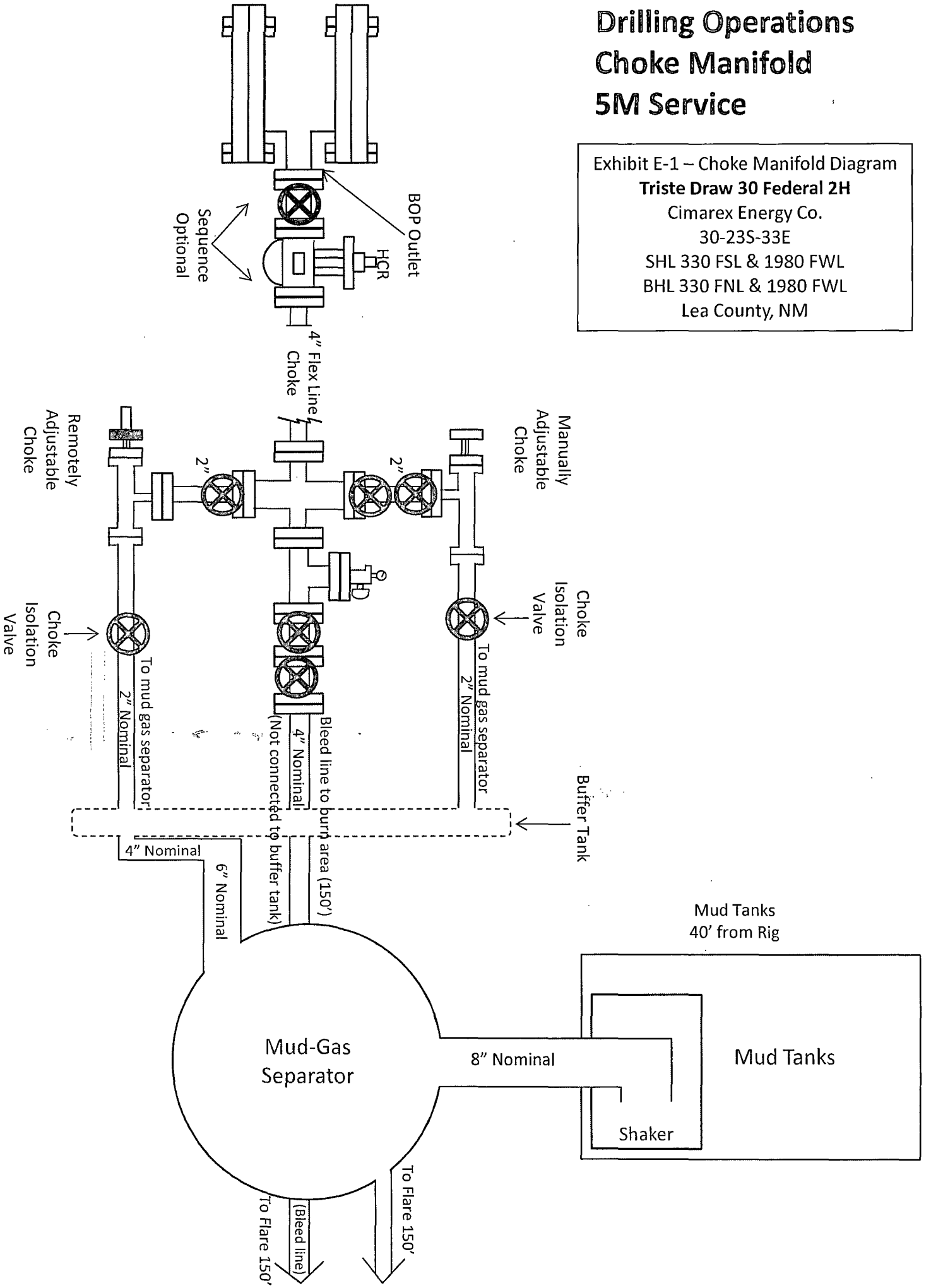
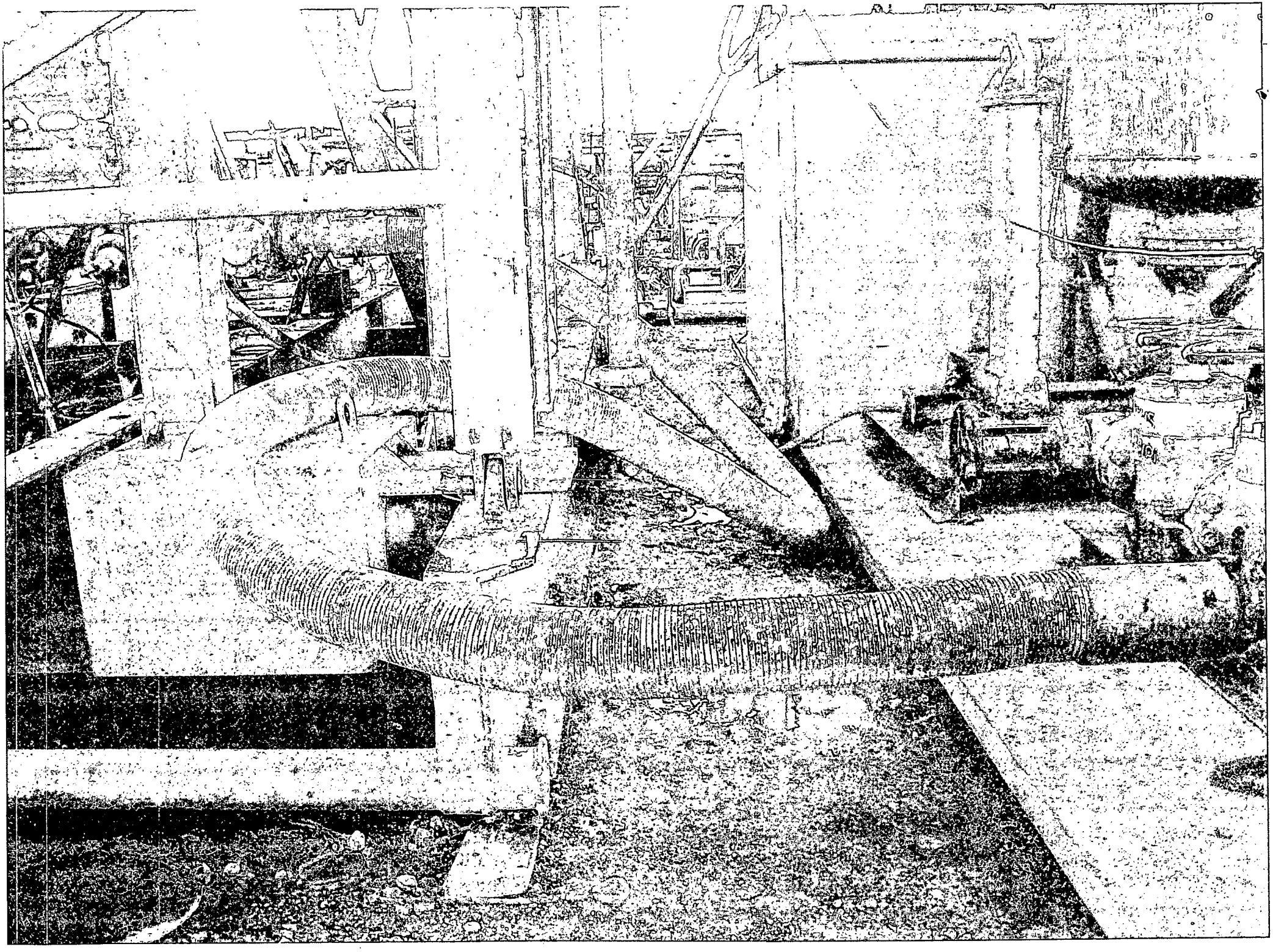


Exhibit E – 5M BOP
Triste Draw 30 Federal 2H
Cimarex Energy Co.
30-23S-33E
SHL 330 FSL & 1980 FWL
BHL 330 FNL & 1980 FWL
Lea County, NM

Drilling Operations
Choke Manifold
5M Service

Exhibit E-1 – Choke Manifold Diagram
Triste Draw 30 Federal 2H
Cimarex Energy Co.
30-23S-33E
SHL 330 FSL & 1980 FWL
BHL 330 FNL & 1980 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 cerify that the material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards

Supplier:
Midwest Hose & Specialty, Inc.
10640 Tanner Road
Houston, Texas 77041

Comments:

Approved:	Date: 3/8/2011

Midwest Hose
& Specialty, Inc.

INTERNAL HYDROSTATIC TEST REPORT

Customer:	P.O. Number:
Oderco Inc	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	TEST PRESSURE	BURST PRESSURE
10,000 *PSI*	15,000 *PSI*	0 *PSI*

COUPLINGS

Stem Part No.	Ferrule No.
OKC OKC	OKC OKC
Type of Coupling: Swage-It	

PROCEDURE

Hose assembly pressure tested with water at ambient temperature.

TIME HELD AT TEST PRESSURE	ACTUAL BURST PRESSURE:
15 *MIN.*	0 *PSI*

Hose Assembly Serial Number:	Hose Serial Number:
79793	OKC

Comments:

Date:	Tested:	Approved:
3/8/2011		

Midwest Hose & Specialty, Inc.

Internal Hydrostatic Test Graph

March 3, 2011

Customer: Houston

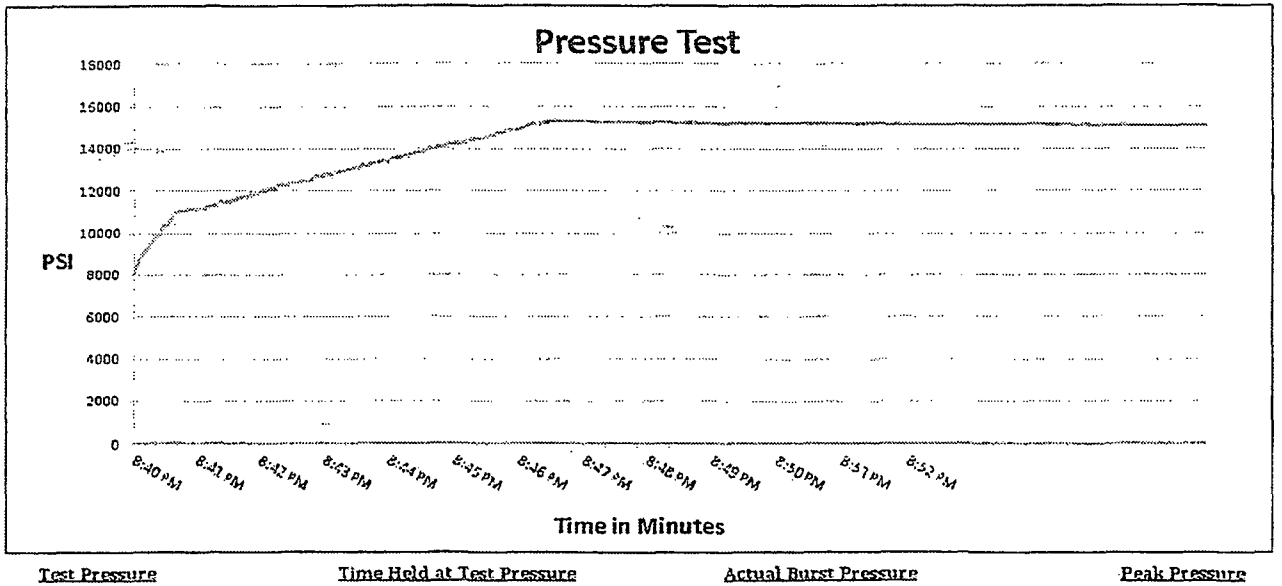
Pick Ticket #: 94260

Hose Specifications

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

Verification

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

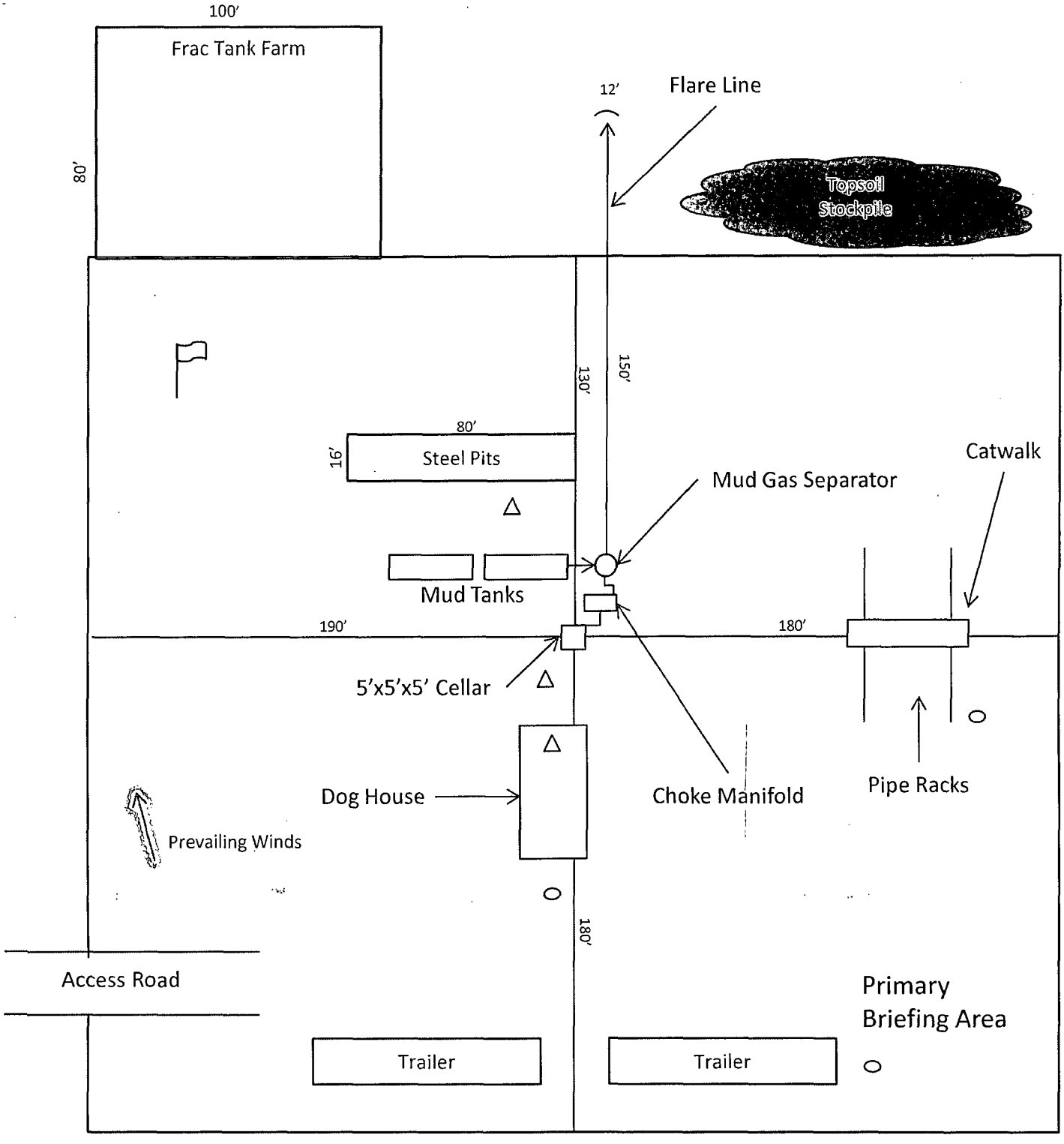


Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
15000 PSI	11 Minutes		15483 PSI

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

Tested By: *Zac Mcconnell*

Approved By: *Kim Thomas*



Wind Direction Indicators (wind sock or streamers)

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

Briefing Areas

N

Exhibit D – Rig Diagram
Triste Draw 30 Federal 2H
Cimarex Energy Co.
30-23S-33E
SHL 330 FSL & 1980 FWL
BHL 330 FNL & 1980 FWL
Lea County, NM