

OCD-HOBBS

HOBBS OCD

SEP 18 2012

RECEIVED

ATS-12-757

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. SHL NM 0 002889 BHL NM 0 001917
1b Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6 If Indian, Allottee or Tribe Name
2 Name of Operator Cimarex Energy Co. of Colorado		7 If Unit or CA Agreement, Name and No
3a Address 600 N. Marienfeld St. Ste. 600 Midland Tx 79701		8 Lease Name and Well No. Dos Equis 12 Federal Com No. 2 #39370
3b. Phone No. (include area code) 432-571-7800		9 API Well No. 30-025- 40791
4 Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 330 FNL & 1980 FEL At proposed prod. Zone 330 FSL & 1980 FEL Horizontal Bone Spring test		10 Field and Pool, or Exploratory Triple X; Bone Spring, West 96674
14. Distance in miles and direction from nearest town or post office*		11. Sec, T, R M or Blk and Survey or Area 12-24S-32E
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 NM 0 002889 680 acres NM 0 001917 800 acres	17. Spacing Unit dedicated to this well W2E2 160 acres
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1170' from #1	19 Proposed Depth MD 15652 TVD 11250	20 BLM/BIA Bond No. on File NM-2575/NM-B000835
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3605' GR	22. Approximate date work will start* 12.01.12	23 Estimated duration 25-30 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form

- | | |
|---|--|
| 1. Well plat certified by a registered surveyor | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above) |
| 2. A Drilling Plan | 5. Operator Certification |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature 	Name (Printed/Typed) Celeste G. Dale	Date 04.26.12
Title Regulatory Analyst		
Approved By (Signature) /s/ Don Peterson	Name (Printed/Typed) /s/ Don Peterson	Date SEP 17 2012
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.C. 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

K2 09/20/12

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

SEP 27 2012

Drilling Plan
Dos Equis 12 Federal Com No. 2
 Cimarex Energy Co. of Colorado
 Unit B, Section 12
 T23S-R32E, 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 & 1980 FEL
 BHL 330 FSL & 1980 FEL

- 2 **Elevation above sea level:** 3605' 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 15652 TVD 11250

- 6 **Estimated tops of geological markers:**

Rustler	1220'
Top of Salt	1380'
Castile	3565'
Base of Salt	4700'
Delaware Sands	5000'
Cherry Canyon	5969'
Brushy Canyon	7000'
Bone Spring	8770'
FBSS	9930'
SBSS	10600'
3rd BS Carbonate	11100'

- 7 **Possible mineral bearing formations:**

Bone Spring	Oil
Delaware	Oil

8 **Proposed Mud Circulating System:**

Depth		Mud Wt	Visc	Fluid Loss	Type Mud
0'	to 1250' 1300	8.4 - 8.6	28	NC	FW
1250'	to 4900'	10.0	30-32	NC	Brine
4900'	to 15652'	8.4-9.5	27-45	NC	FW and 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.

Proposed drilling Plan

Drill 8¾" hole with kickoff point @ 10864' TVD. Drill through curve to 15652' TMD, 11250' TVD. Run 5½" 17# P-110 LTC from 0-15652' and cement.

Drilling Plan
Dos Equis 12 Federal Com No. 2
 Cimarex Energy Co. of Colorado
 Unit B, Section 12
 T23S-R32E, Lea County, NM

9 Casing & Cementing Program:

String	Hole Size	Depth	See COA	Casing OD	Weight	Collar	Grade
Surface 1	17 1/2"	0' to 1250'	1250'	New 13 3/8"	48#	STC	H-40
Intermediate	12 1/4"	0' to 4900'	4900'	New 9 5/8"	40#	LTC	J-55
Production	8 3/4"	0' to 15652'	15652'	New 5 1/2"	17#	LTC	P-110

10 Cementing:

Surface

Lead:545SKS Halcem C + 4% Bentomite + 2% CaCl 13.5ppg 1.75yield 100% Excess

Tail:420SKS Halcem C + 2% CaCl 14.2ppg 1.34 yield 50% Excess

TOC Surface Centralizers per Onshorder 2.III.B.1.f

Intermediate

Lead:1655SKS Econocem + 5% Salt + 5# Gilsonite 14.6ppg 1.54yield 70% Excess

Tail:200SKS Halcem + 1% CaCl 14.8ppg 1.34 yield 25% Excess

TOC Surface

Production

Lead:1030SKS Econocem H + 0.5% CFR-3 + 0.1% HR-601 11.9ppg 2.44 yield 50% Excess

Tail:1305SKS Versacem H + 0.5% Halad-344 + 0.4% CFR-3 + 1# Salt + 0.1% HR-601 14.5ppg 1.22 yield 25% Excess

TOC 3800' Centralizers every 3rd joint in lateral to provide adequate cement coverage every 100' unless lateral doglegs require greater spacing between centralizers.

According to the NM State Enginner, depth to ground water is 200 feet. Fresh water zones will be protected by setting 13 3/8" casing at 1250' and 9 5/8" casing at 4900 and cementing to surface. Hydrocarbon zones will be protected by setting 5 1/2" casing at 15652' and cementing to 3800.

<u>Collapse Factor</u>	<u>Burst Factor</u>	<u>Tension Factor</u>
1.125	1.125	1.6

11 Pressure control Equipment:

Exhibit "E". A 13 3/8" 5000 PSI working pressure B.O.P. 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 below 4900.' 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. Mud gas seperator will be available if drilling in H2S areas.

BOP unit will be hydraulically operated. BOP will be nipped 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.

Before drilling out of the surface casing BOPs will be tested to 250 psi low and 3000 psi high by an independent service company. Hydril will be tested to 250 psi low and 1500 psi high. Before drilling out of the intermediate casing BOPs will be tested to 250 psi low and 5000 psi high. Hydril will be tested to 250 psi low and 2500 high.

Cimarex Energy Co. of Colorado (operator) requests a variance if Cactus 115 (rig name) is used to drill this well to use a co-flex line between the BOP and choke manifold.

Manufacturer: Midwest Hose & Specialty

Serial Number: 63270

Length: 35' Size: 4-1/16" Ends - flanges/clamps

WP rating: 10,000 psi Anchors required by manufacturer – Yes/No

Drilling Plan
Dos Equis 12 Federal Com No. 2
Cimarex Energy Co. of Colorado
Unit B, Section 12
T23S-R32E, Lea County, NM

12 Testing, Logging and Coring Program: *See cost*

- A. Mud logging program: 2 man unit from 4900 to TD
- B. Electric logging program: CNL / LDT / CAL / GR, DLL / CAL / GR 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 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 **5100 psi** Estimated BHT **130°**

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 potentialized as **an oil well.**

CIMAREX

Cimarex Energy Co.

Location Lea County, NM
Field (Dos Equis) Sec 12, T24S, R32E
Facility Dos Equis 12 Fed Com No 2

Slot No 2 SHL
Well No 2
Wellbore No 2 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	179 664	0 00	0 00	0 00	0 00	0 00
Est KOP	10864 00	0 000	179 664	10864 00	0 00	0 00	0 00	0 00
EOC	11306 78	88 681	179 664	11150 00	-279 49	1 64	20 03	279 49
No 2 PBHL	15651 70	88 681	179 664	11250 01	-4623 18	27 11	0 00	4623 26

Plot reference wellpath is Prelim 1

True vertical depths are referenced to Rig on No 2 SHL (RT)

Measured depths are referenced to Rig on No 2 SHL (RT)

Rig on No 2 SHL (RT) to Mean Sea Level: 3605 feet

Mean Sea Level to Mud line (At Slot No 2 SHL): -3605 feet

Coordinates are in feet referenced to Slot

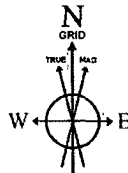
Grid System NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet

North Reference: Grid north

Scale: True distance

Depths are in feet

Created by: gentbry on 1/20/2012



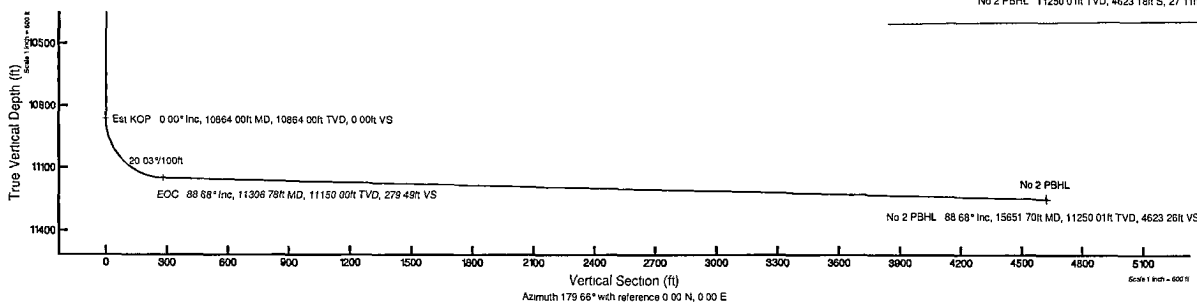
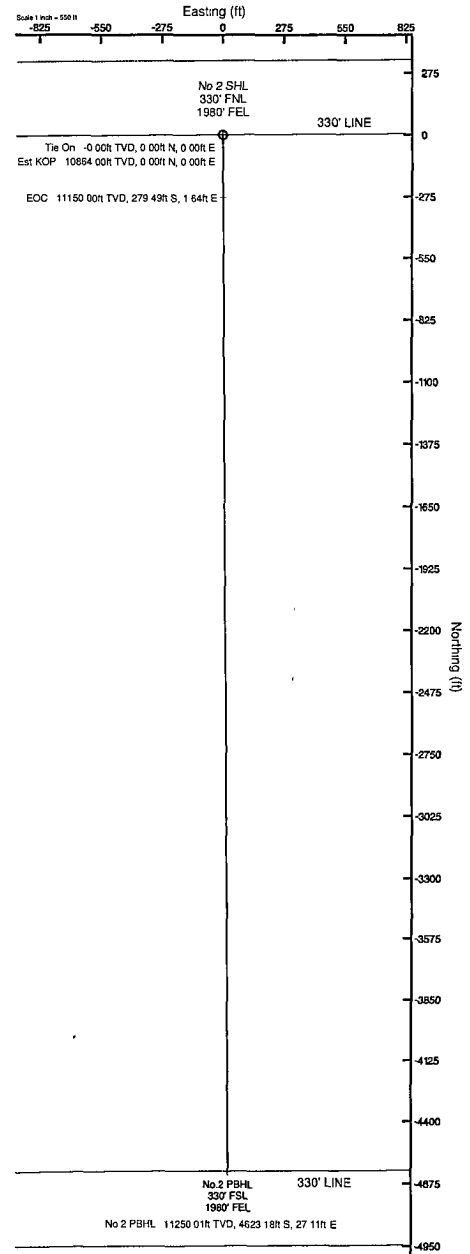
BGGM (1945 0 to 2013 0) Dip: 80 14° Field: 48567 4 nT
Magnetic North is 7 62 degrees East of True North (at 1/20/2012)

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 24 degrees

For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7 24 = 97 24





Planned Wellpath Report

Prelim_1

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.2 SHL
Area	Lea County, NM	Well	No.2
Field	(Dos Equis) Sec 12, T24S, R32E	Wellbore	No.2 PWB
Facility	Dos Equis 12 Fed Com No.2		

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	Gentbry
Scale	0.999964	Report Generated	1/20/2012 at 8:13:09 AM
Convergence at slot	0.38° East	Database/Source file	WA Midland/No.2_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	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W
Facility Reference Pt			759983.20	451251.50	32°14'18.915"N	103°37'34.205"W
Field Reference Pt			761153.10	451258.60	32°14'18.909"N	103°37'20.583"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No.2 SHL (RT) to Facility Vertical Datum	0.00ft
Horizontal Reference Pt	Slot	Rig on No.2 SHL (RT) to Mean Sea Level	3605.00ft
Vertical Reference Pt	Rig on No.2 SHL (RT)	Rig on No.2 SHL (RT) to Mud Line at Slot (No.2 SHL)	0.00ft
MD Reference Pt	Rig on No.2 SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.66°



Planned Wellpath Report

Prelim_1

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.2 SHL
Area	Lea County, NM	Well	No.2
Field	(Dos Equis) Sec 12, T24S, R32E	Wellbore	No.2 PWB
Facility	Dos Equis 12 Fed Com No.2		

WELLPATH DATA (168 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	179.664	0.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	Tie On
100.00†	0.000	179.664	100.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
200.00†	0.000	179.664	200.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
300.00†	0.000	179.664	300.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
400.00†	0.000	179.664	400.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
500.00†	0.000	179.664	500.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
600.00†	0.000	179.664	600.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
700.00†	0.000	179.664	700.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
800.00†	0.000	179.664	800.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
900.00†	0.000	179.664	900.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
1000.00†	0.000	179.664	1000.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
1100.00†	0.000	179.664	1100.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
1200.00†	0.000	179.664	1200.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	Rustler
1300.00†	0.000	179.664	1300.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
1400.00†	0.000	179.664	1400.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
1500.00†	0.000	179.664	1500.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
1600.00†	0.000	179.664	1600.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
1640.00†	0.000	179.664	1640.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	Salt
1700.00†	0.000	179.664	1700.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
1800.00†	0.000	179.664	1800.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
1900.00†	0.000	179.664	1900.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
2000.00†	0.000	179.664	2000.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
2100.00†	0.000	179.664	2100.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
2200.00†	0.000	179.664	2200.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
2300.00†	0.000	179.664	2300.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
2400.00†	0.000	179.664	2400.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
2500.00†	0.000	179.664	2500.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
2600.00†	0.000	179.664	2600.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
2700.00†	0.000	179.664	2700.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
2800.00†	0.000	179.664	2800.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
2900.00†	0.000	179.664	2900.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
3000.00†	0.000	179.664	3000.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
3100.00†	0.000	179.664	3100.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
3200.00†	0.000	179.664	3200.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
3300.00†	0.000	179.664	3300.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
3400.00†	0.000	179.664	3400.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
3430.00†	0.000	179.664	3430.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	Castille
3500.00†	0.000	179.664	3500.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
3600.00†	0.000	179.664	3600.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
3700.00†	0.000	179.664	3700.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
3800.00†	0.000	179.664	3800.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
3900.00†	0.000	179.664	3900.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
4000.00†	0.000	179.664	4000.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
4100.00†	0.000	179.664	4100.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
4200.00†	0.000	179.664	4200.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	



Planned Wellpath Report

Prelim_1

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.2 SHL
Area	Lea County, NM	Well	No.2
Field	(Dos Equis) Sec 12, T24S, R32E	Wellbore	No.2 PWB
Facility	Dos Equis 12 Fed Com No.2		

WELLPATH DATA (168 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
4300.00†	0.000	179.664	4300.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
4400.00†	0.000	179.664	4400.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
4500.00†	0.000	179.664	4500.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
4600.00†	0.000	179.664	4600.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
4670.00†	0.000	179.664	4670.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	Base Last Salt
4700.00†	0.000	179.664	4700.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
4800.00†	0.000	179.664	4800.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
4900.00†	0.000	179.664	4900.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
4960.00†	0.000	179.664	4960.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	Delaware Sands
5000.00†	0.000	179.664	5000.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
5100.00†	0.000	179.664	5100.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
5200.00†	0.000	179.664	5200.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
5300.00†	0.000	179.664	5300.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
5400.00†	0.000	179.664	5400.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
5500.00†	0.000	179.664	5500.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
5600.00†	0.000	179.664	5600.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
5700.00†	0.000	179.664	5700.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
5800.00†	0.000	179.664	5800.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
5900.00†	0.000	179.664	5900.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
6000.00†	0.000	179.664	6000.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
6100.00†	0.000	179.664	6100.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
6200.00†	0.000	179.664	6200.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
6300.00†	0.000	179.664	6300.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
6400.00†	0.000	179.664	6400.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
6500.00†	0.000	179.664	6500.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
6600.00†	0.000	179.664	6600.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
6700.00†	0.000	179.664	6700.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
6800.00†	0.000	179.664	6800.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
6900.00†	0.000	179.664	6900.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
7000.00†	0.000	179.664	7000.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
7100.00†	0.000	179.664	7100.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
7200.00†	0.000	179.664	7200.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
7300.00†	0.000	179.664	7300.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
7400.00†	0.000	179.664	7400.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
7500.00†	0.000	179.664	7500.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
7600.00†	0.000	179.664	7600.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
7700.00†	0.000	179.664	7700.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
7800.00†	0.000	179.664	7800.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
7900.00†	0.000	179.664	7900.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
8000.00†	0.000	179.664	8000.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
8100.00†	0.000	179.664	8100.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
8200.00†	0.000	179.664	8200.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
8300.00†	0.000	179.664	8300.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
8400.00†	0.000	179.664	8400.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
8500.00†	0.000	179.664	8500.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.2 SHL
Area	Lea County, NM	Well	No.2
Field	(Dos Equis) Sec 12, T24S, R32E	Wellbore	No.2 PWB
Facility	Dos Equis 12 Fed Com No.2		

WELLPATH DATA (168 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
8600.00†	0.000	179.664	8600.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
8625.00†	0.000	179.664	8625.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	Basal Brushy Canyon
8700.00†	0.000	179.664	8700.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
8800.00†	0.000	179.664	8800.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
8850.00†	0.000	179.664	8850.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	Bone Spring
8900.00†	0.000	179.664	8900.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
9000.00†	0.000	179.664	9000.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
9100.00†	0.000	179.664	9100.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
9200.00†	0.000	179.664	9200.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
9300.00†	0.000	179.664	9300.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	Avalon Shale
9400.00†	0.000	179.664	9400.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
9500.00†	0.000	179.664	9500.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
9600.00†	0.000	179.664	9600.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
9700.00†	0.000	179.664	9700.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
9800.00†	0.000	179.664	9800.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
9900.00†	0.000	179.664	9900.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
10000.00†	0.000	179.664	10000.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
10050.00†	0.000	179.664	10050.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	1st BSS
10100.00†	0.000	179.664	10100.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
10200.00†	0.000	179.664	10200.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
10300.00†	0.000	179.664	10300.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
10400.00†	0.000	179.664	10400.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
10500.00†	0.000	179.664	10500.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
10600.00†	0.000	179.664	10600.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
10675.00†	0.000	179.664	10675.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	2nd BSS
10700.00†	0.000	179.664	10700.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
10800.00†	0.000	179.664	10800.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	
10864.00	0.000	179.664	10864.00	0.00	0.00	0.00	759983.20	451251.50	32°14'18.915"N	103°37'34.205"W	0.00	Est KOP
10900.00†	7.210	179.664	10899.91	2.26	-2.26	0.01	759983.21	451249.24	32°14'18.893"N	103°37'34.205"W	20.03	
11000.00†	27.238	179.664	10994.93	31.72	-31.72	0.19	759983.39	451219.78	32°14'18.601"N	103°37'34.205"W	20.03	
11100.00†	47.267	179.664	11074.13	91.95	-91.95	0.54	759983.74	451159.56	32°14'18.005"N	103°37'34.205"W	20.03	
11200.00†	67.295	179.664	11127.91	175.65	-175.65	1.03	759984.23	451075.86	32°14'17.177"N	103°37'34.206"W	20.03	
11300.00†	87.323	179.664	11149.76	272.71	-272.71	1.60	759984.80	450978.80	32°14'16.217"N	103°37'34.207"W	20.03	
11306.78	88.681	179.664	11150.00	279.49	-279.49	1.64	759984.84	450972.02	32°14'16.150"N	103°37'34.207"W	20.03	EOC
11400.00†	88.681	179.664	11152.15	372.68	-372.68	2.19	759985.39	450878.84	32°14'15.227"N	103°37'34.208"W	0.00	
11500.00†	88.681	179.664	11154.45	472.66	-472.65	2.77	759985.97	450778.87	32°14'14.238"N	103°37'34.208"W	0.00	
11600.00†	88.681	179.664	11156.75	572.63	-572.62	3.36	759986.56	450678.90	32°14'13.249"N	103°37'34.209"W	0.00	
11700.00†	88.681	179.664	11159.05	672.61	-672.59	3.94	759987.14	450578.93	32°14'12.260"N	103°37'34.210"W	0.00	
11800.00†	88.681	179.664	11161.35	772.58	-772.57	4.53	759987.73	450478.96	32°14'11.270"N	103°37'34.211"W	0.00	
11900.00†	88.681	179.664	11163.66	872.55	-872.54	5.12	759988.32	450379.00	32°14'10.281"N	103°37'34.212"W	0.00	
12000.00†	88.681	179.664	11165.96	972.53	-972.51	5.70	759988.90	450279.03	32°14'09.292"N	103°37'34.213"W	0.00	
12100.00†	88.681	179.664	11168.26	1072.50	-1072.48	6.29	759989.49	450179.06	32°14'08.303"N	103°37'34.213"W	0.00	
12200.00†	88.681	179.664	11170.56	1172.47	-1172.45	6.88	759990.08	450079.09	32°14'07.313"N	103°37'34.214"W	0.00	
12300.00†	88.681	179.664	11172.86	1272.45	-1272.42	7.46	759990.66	449979.12	32°14'06.324"N	103°37'34.215"W	0.00	
12400.00†	88.681	179.664	11175.16	1372.42	-1372.40	8.05	759991.25	449879.16	32°14'05.335"N	103°37'34.216"W	0.00	



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.2 SHL
Area	Lea County, NM	Well	No.2
Field	(Dos Equis) Sec 12, T24S, R32E	Wellbore	No.2 PWB
Facility	Dos Equis 12 Fed Com No.2		

WELLPATH DATA (168 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
12500.00†	88.681	179.664	11177.47	1472.39	-1472.37	8.63	759991.83	449779.19	32°14'04.346"N	103°37'34.217"W	0.00	
12600.00†	88.681	179.664	11179.77	1572.37	-1572.34	9.22	759992.42	449679.22	32°14'03.356"N	103°37'34.218"W	0.00	
12700.00†	88.681	179.664	11182.07	1672.34	-1672.31	9.81	759993.01	449579.25	32°14'02.367"N	103°37'34.219"W	0.00	
12800.00†	88.681	179.664	11184.37	1772.31	-1772.28	10.39	759993.59	449479.28	32°14'01.378"N	103°37'34.219"W	0.00	
12900.00†	88.681	179.664	11186.67	1872.29	-1872.26	10.98	759994.18	449379.32	32°14'00.389"N	103°37'34.220"W	0.00	
13000.00†	88.681	179.664	11188.97	1972.26	-1972.23	11.57	759994.76	449279.35	32°13'59.399"N	103°37'34.221"W	0.00	
13100.00†	88.681	179.664	11191.28	2072.23	-2072.20	12.15	759995.35	449179.38	32°13'58.410"N	103°37'34.222"W	0.00	
13200.00†	88.681	179.664	11193.58	2172.21	-2172.17	12.74	759995.94	449079.41	32°13'57.421"N	103°37'34.223"W	0.00	
13300.00†	88.681	179.664	11195.88	2272.18	-2272.14	13.32	759996.52	448979.44	32°13'56.432"N	103°37'34.224"W	0.00	
13400.00†	88.681	179.664	11198.18	2372.15	-2372.11	13.91	759997.11	448879.48	32°13'55.442"N	103°37'34.224"W	0.00	
13500.00†	88.681	179.664	11200.48	2472.13	-2472.09	14.50	759997.70	448779.51	32°13'54.453"N	103°37'34.225"W	0.00	
13600.00†	88.681	179.664	11202.79	2572.10	-2572.06	15.08	759998.28	448679.54	32°13'53.464"N	103°37'34.226"W	0.00	
13700.00†	88.681	179.664	11205.09	2672.08	-2672.03	15.67	759998.87	448579.57	32°13'52.475"N	103°37'34.227"W	0.00	
13800.00†	88.681	179.664	11207.39	2772.05	-2772.00	16.25	759999.45	448479.60	32°13'51.485"N	103°37'34.228"W	0.00	
13900.00†	88.681	179.664	11209.69	2872.02	-2871.97	16.84	760000.04	448379.64	32°13'50.496"N	103°37'34.229"W	0.00	
14000.00†	88.681	179.664	11211.99	2972.00	-2971.94	17.43	760000.63	448279.67	32°13'49.507"N	103°37'34.229"W	0.00	
14100.00†	88.681	179.664	11214.29	3071.97	-3071.92	18.01	760001.21	448179.70	32°13'48.518"N	103°37'34.230"W	0.00	
14200.00†	88.681	179.664	11216.60	3171.94	-3171.89	18.60	760001.80	448079.73	32°13'47.528"N	103°37'34.231"W	0.00	
14300.00†	88.681	179.664	11218.90	3271.92	-3271.86	19.18	760002.38	447979.76	32°13'46.539"N	103°37'34.232"W	0.00	
14400.00†	88.681	179.664	11221.20	3371.89	-3371.83	19.77	760002.97	447879.80	32°13'45.550"N	103°37'34.233"W	0.00	
14500.00†	88.681	179.664	11223.50	3471.86	-3471.80	20.36	760003.56	447779.83	32°13'44.561"N	103°37'34.234"W	0.00	
14600.00†	88.681	179.664	11225.80	3571.84	-3571.78	20.94	760004.14	447679.86	32°13'43.571"N	103°37'34.234"W	0.00	
14700.00†	88.681	179.664	11228.10	3671.81	-3671.75	21.53	760004.73	447579.89	32°13'42.582"N	103°37'34.235"W	0.00	
14800.00†	88.681	179.664	11230.41	3771.78	-3771.72	22.12	760005.31	447479.92	32°13'41.593"N	103°37'34.236"W	0.00	
14900.00†	88.681	179.664	11232.71	3871.76	-3871.69	22.70	760005.90	447379.96	32°13'40.604"N	103°37'34.237"W	0.00	
15000.00†	88.681	179.664	11235.01	3971.73	-3971.66	23.29	760006.49	447279.99	32°13'39.614"N	103°37'34.238"W	0.00	
15100.00†	88.681	179.664	11237.31	4071.70	-4071.63	23.87	760007.07	447180.02	32°13'38.625"N	103°37'34.239"W	0.00	
15200.00†	88.681	179.664	11239.61	4171.68	-4171.61	24.46	760007.66	447080.05	32°13'37.636"N	103°37'34.239"W	0.00	
15300.00†	88.681	179.664	11241.91	4271.65	-4271.58	25.05	760008.24	446980.08	32°13'36.647"N	103°37'34.240"W	0.00	
15400.00†	88.681	179.664	11244.21	4371.63	-4371.55	25.63	760008.83	446880.12	32°13'35.657"N	103°37'34.241"W	0.00	
15500.00†	88.681	179.664	11246.52	4471.60	-4471.52	26.22	760009.42	446780.15	32°13'34.668"N	103°37'34.242"W	0.00	
15600.00†	88.681	179.664	11248.82	4571.57	-4571.49	26.80	760010.00	446680.18	32°13'33.679"N	103°37'34.243"W	0.00	
15651.70	88.681	179.664	11250.01	4623.26	-4623.18	27.11	760010.31	446628.50	32°13'33.167"N	103°37'34.243"W	0.00	No.2 PBHL



Planned Wellpath Report

Prelim_1
Page 6 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.2 SHL
Area	Lea County, NM	Well	No.2
Field	(Dos Equis) Sec 12, T24S, R32E	Wellbore	No.2 PWB
Facility	Dos Equis 12 Fed Com No.2		

HOLE & CASING SECTIONS - Ref Wellbore: No.2 PWB Ref Wellpath: Prelim_1									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
17.5in Open Hole	0.00	1225.00	1225.00	0.00	1225.00	0.00	0.00	0.00	0.00
13.375in Casing	0.00	1225.00	1225.00	0.00	1225.00	0.00	0.00	0.00	0.00
12.25in Open Hole	0.00	4900.00	4900.00	0.00	4900.00	0.00	0.00	0.00	0.00
9.625in Casing	0.00	4900.00	4900.00	0.00	4900.00	0.00	0.00	0.00	0.00
8.75in Open Hole	0.00	15651.70	15651.70	0.00	NA	0.00	0.00	NA	NA

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) No.2 PBHL	15651.70	11250.00	-4623.18	27.10	760010.30	446628.50	32°13'33.167"N	103°37'34.243"W	point

SURVEY PROGRAM - Ref Wellbore: No.2 PWB Ref Wellpath: Prelim_1				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	15651.70	NaviTrak (Standard)		No.2 PWB

SR & A

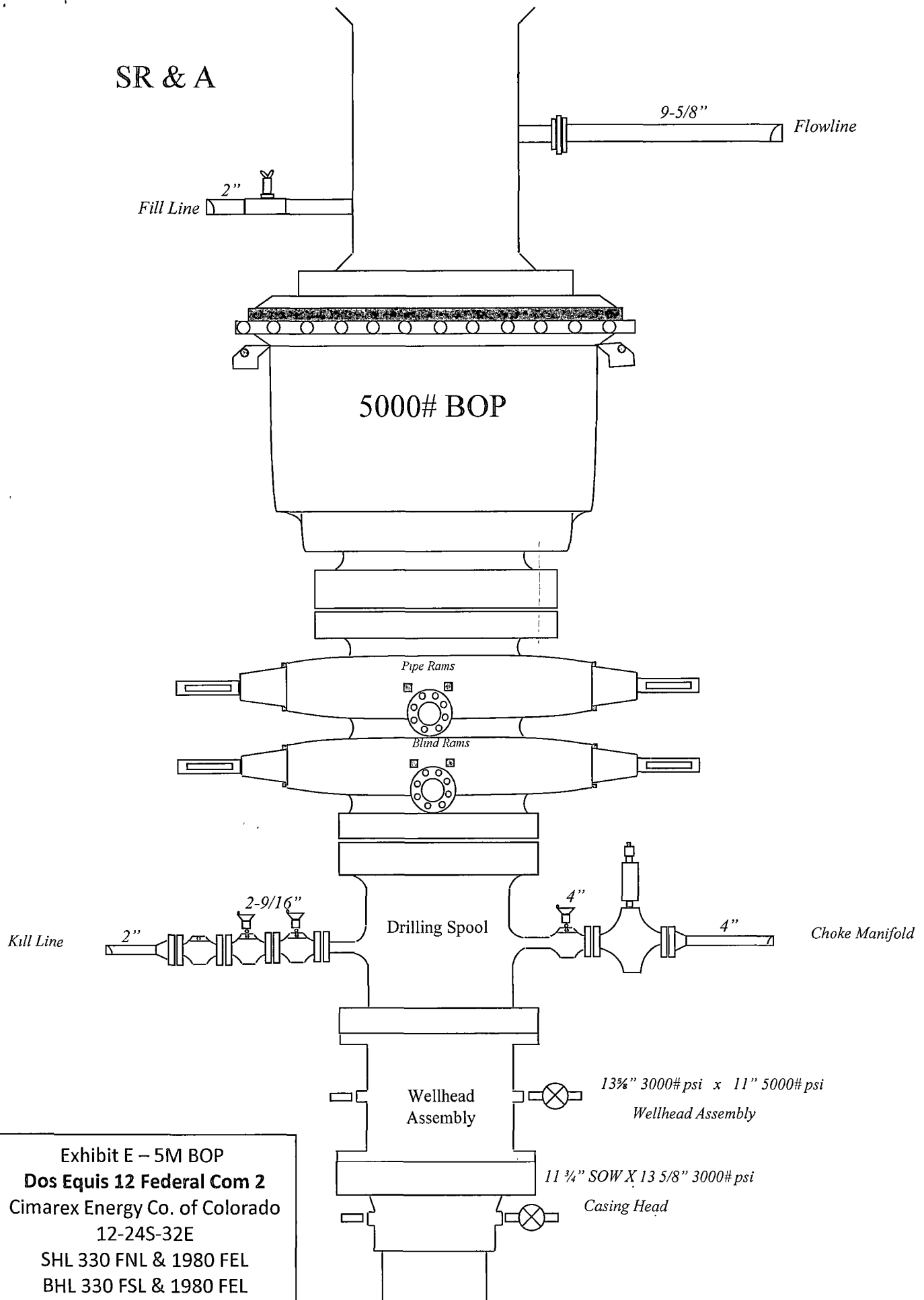
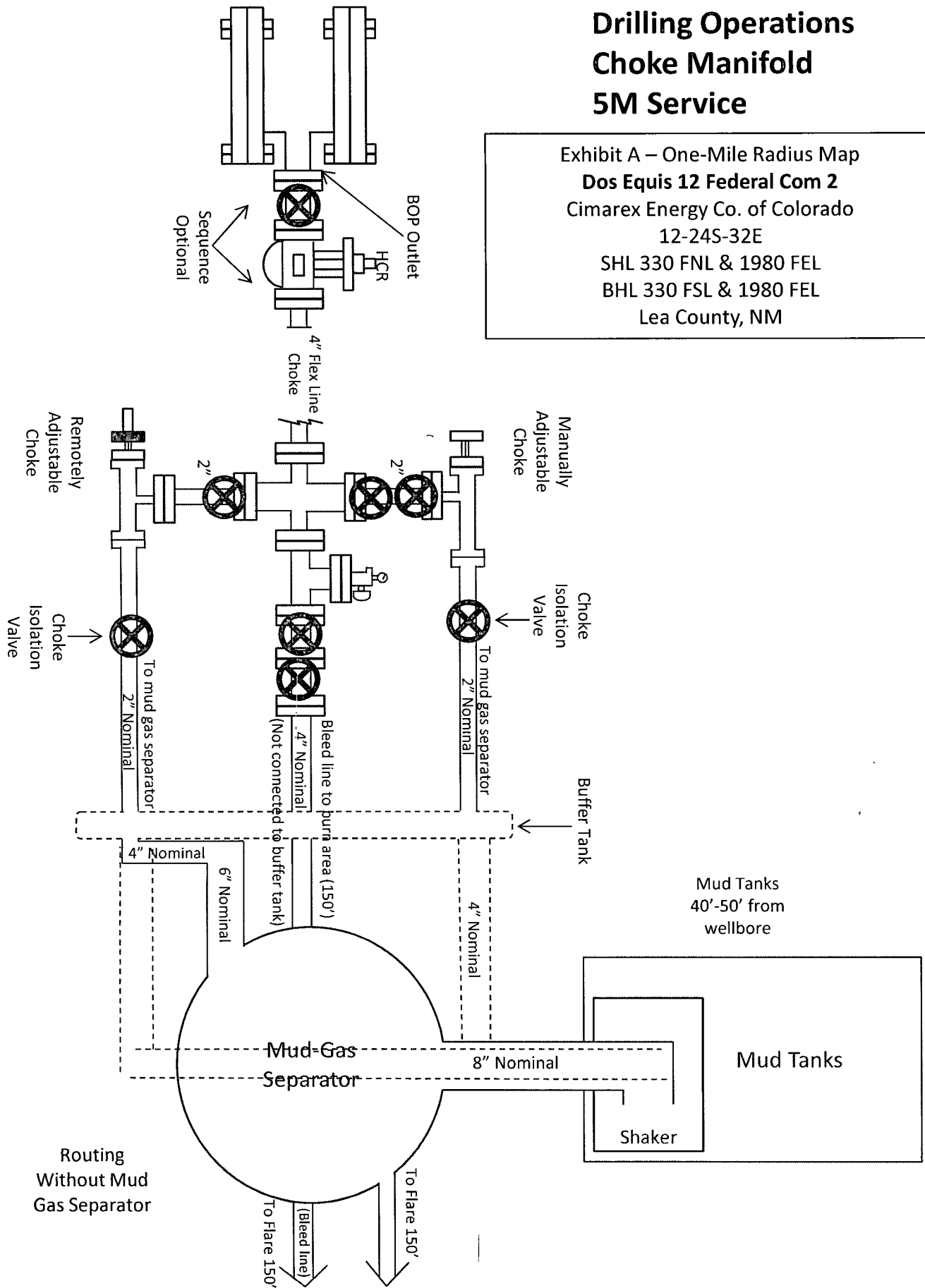


Exhibit E – 5M BOP
Dos Equis 12 Federal Com 2
Cimarex Energy Co. of Colorado
12-24S-32E
SHL 330 FNL & 1980 FEL
BHL 330 FSL & 1980 FEL
Lea County, NM

Drilling Operations Choke Manifold 5M Service

Exhibit A – One-Mile Radius Map
Dos Equis 12 Federal Com 2
Cimarex Energy Co. of Colorado
12-24S-32E
SHL 330 FNL & 1980 FEL
BHL 330 FSL & 1980 FEL
Lea County, NM



Cimarex Energy Co. of Colorado – Closed-Loop System Design Plan

Equipment List

- Primary Shakers
- Mud Cleaner – hydro-cyclones
- 1 or 2 Centrifuges (depending on well depth)
- De-watering system with pH adjustment, coagulant mixing and dosing, and polymer mixing and dosing (may not be necessary for shallower wells)
- Drying Augur
- Sump Drying Augur
- Sump
- Cuttings Boxes
- Reserve Fluids Tank Farm
- Wire Mesh Trash Enclosure (spent motor oils kept in separate containers and later sent to approved landfill)

Operation and Maintenance

The Cimarex Zero Discharge system is designed to maintain drill solids at or below 5%. The equipment is arranged to progressively remove solids from the largest to the smallest size. Drilling fluids can thus be reused and savings is realized on mud and disposal costs. Dewatering may be required with the centrifuges to insure removal of ultra fine solids.

The drilling location is constructed to allow storm water to flow to a central sump normally the cellar. This ensures no contamination leaves the drilling pad in the event of a spill. Storm water is reused in the mud system or stored in a reserve fluid tank farm until it can be reused. All lubricants, oils, or chemicals are removed immediately from the ground to prevent the contamination of storm water. An oil trap is normally installed on the sump if an oil spill occurs during a storm.

A tank farm is utilized to store drilling fluids including fresh water and brine fluids. The tank farm is constructed on a 20 ml plastic lined, bermed pad to prevent the contamination of the drilling site during a spill. Fluids from other sites may be stored in these tanks for processing by the solids control equipment and reused in the mud system. At the end of the well the fluids are transported from the tank farm to an adjoining well or to the next well for the rig.

These closed loop operations can be monitored by our service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the mud storage farm. This data is kept for end of well review to insure performance goals are met. Lessons learned are logged and used to help with continuous improvement.

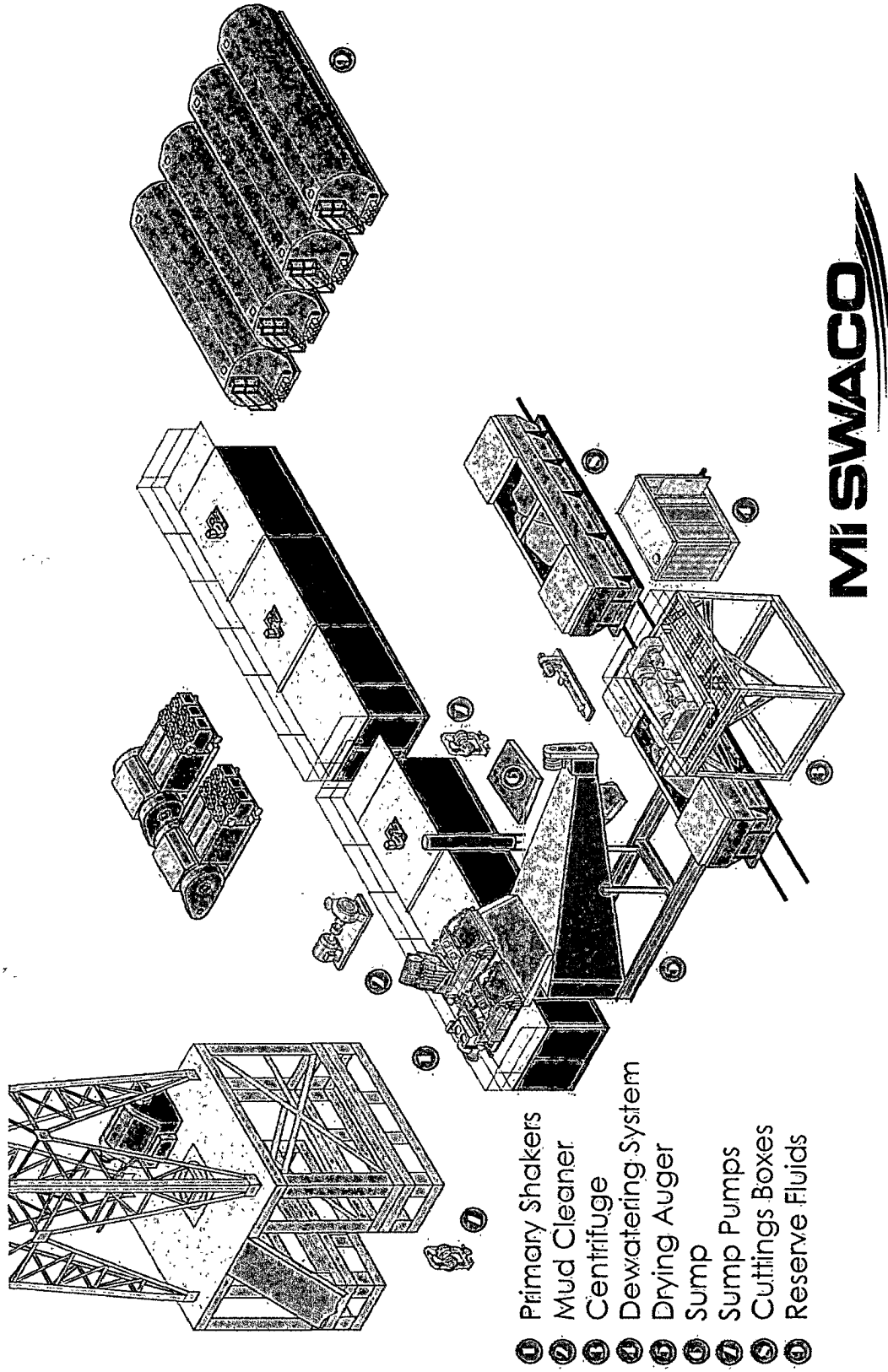
Spill prevention is accomplished by maintaining pump packing, hoses, and pipe fittings to insure no leaks are occurring. During an upset condition the source of the spill is isolated and repaired as soon as it is discovered. Free liquid is removed by a diaphragm pump and returned to the mud system. Loose topsoil may be used to stabilize the spill and the contaminated soil is excavated and placed in the cuttings boxes. After the well is finished and the rig has moved, the entire location is scrapped and tested for all regulated toxic materials. If found they are removed and disposed of per regulatory requirements.

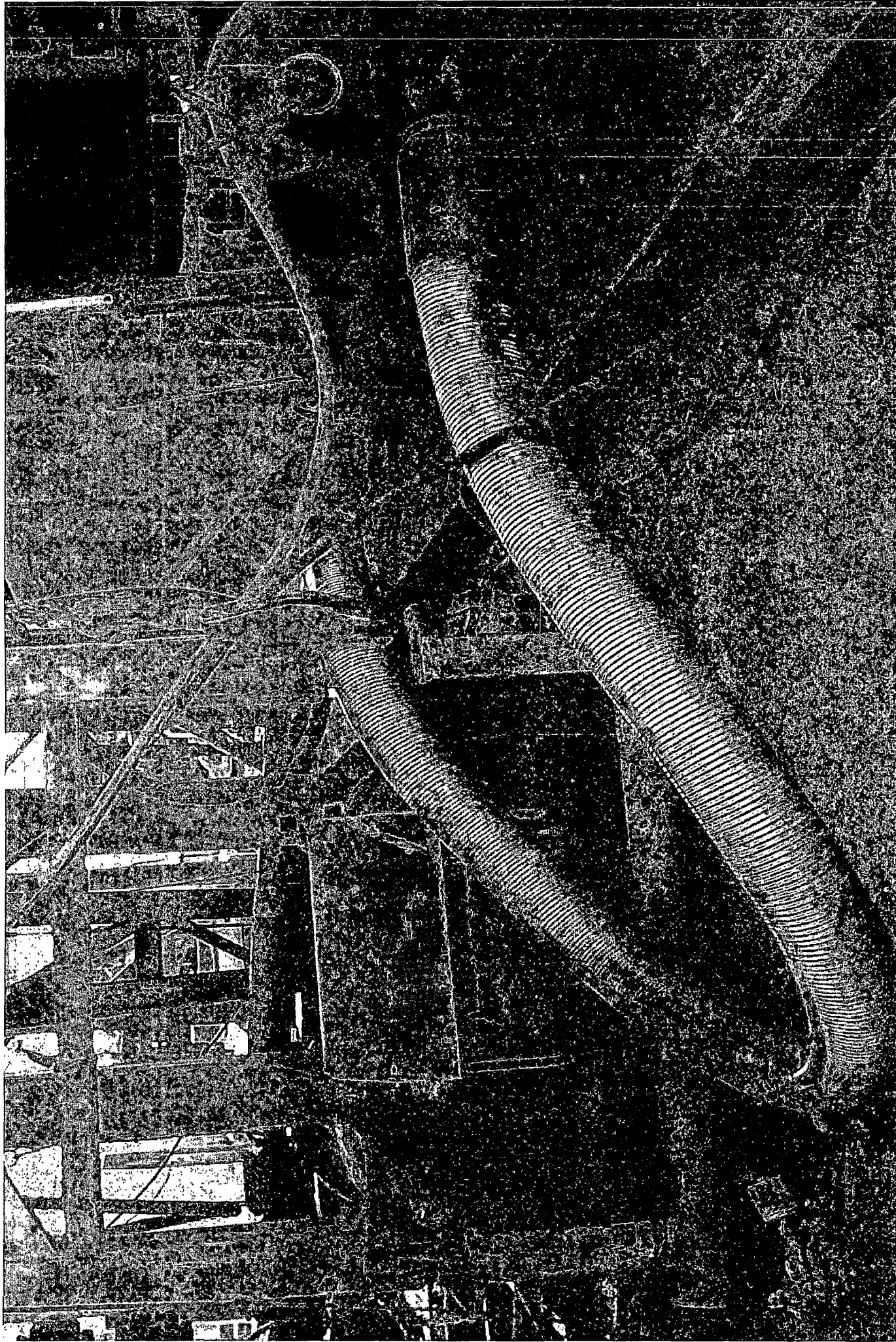
Closure Plan

During drilling operations, all liquids, drilling fluids, and cuttings will be hauled off via CRI (Controlled Recovery Incorporated, Permit R-9166).



Closed Loop with Drying Auger and Dewatering System





Cactus Rig 115
Serial # 63270

MIDWEST
HOSE AND SPECIALTY INC.

INTERNAL HYDROSTATIC TEST REPORT		
Customer: CACTUS DRILLING		P.O. Number: RIG#147
HOSE SPECIFICATIONS		
Type: CHOKER & KILL		Length: 35'
I.D. 4" INCHES		O.D. 8"
WORKING PRESSURE 10,000 PSI	TEST PRESSURE 15,000	BURST PRESSURE
COUPLINGS		
Stem Part No. E4.0X64WB		Ferrule No. FERRULE-128
Type of Coupling: 4-1/16 10K FLANGE(BX-155)		Die Size:
PROCEDURE		
<i>Hose assembly pressure tested with water at ambient temperature.</i>		
TIME HELD AT TEST PRESSURE 15 MIN.		ACTUAL BURST PRESSURE: 0 PSI
COMMENTS: SERIAL#63270		
Date: 7/14/2010	Tested By: BOBBY FINK	Approved: BRENT BURNETT

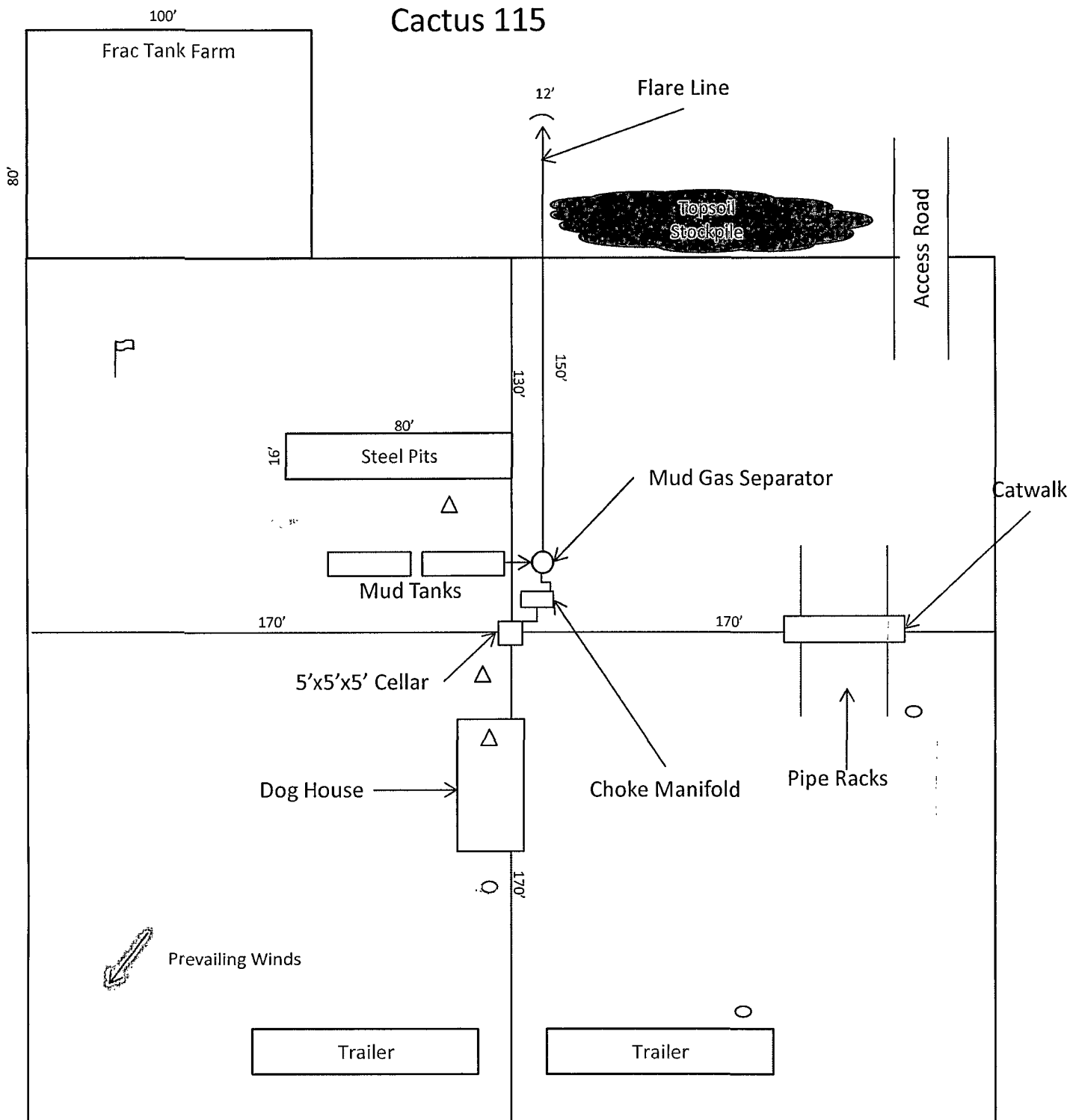


Midwest Hose
& Specialty, Inc.

Specification Sheet Choke & Kill Hose

The Midwest Hose & Specialty Choke & Kill hose is manufactured with only premium components. The reinforcement cables, inner liner and cover are made of the highest quality material to handle the tough drilling applications of today's industry. The end connections are available with API flanges, API male threads, hubs, hammer unions or other special fittings upon request. Hose assembly is manufactured to API 7K. This assembly is wrapped with fire resistant vermiculite coated fiberglass insulation, rated at 2000 degrees with stainless steel armor cover.

Working Pressure:	5,000 or 10,000 psi working pressure
Test Pressure:	10,000 or 15,000 psi test pressure
Reinforcement:	Multiple steel cables
Cover:	Stainless Steel Armor
Inner Tube:	Petroleum resistant, Abrasion resistant
End Fitting:	API flanges, API male threads, threaded or butt weld hammer unions, unbolt and other special connections
Maximum Length:	110 Feet
ID:	2-1/2", 3", 3-1/2", 4"
Operating Temperature:	-22 deg F to +180 deg F (-30 deg C to +82 deg C)



Wind Direction Indicators
(wind sock or streamers)



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



Briefing Areas

Exhibit D – Rig Diagram
Dos Equis 12 Federal Com 2
 Cimarex Energy Co. of Colorado
 12-245-32E
 SHL 330 FNL & 1980 FEL
 BHL 330 FSL & 1980 FEL
 Lea County, NM

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