Application to Drill
Diamante 21 Federal No. 3
Cimarex Energy Co. of Colorado
Unit P, Section 21
T19S-R33E, Lea County, NM

HOBBS OCD
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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 & 330 FEL
BHL 660 FSL & 330 FWL

2 Elevation above sea level: 3608' GR

3 Geologic name of surface formation: Quaternery 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 14611, TVD 10100 Pilot Hole 10200

6 Estimated tops of geological markers:

Rustler	1272'
T Salt	1400'
B Salt	2980'
Yates	3138'
Queen	4147'
Delaware SS	5300'
Bone Spring	7770'
1BSS	8920'
2BSS	9650'

7 Possible mineral bearing formation:

Delaware	Oil
Bone Spring	Oil

8 Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to ~~1360'~~ 1415	8.4 - 8.6	28	NC	FW
~~1360'~~ to 5200'	10.0	30-32	NC	Brine water
5200' to 14611'	8.4 - 9.5	30-32	NC	FW, 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.

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8a Drilling Plan

Drill 8¾" hole to pilot hole depth of 10200 and log. Set 275 sx Class H cement plug from 9755-10200. Dress off and drill through cement to KOP @ 9815 and drill to TD @ 14611 MD, 10100 TVD. Run 5½" 17# P110 from 0-14611. Use LTC from 0-9755 (60' above KOP), BTC from 9755-10263 (EOC), and LTC from 10263-14611.

9 Casing & Cementing Program:

String	Hole Size	Depth			Casing OD		Weight	Collar	Grade
See COA **Surface**	17½"	0'	to	~~1360'~~ 1415	New	13⅜"	48#	STC	H-40
Intermediate	12¼"	0'	to	5200'	New	9⅝"	40#	LTC	N-80
Production	8¾"	0'	to	14611'	New	5½"	17#	LTC	P-110

10 Cementing: See COA

Surface Lead: 921 sx Halcem C + 4% Bentomite + 2% CaCl, 13.5 ppg, 1.75 yield 100% Excess
Tail: 235 sx Halcem C + 2% CaCl, 14.2ppg, 1.34 yield, 100% Excess
TOC Surface **Centralizers per Onshore Order 2.III.B.1.f**

Intermediate Lead: 1780 sx EconoCem + 5% salt + 5 lbm gilsonite, 14.6 ppg, 1.54 yield, 70% Excess
Tail: 200 sx HalCem + 1% CaCl, 14.8 ppg, 1.34 yield, 25% Excess
TOC Surface

Production Lead: 895 sx EconoCem - H + 0.2 % HR-601 2.44 11.9ppg 2.44 yield 50% Excess
Tail: 1310 sx Versacem - H + 0.5% Halad(R)-344 + 0.4% CFR-3 + 1 lbm/sk salt + 0.1% HR-601 14.5ppg
1.22 yield 25% Excess
TOC 4700' **Centralizers every 3rd joint in lateral to provide adequate cement coverage every 100' unless lateral doglegs require greater spacing between centralizers.**

According to the state engineer, depth to ground water is 117. Fresh water zones will be protected by setting 13⅜" casing at ~~1360~~ 1415 and cementing to surface. Hydrocarbon zones will be protected by setting 9⅝" casing at 5200 and cementing to surface, and by setting 5½" casing at 14611 and cementing to ~~5200~~ 4700.

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

11 Pressure control Equipment:

Exhibit "E". A 13⅜" 5000 PSI working pressure B.O.P. tested to 3000 PSI 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 6000.' 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 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. From the base of the surface pipe through the running of production casing, the well will be equipped with a 5000 psi BOP system tested to 3000 psi.

BOPS will be tested by an independent service company to 250 psi low and 3000 psi high. Hydril will be tested to 250 psi low and 1500 psi 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)

12 Testing, Logging and Coring Program: See COA

A. Mud logging program: 2 man unit from 5200 to TD
B. Electric logging program: CNL / LDT / CAL / GR, DLL / CAL / GR
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 **3000 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 potentialed as **an oil well.**

Cimarex Energy Co.

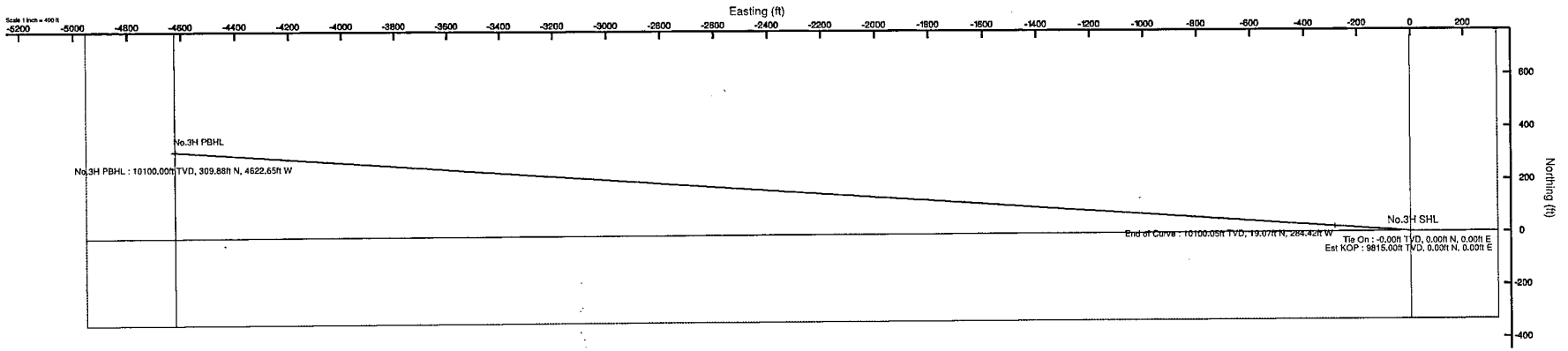
Location: Lea County, NM
Field: (Diamante) Sec 21, T19S, R33E
Facility: Diamante 21 Federa lNo.3H

Slot: No.3H SHL
Well: No.3H
Wellbore: No.3H PWB

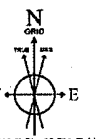
BAKER HUGHES INTEQ

Well Profile Data

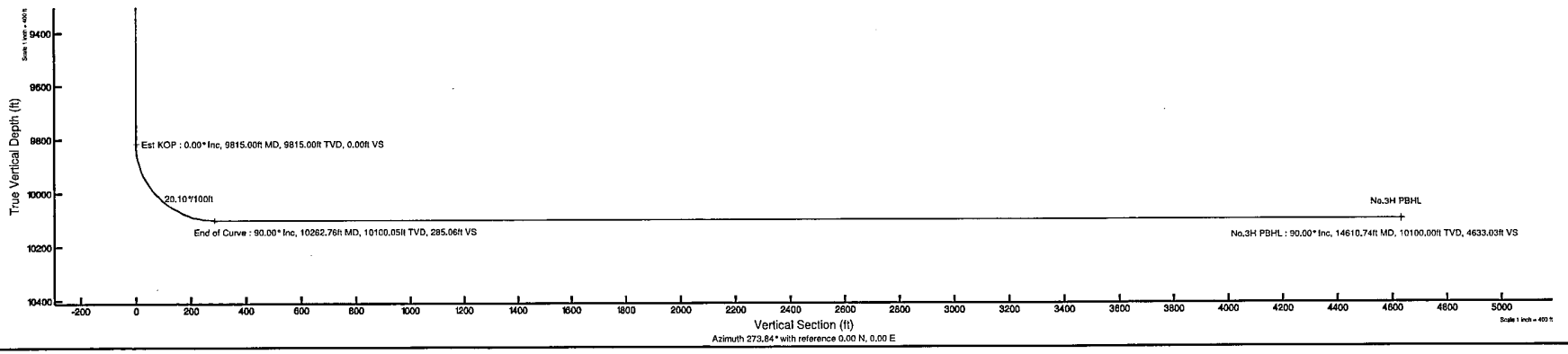
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	0.00	0.000	273.835	0.00	0.00	0.00	0.00	0.00
Est KOP	9815.00	0.000	273.835	9815.00	0.00	0.00	0.00	0.00
End of Curve	10262.76	90.001	273.835	10100.05	19.07	-284.42	20.10	285.06
No.3H PBHL	14610.74	90.001	273.835	10100.00	309.88	-4622.65	0.00	4633.03



Plot reference wellpath is Prelim_1	
True vertical depths are referenced to Rig on No.3H SHL (RT)	Grid System: NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No.3H SHL (RT)	North Reference: Grid north
Rig on No.3H SHL (RT) to Mean Sea Level: 3608 feet	Scale: True distance
Mean Sea Level to Mud line (Facility: Diamante 21 Federa lNo.3H): -3608 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: gomeoscr on 1/18/2011



BGGM (1945.0 to 2012.0) Dip: 60.58° Field: 48934.7 nT
Magnetic North is 7.76 degrees East of True North (at 1/18/2011)
Grid North is 0.36 degrees East of True North
To correct azimuth from True to Grid subtract 0.36 degrees
To correct azimuth from Magnetic to Grid add 7.40 degrees
For example: if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.40 = 97.40



Planned Wellpath Report

Prelim_1

BAKER HUGHES
INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Cimarex Energy Co.**	Slot	**No.3H SHL**
Area	**Lea County, NM**	Well	**No.3H**
Field	**(Diamante) Sec 21, T19S, R33E**	Wellbore	**No.3H PWB**
Facility	**Diamante 21 Federa lNo.3H**		

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	**Gomeoscr**
Scale	**0.999958**	Report Generated	**1/18/2011** at **3:40:25 PM**
Convergence at slot	**0.36° East**	Database/Source file	**WA Midland/No.3H_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**	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W
Facility Reference Pt			**748410.40**	**596996.50**	32°38'21.803"N	103°39'38.257"W
Field Reference Pt			**748404.60**	**598645.90**	32°38'38.123"N	103°39'38.202"W

WELLPATH DATUM			
Calculation method	**Minimum curvature**	Rig on No.3H SHL (RT) to Facility Vertical Datum	**0.00ft**
Horizontal Reference Pt	**Slot**	Rig on No.3H SHL (RT) to Mean Sea Level	**3608.00ft**
Vertical Reference Pt	**Rig on No.3H SHL (RT)**	Facility Vertical Datum to Mud Line (Facility)	**0.00ft**
MD Reference Pt	**Rig on No.3H SHL (RT)**	Section Origin	**N 0.00, E 0.00 ft**
Field Vertical Reference	**Mean Sea Level**	Section Azimuth	**273.84°**

CIMAREX

Planned Wellpath Report

Prelim_1

BAKER HUGHES
INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.3H SHL
Area	Lea County, NM	Well	No.3H
Field	(Diamante) Sec 21, T19S, R33E	Wellbore	No.3H PWB
Facility	Diamante 21 Federa lNo.3H		

WELLPATH DATA (150 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]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	273.835	0.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	Tie On
100.00†	0.000	273.835	100.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
200.00†	0.000	273.835	200.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
300.00†	0.000	273.835	300.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
400.00†	0.000	273.835	400.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
500.00†	0.000	273.835	500.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
600.00†	0.000	273.835	600.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
700.00†	0.000	273.835	700.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
800.00†	0.000	273.835	800.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
900.00†	0.000	273.835	900.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
1000.00†	0.000	273.835	1000.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
1100.00†	0.000	273.835	1100.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
1200.00†	0.000	273.835	1200.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
1300.00†	0.000	273.835	1300.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
1400.00†	0.000	273.835	1400.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
1500.00†	0.000	273.835	1500.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
1600.00†	0.000	273.835	1600.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
1700.00†	0.000	273.835	1700.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
1800.00†	0.000	273.835	1800.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
1900.00†	0.000	273.835	1900.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
2000.00†	0.000	273.835	2000.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
2100.00†	0.000	273.835	2100.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
2200.00†	0.000	273.835	2200.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
2300.00†	0.000	273.835	2300.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
2400.00†	0.000	273.835	2400.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
2500.00†	0.000	273.835	2500.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
2600.00†	0.000	273.835	2600.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
2700.00†	0.000	273.835	2700.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
2800.00†	0.000	273.835	2800.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
2900.00†	0.000	273.835	2900.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
3000.00†	0.000	273.835	3000.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
3100.00†	0.000	273.835	3100.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
3200.00†	0.000	273.835	3200.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
3300.00†	0.000	273.835	3300.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
3400.00†	0.000	273.835	3400.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
3500.00†	0.000	273.835	3500.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
3600.00†	0.000	273.835	3600.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
3700.00†	0.000	273.835	3700.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
3800.00†	0.000	273.835	3800.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
3900.00†	0.000	273.835	3900.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
4000.00†	0.000	273.835	4000.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
4100.00†	0.000	273.835	4100.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
4200.00†	0.000	273.835	4200.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
4300.00†	0.000	273.835	4300.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
4400.00†	0.000	273.835	4400.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Cimarex Energy Co.**	Slot	**No.3H SHL**
Area	**Lea County, NM**	Well	**No.3H**
Field	**(Diamante) Sec 21, T19S, R33E**	Wellbore	**No.3H PWB**
Facility	**Diamante 21 Federa lNo.3H**		

WELLPATH DATA (150 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]	Latitude	Longitude	DLS [°/100ft]	Comments
4500.00†	0.000	273.835	4500.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
4600.00†	0.000	273.835	4600.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
4700.00†	0.000	273.835	4700.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
4800.00†	0.000	273.835	4800.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
4900.00†	0.000	273.835	4900.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
5000.00†	0.000	273.835	5000.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
5100.00†	0.000	273.835	5100.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
5200.00†	0.000	273.835	5200.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
5300.00†	0.000	273.835	5300.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
5400.00†	0.000	273.835	5400.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
5500.00†	0.000	273.835	5500.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
5600.00†	0.000	273.835	5600.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
5700.00†	0.000	273.835	5700.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
5800.00†	0.000	273.835	5800.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
5900.00†	0.000	273.835	5900.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
6000.00†	0.000	273.835	6000.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
6100.00†	0.000	273.835	6100.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
6200.00†	0.000	273.835	6200.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
6300.00†	0.000	273.835	6300.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
6400.00†	0.000	273.835	6400.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
6500.00†	0.000	273.835	6500.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
6600.00†	0.000	273.835	6600.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
6700.00†	0.000	273.835	6700.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
6800.00†	0.000	273.835	6800.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
6900.00†	0.000	273.835	6900.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
7000.00†	0.000	273.835	7000.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
7100.00†	0.000	273.835	7100.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
7200.00†	0.000	273.835	7200.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
7300.00†	0.000	273.835	7300.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
7400.00†	0.000	273.835	7400.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
7500.00†	0.000	273.835	7500.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
7600.00†	0.000	273.835	7600.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
7700.00†	0.000	273.835	7700.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
7800.00†	0.000	273.835	7800.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
7900.00†	0.000	273.835	7900.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
8000.00†	0.000	273.835	8000.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
8100.00†	0.000	273.835	8100.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
8200.00†	0.000	273.835	8200.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
8300.00†	0.000	273.835	8300.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
8400.00†	0.000	273.835	8400.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
8500.00†	0.000	273.835	8500.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
8600.00†	0.000	273.835	8600.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
8700.00†	0.000	273.835	8700.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
8800.00†	0.000	273.835	8800.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
8900.00†	0.000	273.835	8900.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.3H SHL
Area	Lea County, NM	Well	No.3H
Field	(Diamante) Sec 21, T19S, R33E	Wellbore	No.3H PWB
Facility	Diamante 21 Federa lNo.3H		

WELLPATH DATA (150 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]	Latitude	Longitude	DLS [°/100ft]	Comments
9000.00†	0.000	273.835	9000.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
9100.00†	0.000	273.835	9100.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
9200.00†	0.000	273.835	9200.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
9300.00†	0.000	273.835	9300.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
9400.00†	0.000	273.835	9400.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
9500.00†	0.000	273.835	9500.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
9600.00†	0.000	273.835	9600.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
9700.00†	0.000	273.835	9700.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
9800.00†	0.000	273.835	9800.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	
9815.00	0.000	273.835	9815.00	0.00	0.00	0.00	748410.40	596996.50	32°38'21.803"N	103°39'38.257"W	0.00	Est KOP
9900.00†	17.085	273.835	9898.75	12.58	0.84	-12.55	748397.85	596997.34	32°38'21.812"N	103°39'38.403"W	20.10	
10000.00†	37.185	273.835	9987.28	57.95	3.88	-57.82	748352.58	597000.38	32°38'21.845"N	103°39'38.933"W	20.10	
10100.00†	57.285	273.835	10054.84	130.99	8.76	-130.70	748279.71	597005.26	32°38'21.898"N	103°39'39.784"W	20.10	
10200.00†	77.385	273.835	10093.17	222.80	14.90	-222.30	748188.11	597011.40	32°38'21.964"N	103°39'40.855"W	20.10	
10262.76	90.001	273.835	10100.05	285.06	19.07	-284.42	748125.99	597015.57	32°38'22.009"N	103°39'41.581"W	20.10	End of Curve
10300.00†	90.001	273.835	10100.05	322.29	21.56	-321.57	748088.84	597018.06	32°38'22.036"N	103°39'42.016"W	0.00	
10400.00†	90.001	273.835	10100.05	422.29	28.25	-421.35	747989.07	597024.74	32°38'22.109"N	103°39'43.182"W	0.00	
10500.00†	90.001	273.835	10100.05	522.29	34.93	-521.12	747889.30	597031.43	32°38'22.181"N	103°39'44.348"W	0.00	
10600.00†	90.001	273.835	10100.05	622.29	41.62	-620.90	747789.53	597038.12	32°38'22.253"N	103°39'45.514"W	0.00	
10700.00†	90.001	273.835	10100.05	722.29	48.31	-720.67	747689.76	597044.81	32°38'22.326"N	103°39'46.681"W	0.00	
10800.00†	90.001	273.835	10100.05	822.29	55.00	-820.45	747589.98	597051.50	32°38'22.398"N	103°39'47.847"W	0.00	
10900.00†	90.001	273.835	10100.05	922.29	61.69	-920.23	747490.21	597058.19	32°38'22.471"N	103°39'49.013"W	0.00	
11000.00†	90.001	273.835	10100.04	1022.29	68.38	-1020.00	747390.44	597064.87	32°38'22.543"N	103°39'50.180"W	0.00	
11100.00†	90.001	273.835	10100.04	1122.29	75.07	-1119.78	747290.67	597071.56	32°38'22.615"N	103°39'51.346"W	0.00	
11200.00†	90.001	273.835	10100.04	1222.29	81.75	-1219.56	747190.90	597078.25	32°38'22.688"N	103°39'52.512"W	0.00	
11300.00†	90.001	273.835	10100.04	1322.29	88.44	-1319.33	747091.13	597084.94	32°38'22.760"N	103°39'53.678"W	0.00	
11400.00†	90.001	273.835	10100.04	1422.29	95.13	-1419.11	746991.35	597091.63	32°38'22.833"N	103°39'54.845"W	0.00	
11500.00†	90.001	273.835	10100.04	1522.29	101.82	-1518.88	746891.58	597098.32	32°38'22.905"N	103°39'56.011"W	0.00	
11600.00†	90.001	273.835	10100.04	1622.29	108.51	-1618.66	746791.81	597105.00	32°38'22.977"N	103°39'57.177"W	0.00	
11700.00†	90.001	273.835	10100.04	1722.29	115.20	-1718.44	746692.04	597111.69	32°38'23.050"N	103°39'58.344"W	0.00	
11800.00†	90.001	273.835	10100.03	1822.29	121.89	-1818.21	746592.27	597118.38	32°38'23.122"N	103°39'59.510"W	0.00	
11900.00†	90.001	273.835	10100.03	1922.29	128.57	-1917.99	746492.50	597125.07	32°38'23.194"N	103°40'00.676"W	0.00	
12000.00†	90.001	273.835	10100.03	2022.29	135.26	-2017.76	746392.72	597131.76	32°38'23.267"N	103°40'01.842"W	0.00	
12100.00†	90.001	273.835	10100.03	2122.29	141.95	-2117.54	746292.95	597138.44	32°38'23.339"N	103°40'03.009"W	0.00	
12200.00†	90.001	273.835	10100.03	2222.29	148.64	-2217.32	746193.18	597145.13	32°38'23.412"N	103°40'04.175"W	0.00	
12300.00†	90.001	273.835	10100.03	2322.29	155.33	-2317.09	746093.41	597151.82	32°38'23.484"N	103°40'05.341"W	0.00	
12400.00†	90.001	273.835	10100.03	2422.29	162.02	-2416.87	745993.64	597158.51	32°38'23.556"N	103°40'06.508"W	0.00	
12500.00†	90.001	273.835	10100.03	2522.29	168.71	-2516.64	745893.87	597165.20	32°38'23.629"N	103°40'07.674"W	0.00	
12600.00†	90.001	273.835	10100.02	2622.29	175.39	-2616.42	745794.09	597171.89	32°38'23.701"N	103°40'08.840"W	0.00	
12700.00†	90.001	273.835	10100.02	2722.29	182.08	-2716.20	745694.32	597178.57	32°38'23.773"N	103°40'10.006"W	0.00	
12800.00†	90.001	273.835	10100.02	2822.29	188.77	-2815.97	745594.55	597185.26	32°38'23.846"N	103°40'11.173"W	0.00	
12900.00†	90.001	273.835	10100.02	2922.29	195.46	-2915.75	745494.78	597191.95	32°38'23.918"N	103°40'12.339"W	0.00	
13000.00†	90.001	273.835	10100.02	3022.29	202.15	-3015.52	745395.01	597198.64	32°38'23.990"N	103°40'13.505"W	0.00	
13100.00†	90.001	273.835	10100.02	3122.29	208.84	-3115.30	745295.24	597205.33	32°38'24.063"N	103°40'14.672"W	0.00	
13200.00†	90.001	273.835	10100.02	3222.29	215.53	-3215.08	745195.46	597212.02	32°38'24.135"N	103°40'15.838"W	0.00	

Planned Wellpath Report

Prelim_1

BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.3H SHL
Area	Lea County, NM	Well	No.3H
Field	(Diamante) Sec 21, T19S, R33E	Wellbore	No.3H PWB
Facility	Diamante 21 Federa lNo.3H		

WELLPATH DATA (150 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]	Latitude	Longitude	DLS [°/100ft]	Comments
13300.00†	90.001	273.835	10100.02	3322.29	222.21	-3314.85	745095.69	597218.70	32°38'24.207"N	103°40'17.004"W	0.00	
13400.00†	90.001	273.835	10100.01	3422.29	228.90	-3414.63	744995.92	597225.39	32°38'24.280"N	103°40'18.171"W	0.00	
13500.00†	90.001	273.835	10100.01	3522.29	235.59	-3514.40	744896.15	597232.08	32°38'24.352"N	103°40'19.337"W	0.00	
13600.00†	90.001	273.835	10100.01	3622.29	242.28	-3614.18	744796.38	597238.77	32°38'24.424"N	103°40'20.503"W	0.00	
13700.00†	90.001	273.835	10100.01	3722.29	248.97	-3713.96	744696.61	597245.46	32°38'24.497"N	103°40'21.669"W	0.00	
13800.00†	90.001	273.835	10100.01	3822.29	255.66	-3813.73	744596.83	597252.15	32°38'24.569"N	103°40'22.836"W	0.00	
13900.00†	90.001	273.835	10100.01	3922.29	262.35	-3913.51	744497.06	597258.83	32°38'24.641"N	103°40'24.002"W	0.00	
14000.00†	90.001	273.835	10100.01	4022.29	269.03	-4013.29	744397.29	597265.52	32°38'24.714"N	103°40'25.168"W	0.00	
14100.00†	90.001	273.835	10100.01	4122.29	275.72	-4113.06	744297.52	597272.21	32°38'24.786"N	103°40'26.335"W	0.00	
14200.00†	90.001	273.835	10100.01	4222.29	282.41	-4212.84	744197.75	597278.90	32°38'24.858"N	103°40'27.501"W	0.00	
14300.00†	90.001	273.835	10100.00	4322.29	289.10	-4312.61	744097.98	597285.59	32°38'24.931"N	103°40'28.667"W	0.00	
14400.00†	90.001	273.835	10100.00	4422.29	295.79	-4412.39	743998.20	597292.28	32°38'25.003"N	103°40'29.834"W	0.00	
14500.00†	90.001	273.835	10100.00	4522.29	302.48	-4512.17	743898.43	597298.96	32°38'25.075"N	103°40'31.000"W	0.00	
14600.00†	90.001	273.835	10100.00	4622.29	309.17	-4611.94	743798.66	597305.65	32°38'25.147"N	103°40'32.166"W	0.00	
14610.74	90.001	273.835	10100.00[1]	4633.03	309.88	-4622.65	743787.95	597306.37	32°38'25.155"N	103°40'32.291"W	0.00	No.3H PBHL

HOLE & CASING SECTIONS Ref Wellbore: No.3H 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]
9.625in Casing	0.00	4956.00	4956.00	0.00	4956.00	0.00	0.00	0.00	0.00
8.75in Open Hole	4956.00	14610.74	9654.74	4956.00	NA	0.00	0.00	NA	NA

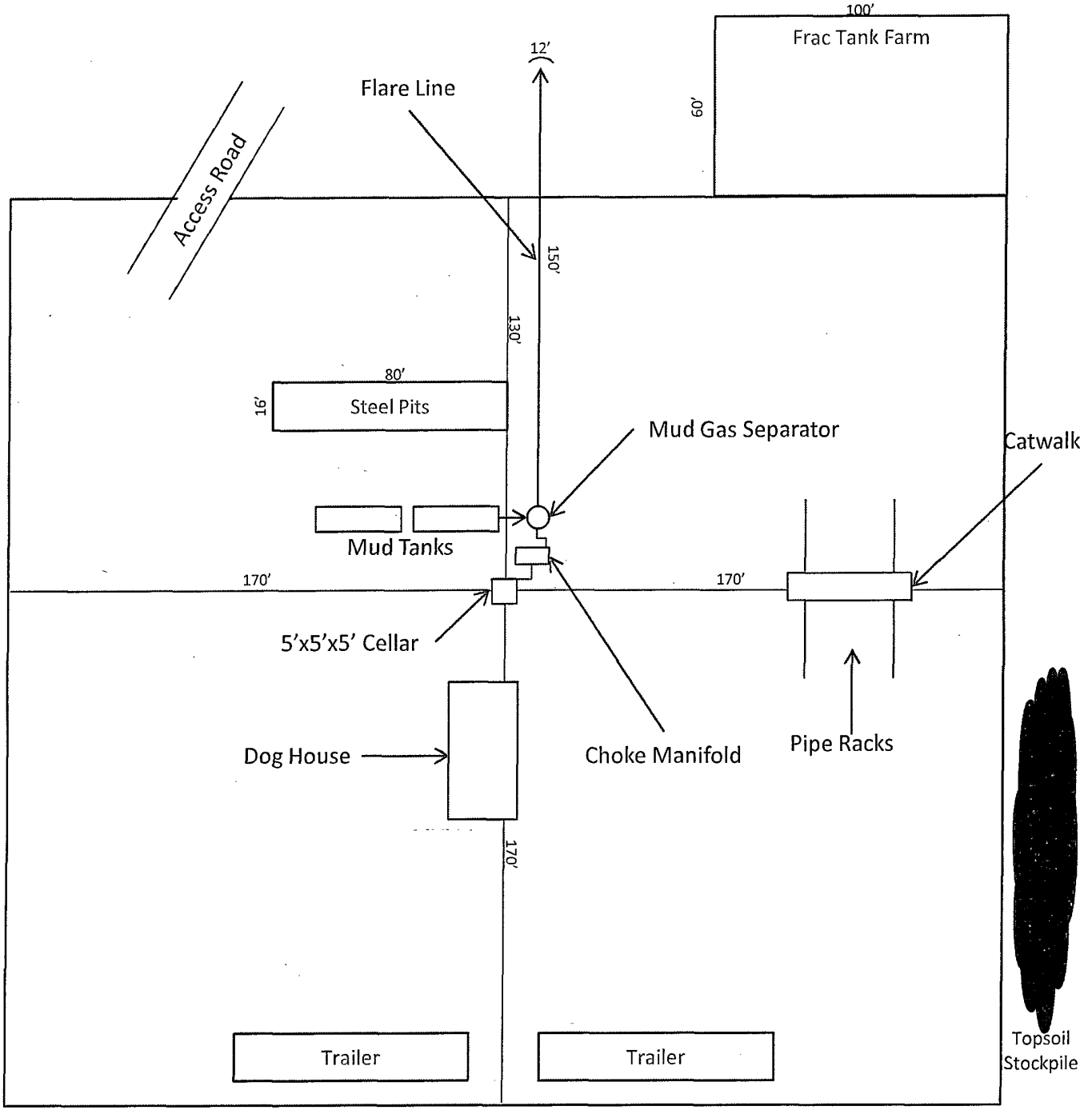
TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No.3H PBHL	14610.74	10100.00	309.88	-4622.65	**743787.95**	**597306.37**	32°38'25.155"N	103°40'32.291"W	point

SURVEY PROGRAM Ref Wellbore: No.3H PWB Ref Wellpath: Prelim_1

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	14610.74	NaviTrak (Standard)		No.3H PWB

Cactus 115



N

1"=50'

Exhibit D – Rig Diagram
Diamante 21 Federal No. 3
Cimarex Energy Co. of Colorado
21-19S-33E
SHL 330 FSL & 330 FEL
BHL 660 FSL & 330 FEL
Lea County, NM

SR & A

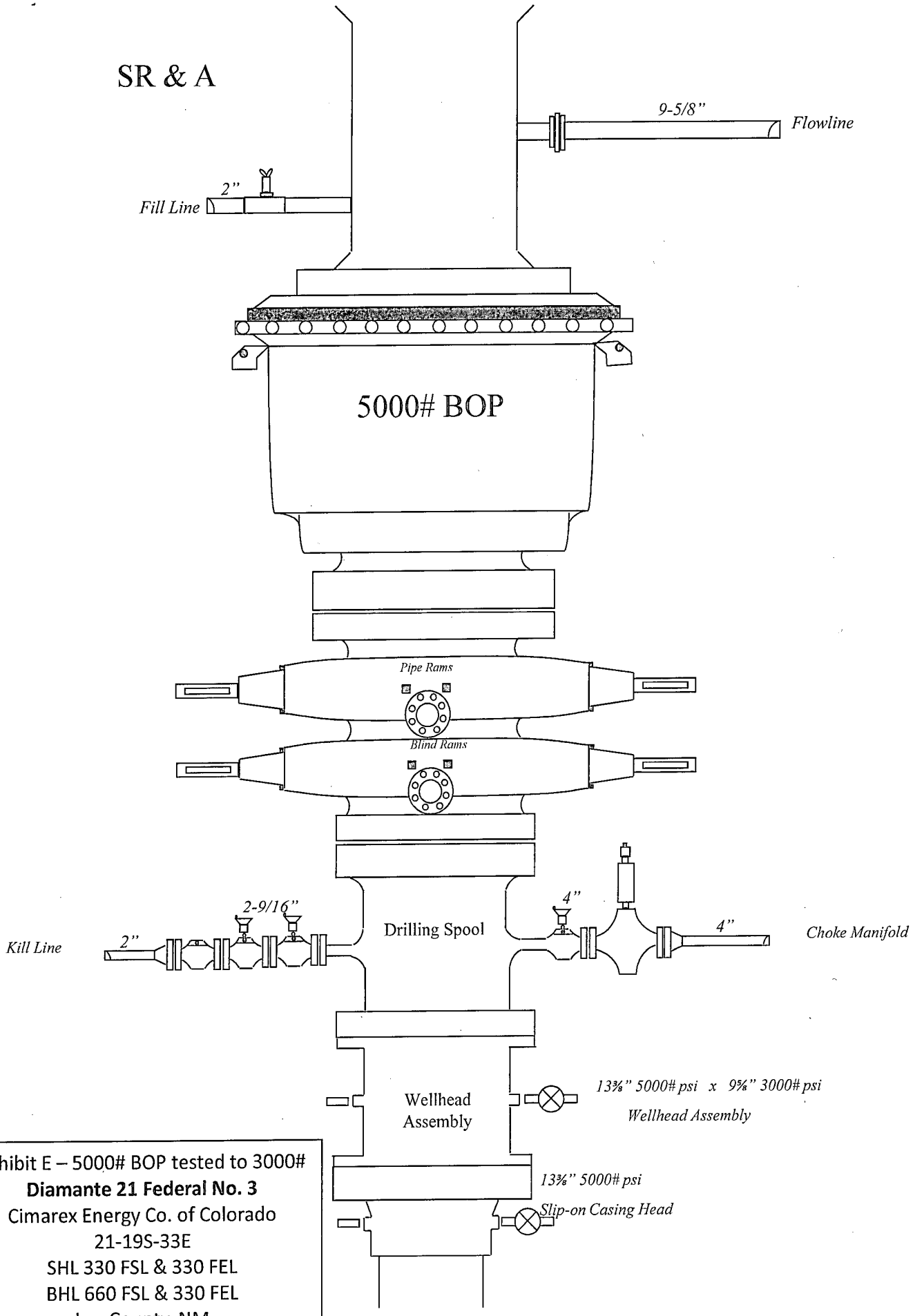
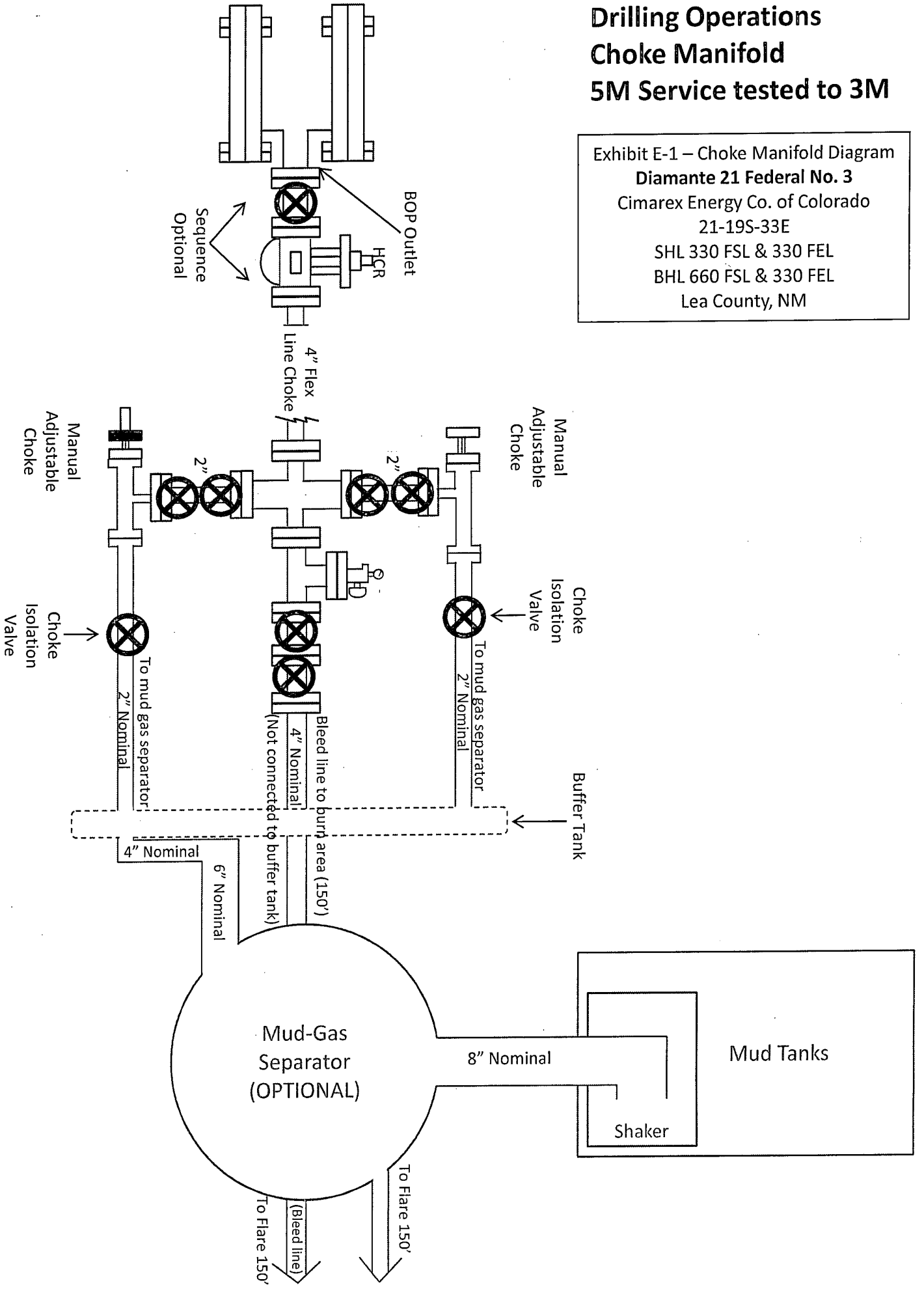
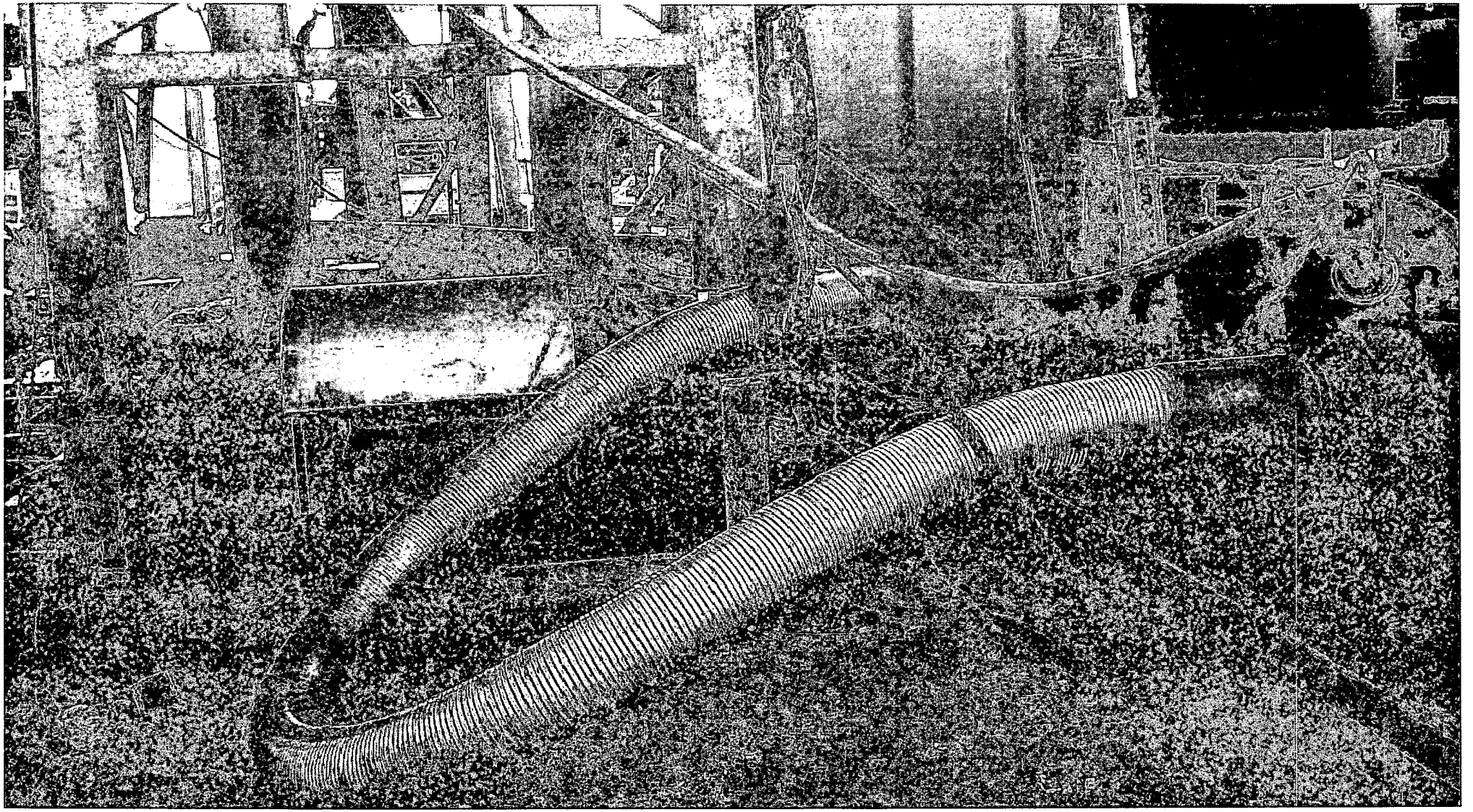


Exhibit E – 5000# BOP tested to 3000#
Diamante 21 Federal No. 3
Cimarex Energy Co. of Colorado
21-19S-33E
SHL 330 FSL & 330 FEL
BHL 660 FSL & 330 FEL
Lea County, NM

Drilling Operations
Choke Manifold
5M Service tested to 3M

Exhibit E-1 – Choke Manifold Diagram
Diamante 21 Federal No. 3
Cimarex Energy Co. of Colorado
21-19S-33E
SHL 330 FSL & 330 FEL
BHL 660 FSL & 330 FEL
Lea County, NM





Cactus Rig 115
Serial # 63270

MIDWEST

HOSE AND SPECIALTY INC.

INTERNAL HYDROSTATIC TEST REPORT

Customer:	P.O. Number:
CACTUS DRILLING	RIG#147

HOSE SPECIFICATIONS

Type:	CHOKE & KILL		Length:	35'
I.D.	4" *INCHES*		O.D.	8"

WORKING PRESSURE	TEST PRESSURE	BURST PRESSURE
10,000 *PSI*	15,000	

COUPLINGS

Stem Part No.	Ferrule No.
E4.0X64WB	FERRULE-128
Type of Coupling: 4-1/16 10K FLANGE(BX-155)	**Die Size:**

PROCEDURE

Hose assembly pressure tested with water at ambient temperature.

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

COMMENTS:
SERIAL#63270

Date:	Tested By:	Approved:
7/14/2010	BOBBY FINK	BRENT BURNETT

Midwest Hose
& Specialty, Inc.

Specification Sheet
Choke & Kill Hose

The Midwest Hose & Specialty Choke & Kill hose is manufactured with only premium componets.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 vermculite 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, unibolt 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)

P.O. Box 96558 – 1421 S.E. 29th St. Oklahoma City, OK 73143 * (405) 670-6718 * Fax: (405) 670-6816