

Application to Drill
Diamante 21 Federal No. 2
Cimarex Energy Co. of Colorado
Unit I, Section 21
T19S-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 1980 FSL & 330 FEL
BHL 1980 FSL & 330 FWL
- 2 Elevation above sea level: 3619' 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 14610, TVD 10100 Pilot Hole 10400
- 6 Estimated tops of geological markers:
- | | |
|-------------|-------|
| Rustler | 1272' |
| T Salt | 1300' |
| 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 1440'	8.4 - 8.6	28	NC	FW
1440' to 5200'	10.0	30-32	NC	Brine water
5200' to 14610'	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 8 3/4" hole to pilot hole depth of 10400 and log. Set 275 sx Class H cement plug from 9780-10400. Dress off and drill through cement to KOP @ 9840 and drill to TD @ 14610 MD, 10100 TVD. Run 5 1/2" 17# P110 from 0-14610. Use LTC from 0-9740, BTC from 9740-10249, and LTC from 10249-14610.

9 Casing & Cementing Program:

String	Hole Size	Depth	Casing OD	Weight	Collar	Grade
Surface	17 1/2"	0' to 1440'	New 13 3/8"	48#	STC	H-40
Intermediate	12 1/4"	0' to 5200'	New 9 5/8"	40#	LTC	N-80
Production	8 3/4"	0' to 14610'	New 5 1/2"	17#	LTC	P-110

10 Cementing:

See CGA

Surface

Lead: 984 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

Intermediate

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

TOC Surface

Production

Lead: 895SKS EconoCem - H + 0.2 % HR-601 2.44 11.9ppg 2.44 yield 50% Excess
 Tail: 1310SKS 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'

According to the state engineer, depth to ground water is 117. Fresh water zones will be protected by setting 13 3/8" casing at 1440 and cementing to surface. Hydrocarbon zones will be protected by setting 9 5/8" casing at 5200 and cementing to surface, and by setting 5 1/2" casing at 14610 and cementing to 5200.

4700

<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. 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.

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. 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

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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 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 **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 potentialized as **an oil well.**



Cimarex Energy Co.

Location: Lea County, NM
Field: (Diamante) Sec 21, T19S, R33E
Facility: Diamante 21 Federal No.2H

Slot: No.2H SHL
Well: 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	269.754	0.00	0.00	0.00	0.00	0.00
Est KOP	9840.00	0.000	269.754	9840.00	0.00	0.00	0.00	0.00
End of Curve	10248.54	90.001	269.754	10100.08	-1.12	-260.08	22.03	260.09
No.2H PBHL	14610.34	90.001	269.754	10100.00	-19.82	-4621.84	0.00	4621.88

Plot reference wellpath is Prelim. 1

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

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

Rig on No.2H SHL (RT) to Mean Sea Level: 3619 feet

Mean Sea Level to Mud line (Facility: Diamante 21 Federal No.2H): -3619 feet

Coordinates are in feet referenced to Slot

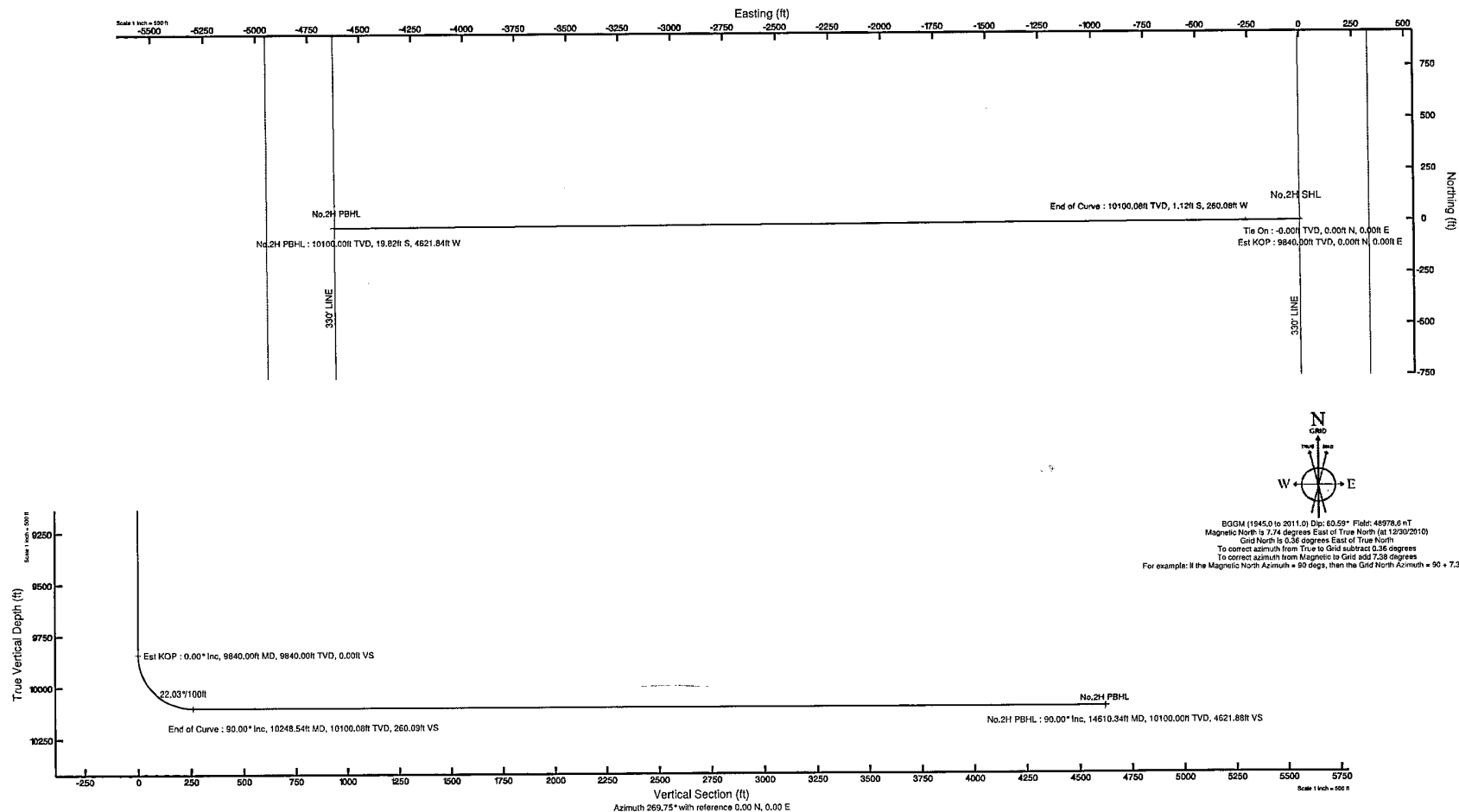
Grid System: NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet

North Reference: Grid north

Scale: True distance

Depths are in feet

Created by: gomeoscr on 12/30/2010





Planned Wellpath Report

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.2H SHL
Area	Lea County, NM	Well	No.2H
Field	(Diamante) Sec 21, T19S, R33E	Wellbore	No.2H PWB
Facility	Diamante 21 Federal No.2H		

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	12/30/2010 at 8:46:05 AM
Convergence at slot	0.36° East	Database/Source file	WA Midland/No.2H_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	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W
Facility Reference Pt			748404.60	598645.90	32°38'38.123"N	103°39'38.202"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.2H SHL (RT) to Facility Vertical Datum	0.00ft
Horizontal Reference Pt	Slot	Rig on No.2H SHL (RT) to Mean Sea Level	3619.00ft
Vertical Reference Pt	Rig on No.2H SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No.2H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	269.75°



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RECEIVED

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Field	(Diamante) Sec 21, T19S, R33E	Wellbore	No.2H PWB
Facility	Diamante 21 Federal No.2H		

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	269.754	0.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	Tie On
100.00†	0.000	269.754	100.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
200.00†	0.000	269.754	200.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
300.00†	0.000	269.754	300.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
400.00†	0.000	269.754	400.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
500.00†	0.000	269.754	500.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
600.00†	0.000	269.754	600.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
700.00†	0.000	269.754	700.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
800.00†	0.000	269.754	800.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
900.00†	0.000	269.754	900.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
1000.00†	0.000	269.754	1000.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
1100.00†	0.000	269.754	1100.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
1200.00†	0.000	269.754	1200.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
1300.00†	0.000	269.754	1300.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
1400.00†	0.000	269.754	1400.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
1500.00†	0.000	269.754	1500.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
1600.00†	0.000	269.754	1600.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
1700.00†	0.000	269.754	1700.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
1800.00†	0.000	269.754	1800.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
1900.00†	0.000	269.754	1900.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
2000.00†	0.000	269.754	2000.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
2100.00†	0.000	269.754	2100.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
2200.00†	0.000	269.754	2200.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
2300.00†	0.000	269.754	2300.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
2400.00†	0.000	269.754	2400.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
2500.00†	0.000	269.754	2500.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
2600.00†	0.000	269.754	2600.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
2700.00†	0.000	269.754	2700.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
2800.00†	0.000	269.754	2800.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
2900.00†	0.000	269.754	2900.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
3000.00†	0.000	269.754	3000.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
3100.00†	0.000	269.754	3100.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
3200.00†	0.000	269.754	3200.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
3300.00†	0.000	269.754	3300.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
3400.00†	0.000	269.754	3400.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
3500.00†	0.000	269.754	3500.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
3600.00†	0.000	269.754	3600.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
3700.00†	0.000	269.754	3700.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
3800.00†	0.000	269.754	3800.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
3900.00†	0.000	269.754	3900.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
4000.00†	0.000	269.754	4000.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
4100.00†	0.000	269.754	4100.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
4200.00†	0.000	269.754	4200.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
4300.00†	0.000	269.754	4300.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
4400.00†	0.000	269.754	4400.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	



Planned Wellpath Report

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.2H SHL
Area	Lea County, NM	Well	No.2H
Field	(Diamante) Sec 21, T19S, R33E	Wellbore	No.2H PWB
Facility	Diamante 21 Federal No.2H		

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	269.754	4500.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
4600.00†	0.000	269.754	4600.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
4700.00†	0.000	269.754	4700.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
4800.00†	0.000	269.754	4800.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
4900.00†	0.000	269.754	4900.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
5000.00†	0.000	269.754	5000.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
5100.00†	0.000	269.754	5100.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
5200.00†	0.000	269.754	5200.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
5300.00†	0.000	269.754	5300.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
5400.00†	0.000	269.754	5400.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
5500.00†	0.000	269.754	5500.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
5600.00†	0.000	269.754	5600.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
5700.00†	0.000	269.754	5700.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
5800.00†	0.000	269.754	5800.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
5900.00†	0.000	269.754	5900.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
6000.00†	0.000	269.754	6000.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
6100.00†	0.000	269.754	6100.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
6200.00†	0.000	269.754	6200.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
6300.00†	0.000	269.754	6300.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
6400.00†	0.000	269.754	6400.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
6500.00†	0.000	269.754	6500.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
6600.00†	0.000	269.754	6600.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
6700.00†	0.000	269.754	6700.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
6800.00†	0.000	269.754	6800.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
6900.00†	0.000	269.754	6900.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
7000.00†	0.000	269.754	7000.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
7100.00†	0.000	269.754	7100.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
7200.00†	0.000	269.754	7200.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
7300.00†	0.000	269.754	7300.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
7400.00†	0.000	269.754	7400.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
7500.00†	0.000	269.754	7500.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
7600.00†	0.000	269.754	7600.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
7700.00†	0.000	269.754	7700.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
7800.00†	0.000	269.754	7800.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
7900.00†	0.000	269.754	7900.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
8000.00†	0.000	269.754	8000.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
8100.00†	0.000	269.754	8100.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
8200.00†	0.000	269.754	8200.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
8300.00†	0.000	269.754	8300.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
8400.00†	0.000	269.754	8400.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
8500.00†	0.000	269.754	8500.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
8600.00†	0.000	269.754	8600.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
8700.00†	0.000	269.754	8700.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
8800.00†	0.000	269.754	8800.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
8900.00†	0.000	269.754	8900.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	



Planned Wellpath Report

Prelim_1
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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.2H SHL
Area	Lea County, NM	Well	No.2H
Field	(Diamante) Sec 21, T19S, R33E	Wellbore	No.2H PWB
Facility	Diamante 21 Federal No.2H		

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	269.754	9000.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
9100.00†	0.000	269.754	9100.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
9200.00†	0.000	269.754	9200.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
9300.00†	0.000	269.754	9300.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
9400.00†	0.000	269.754	9400.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
9500.00†	0.000	269.754	9500.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
9600.00†	0.000	269.754	9600.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
9700.00†	0.000	269.754	9700.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
9800.00†	0.000	269.754	9800.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	
9840.00	0.000	269.754	9840.00	0.00	0.00	0.00	748404.60	598645.90	32°38'38.123"N	103°39'38.202"W	0.00	Est KOP
9900.00†	13.218	269.754	9899.47	6.89	-0.03	-6.89	748397.71	598645.87	32°38'38.124"N	103°39'38.283"W	22.03	
10000.00†	35.248	269.754	9990.10	47.68	-0.20	-47.68	748356.92	598645.70	32°38'38.124"N	103°39'38.760"W	22.03	
10100.00†	57.278	269.754	10058.81	119.49	-0.51	-119.49	748285.12	598645.39	32°38'38.126"N	103°39'39.600"W	22.03	
10200.00†	79.308	269.754	10095.57	211.83	-0.91	-211.83	748192.78	598644.99	32°38'38.128"N	103°39'40.680"W	22.03	
10248.54	90.001	269.754	10100.08	260.09	-1.12	-260.08	748144.53	598644.78	32°38'38.129"N	103°39'41.244"W	22.03	End of Curve
10300.00†	90.001	269.754	10100.08	311.55	-1.34	-311.54	748093.07	598644.56	32°38'38.130"N	103°39'41.846"W	0.00	
10400.00†	90.001	269.754	10100.08	411.55	-1.76	-411.54	747993.07	598644.14	32°38'38.132"N	103°39'43.015"W	0.00	
10500.00†	90.001	269.754	10100.08	511.55	-2.19	-511.54	747893.08	598643.71	32°38'38.134"N	103°39'44.185"W	0.00	
10600.00†	90.001	269.754	10100.07	611.55	-2.62	-611.54	747793.09	598643.28	32°38'38.136"N	103°39'45.354"W	0.00	
10700.00†	90.001	269.754	10100.07	711.55	-3.05	-711.54	747693.09	598642.85	32°38'38.138"N	103°39'46.524"W	0.00	
10800.00†	90.001	269.754	10100.07	811.55	-3.48	-811.54	747593.10	598642.42	32°38'38.140"N	103°39'47.693"W	0.00	
10900.00†	90.001	269.754	10100.07	911.55	-3.91	-911.54	747493.10	598641.99	32°38'38.142"N	103°39'48.863"W	0.00	
11000.00†	90.001	269.754	10100.07	1011.55	-4.34	-1011.54	747393.11	598641.56	32°38'38.144"N	103°39'50.032"W	0.00	
11100.00†	90.001	269.754	10100.06	1111.55	-4.77	-1111.54	747293.11	598641.13	32°38'38.146"N	103°39'51.202"W	0.00	
11200.00†	90.001	269.754	10100.06	1211.55	-5.20	-1211.54	747193.12	598640.70	32°38'38.148"N	103°39'52.371"W	0.00	
11300.00†	90.001	269.754	10100.06	1311.55	-5.62	-1311.53	747093.12	598640.28	32°38'38.150"N	103°39'53.541"W	0.00	
11400.00†	90.001	269.754	10100.06	1411.55	-6.05	-1411.53	746993.13	598639.85	32°38'38.152"N	103°39'54.710"W	0.00	
11500.00†	90.001	269.754	10100.06	1511.55	-6.48	-1511.53	746893.13	598639.42	32°38'38.154"N	103°39'55.880"W	0.00	
11600.00†	90.001	269.754	10100.06	1611.55	-6.91	-1611.53	746793.14	598638.99	32°38'38.156"N	103°39'57.049"W	0.00	
11700.00†	90.001	269.754	10100.05	1711.55	-7.34	-1711.53	746693.14	598638.56	32°38'38.158"N	103°39'58.218"W	0.00	
11800.00†	90.001	269.754	10100.05	1811.55	-7.77	-1811.53	746593.15	598638.13	32°38'38.160"N	103°39'59.388"W	0.00	
11900.00†	90.001	269.754	10100.05	1911.55	-8.20	-1911.53	746493.15	598637.70	32°38'38.162"N	103°40'00.557"W	0.00	
12000.00†	90.001	269.754	10100.05	2011.55	-8.63	-2011.53	746393.16	598637.27	32°38'38.163"N	103°40'01.727"W	0.00	
12100.00†	90.001	269.754	10100.05	2111.55	-9.06	-2111.53	746293.17	598636.85	32°38'38.165"N	103°40'02.896"W	0.00	
12200.00†	90.001	269.754	10100.04	2211.55	-9.48	-2211.53	746193.17	598636.42	32°38'38.167"N	103°40'04.066"W	0.00	
12300.00†	90.001	269.754	10100.04	2311.55	-9.91	-2311.53	746093.18	598635.99	32°38'38.169"N	103°40'05.235"W	0.00	
12400.00†	90.001	269.754	10100.04	2411.55	-10.34	-2411.52	745993.18	598635.56	32°38'38.171"N	103°40'06.405"W	0.00	
12500.00†	90.001	269.754	10100.04	2511.55	-10.77	-2511.52	745893.19	598635.13	32°38'38.173"N	103°40'07.574"W	0.00	
12600.00†	90.001	269.754	10100.04	2611.55	-11.20	-2611.52	745793.19	598634.70	32°38'38.175"N	103°40'08.744"W	0.00	
12700.00†	90.001	269.754	10100.04	2711.55	-11.63	-2711.52	745693.20	598634.27	32°38'38.177"N	103°40'09.913"W	0.00	
12800.00†	90.001	269.754	10100.03	2811.55	-12.06	-2811.52	745593.20	598633.84	32°38'38.179"N	103°40'11.083"W	0.00	
12900.00†	90.001	269.754	10100.03	2911.55	-12.49	-2911.52	745493.21	598633.41	32°38'38.181"N	103°40'12.252"W	0.00	
13000.00†	90.001	269.754	10100.03	3011.55	-12.91	-3011.52	745393.21	598632.99	32°38'38.183"N	103°40'13.422"W	0.00	
13100.00†	90.001	269.754	10100.03	3111.55	-13.34	-3111.52	745293.22	598632.56	32°38'38.185"N	103°40'14.591"W	0.00	
13200.00†	90.001	269.754	10100.03	3211.55	-13.77	-3211.52	745193.22	598632.13	32°38'38.187"N	103°40'15.761"W	0.00	



Planned Wellpath Report

Prelim_1

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.2H SHL
Area	Lea County, NM	Well	No.2H
Field	(Diamante) Sec 21, T19S, R33E	Wellbore	No.2H PWB
Facility	Diamante 21 Federal No.2H		

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	269.754	10100.02	3311.55	-14.20	-3311.52	745093.23	598631.70	32°38'38.189"N	103°40'16.930"W	0.00	
13400.00†	90.001	269.754	10100.02	3411.55	-14.63	-3411.52	744993.23	598631.27	32°38'38.191"N	103°40'18.100"W	0.00	
13500.00†	90.001	269.754	10100.02	3511.55	-15.06	-3511.51	744893.24	598630.84	32°38'38.193"N	103°40'19.269"W	0.00	
13600.00†	90.001	269.754	10100.02	3611.55	-15.49	-3611.51	744793.24	598630.41	32°38'38.194"N	103°40'20.438"W	0.00	
13700.00†	90.001	269.754	10100.02	3711.55	-15.92	-3711.51	744693.25	598629.98	32°38'38.196"N	103°40'21.608"W	0.00	
13800.00†	90.001	269.754	10100.01	3811.55	-16.35	-3811.51	744593.26	598629.55	32°38'38.198"N	103°40'22.777"W	0.00	
13900.00†	90.001	269.754	10100.01	3911.55	-16.77	-3911.51	744493.26	598629.13	32°38'38.200"N	103°40'23.947"W	0.00	
14000.00†	90.001	269.754	10100.01	4011.55	-17.20	-4011.51	744393.27	598628.70	32°38'38.202"N	103°40'25.116"W	0.00	
14100.00†	90.001	269.754	10100.01	4111.55	-17.63	-4111.51	744293.27	598628.27	32°38'38.204"N	103°40'26.286"W	0.00	
14200.00†	90.001	269.754	10100.01	4211.55	-18.06	-4211.51	744193.28	598627.84	32°38'38.206"N	103°40'27.455"W	0.00	
14300.00†	90.001	269.754	10100.01	4311.55	-18.49	-4311.51	744093.28	598627.41	32°38'38.208"N	103°40'28.625"W	0.00	
14400.00†	90.001	269.754	10100.00	4411.55	-18.92	-4411.51	743993.29	598626.98	32°38'38.210"N	103°40'29.794"W	0.00	
14500.00†	90.001	269.754	10100.00	4511.55	-19.35	-4511.51	743893.29	598626.55	32°38'38.212"N	103°40'30.964"W	0.00	
14600.00†	90.001	269.754	10100.00	4611.55	-19.78	-4611.50	743793.30	598626.12	32°38'38.213"N	103°40'32.133"W	0.00	
14610.34	90.001	269.754	10100.00†	4621.88	-19.82	-4621.84	743782.96	598626.08	32°38'38.214"N	103°40'32.254"W	0.00	No.2H PBHL

HOLE & CASING SECTIONS Ref Wellbore: No.2H 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	14610.34	9654.34	4956.00	NA	0.00	0.00	NA	NA

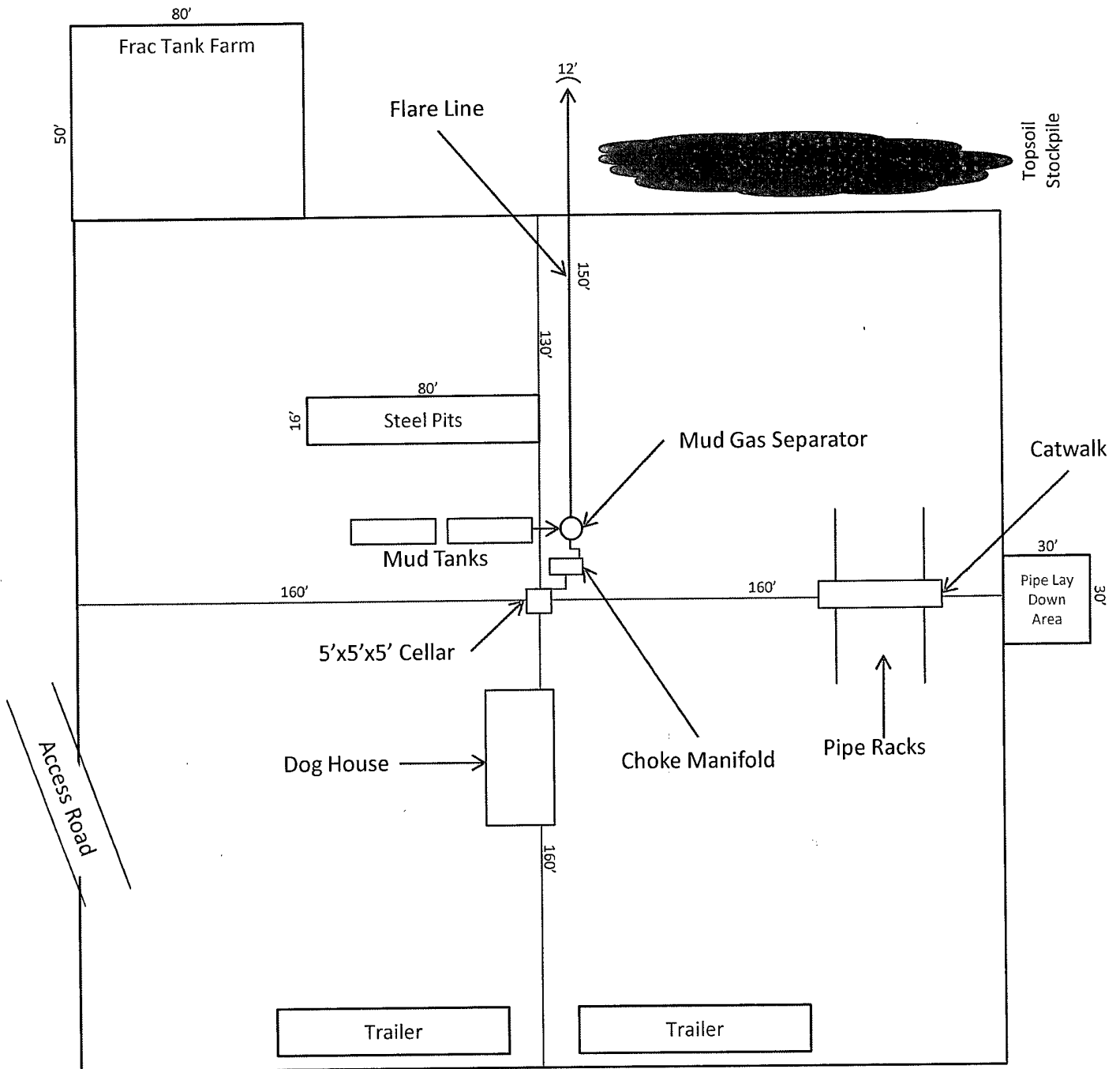
TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No.2H PBHL	14610.34	10100.00	-19.82	-4621.84	743782.96	598626.08	32°38'38.214"N	103°40'32.254"W	point

SURVEY PROGRAM Ref Wellbore: No.2H PWB Ref Wellpath: Prelim_1

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	14610.34	NaviTrak (Standard)		No.2H PWB

Cactus 115



1"=50'



Exhibit D – Rig Diagram
Diamante 21 Federal No. 2
Cimarex Energy Co. of Colorado
21-19S-33E
SHL 1980 FSL & 330 FEL
BHL 1980 FSL & 330 FWL
Lea County, NM

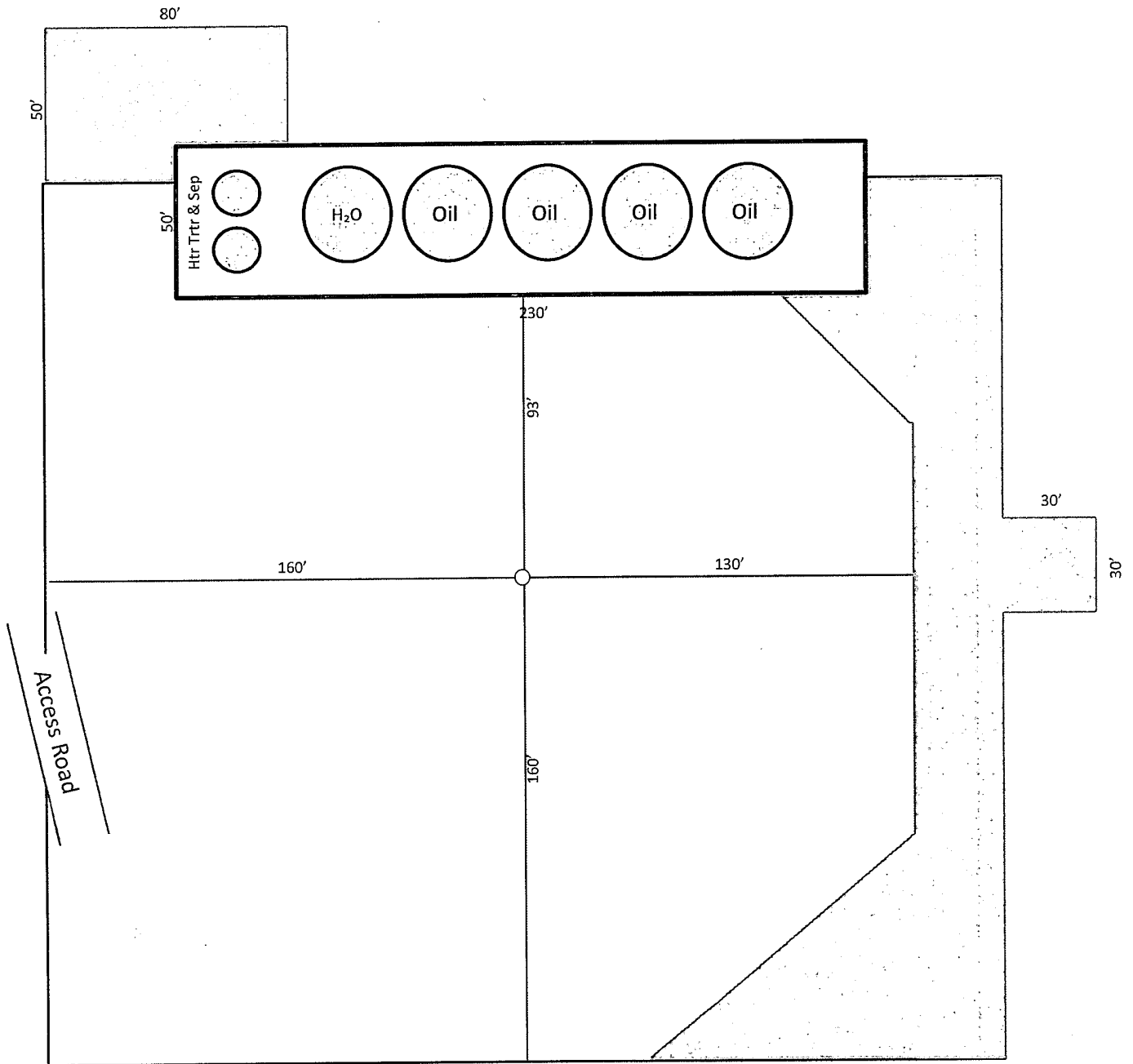
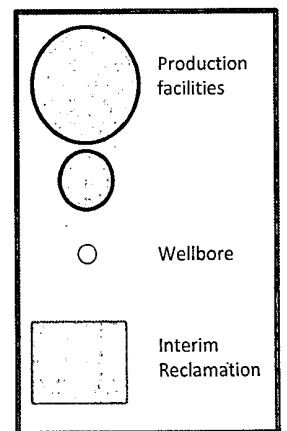


Exhibit D-1
 Production Facilities Layout Diagram
Diamante 21 Federal No. 2
 Cimarex Energy Co. of Colorado
 21-19S-33E
 SHL 1980 FSL & 330 FEL
 BHL 1980 FSL & 330 FWL
 Lea County, NM



1"=50'

SR & A

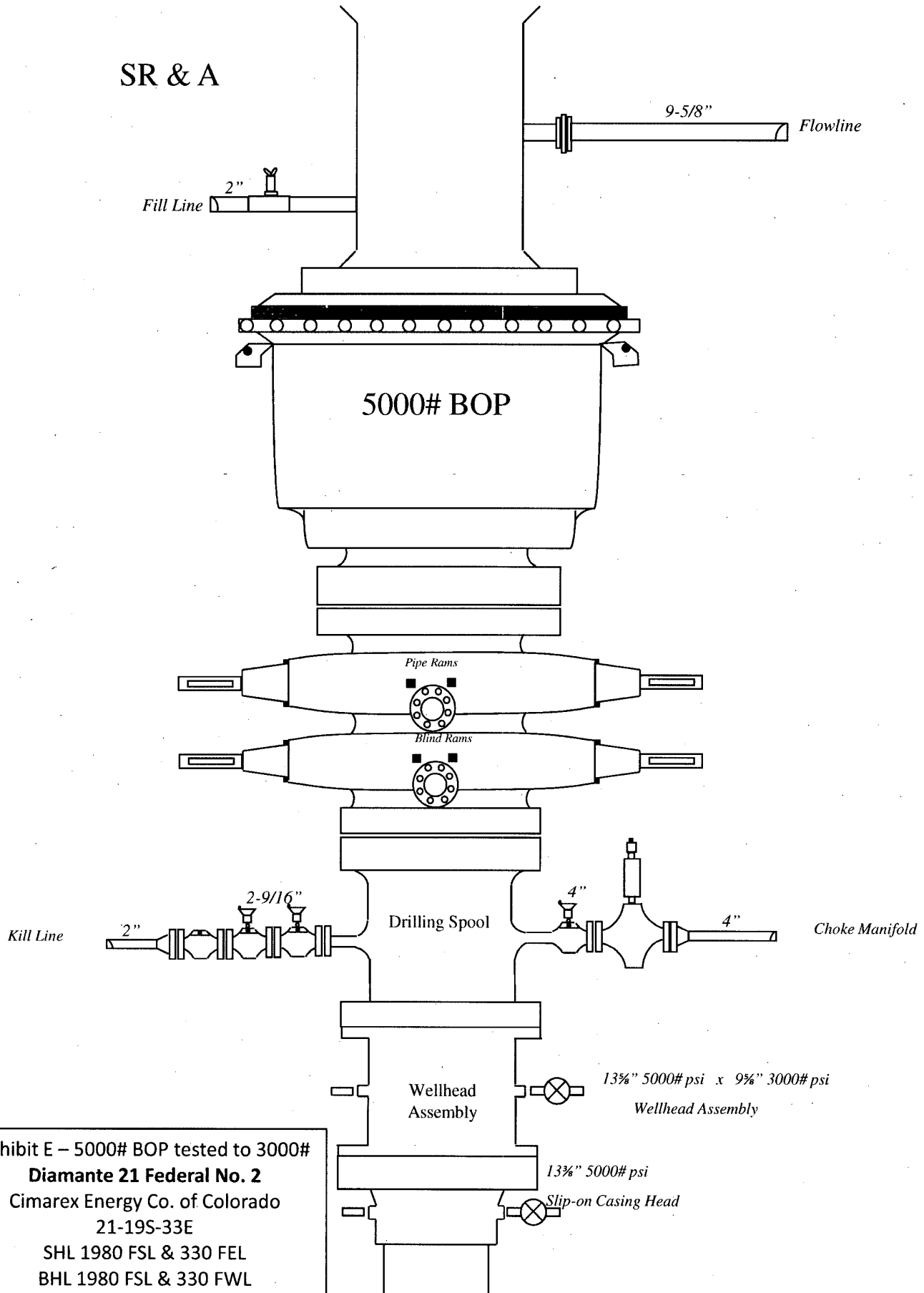
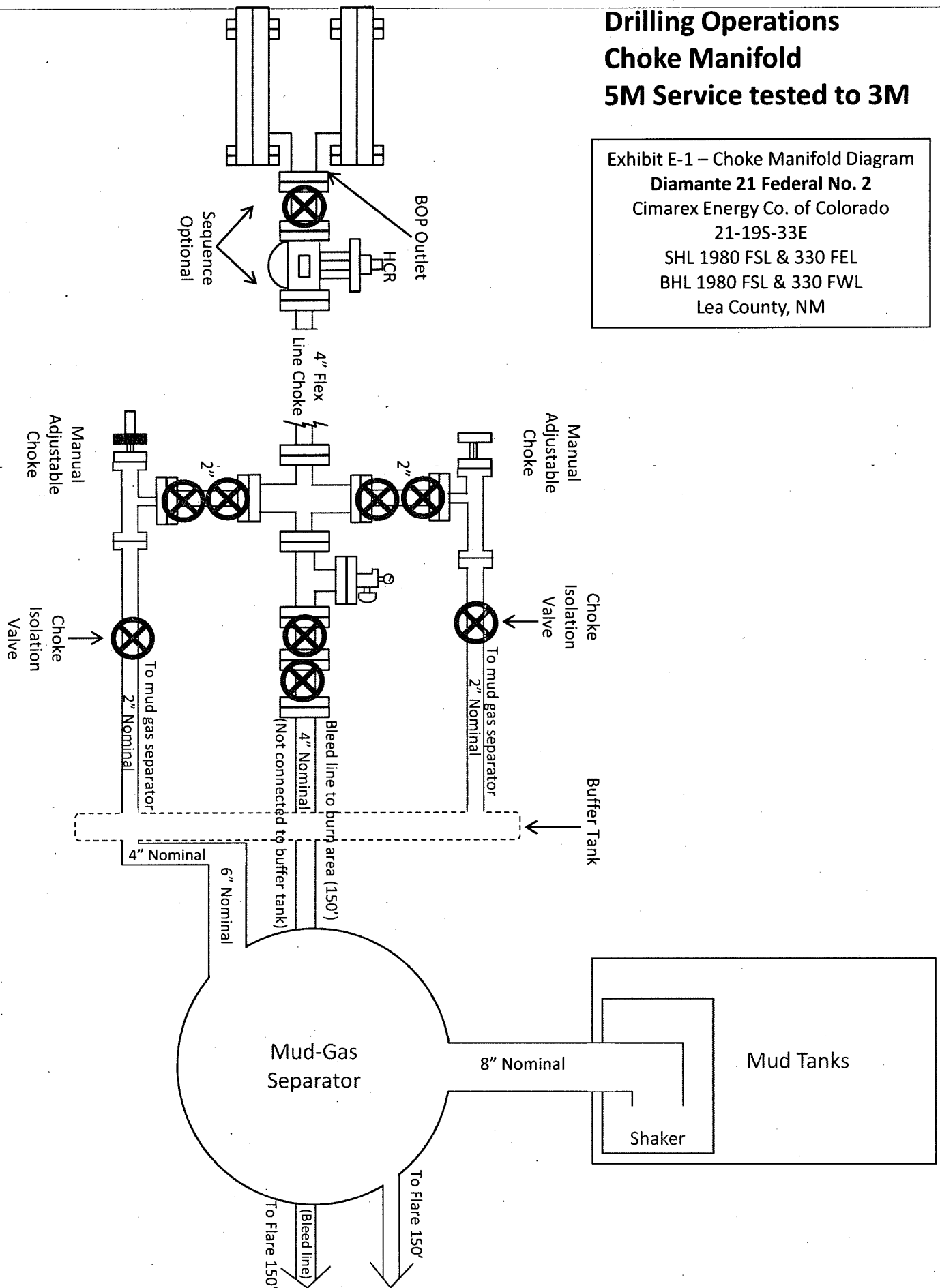


Exhibit E – 5000# BOP tested to 3000#
Diamante 21 Federal No. 2
Cimarex Energy Co. of Colorado
21-19S-33E
SHL 1980 FSL & 330 FEL
BHL 1980 FSL & 330 FWL
Lea County, NM

Exhibit E-1 – Choke Manifold Diagram
Diamante 21 Federal No. 2
Cimarex Energy Co. of Colorado
21-19S-33E
SHL 1980 FSL & 330 FEL
BHL 1980 FSL & 330 FWL
Lea County, NM





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: CHOKE & 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.

HOBBS OCD

MAY 06 2011

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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)