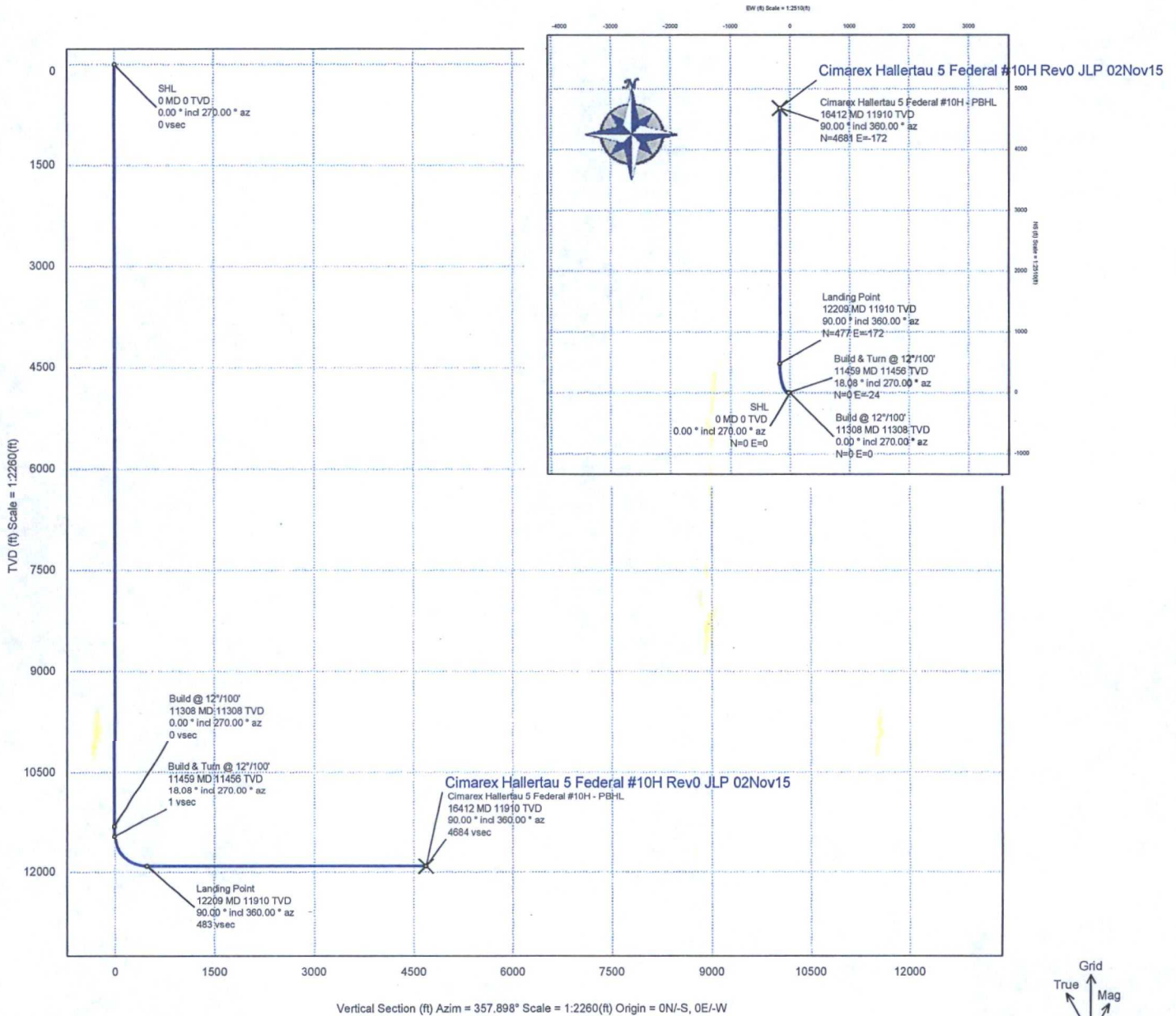




Cimarex



Borehole:	Well:	Field:	Structure:
Original Borehole	Hallertau 5 Federal #10H	NM Lea County (NAD 83)	TBD
Gravity & Magnetic Parameters			
Model: HDGM	Dip: 59.79°	Date: 02-Nov-2015	Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet
2015	FS: 48130.829n	Gravity FS: 998.428mgn (9.80665 Based)	Lat: N 32 3 56.93 Northing: 388258.29ftU Grid Conv: 0.3362°
MagDec: 7.009°	FS: T	Lon: W 103 42 0.50 Easting: 5737481.97ftU Scale Fact: 0.99995316	Miscellaneous
			Slot: #10H TVD Ref: Unknown(3272.5ft above MSL)
			Plan: Rev0 JLP 02Nov15



Vertical Section (ft) Azim = 357.898° Scale = 1:2260(ft) Origin = 0N/-S, 0E/-W



Grid North
Tot Corr (M->G 6.673°)
Mag Dec (7.009°)
Grid Conv (0.336°)

Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL	0.00	0.00	270.00	0.00	0.00	0.00	0.00	
Build @ 12°/100'	11307.93	0.00	270.00	11307.93	0.00	0.00	0.00	0.00
Build & Turn @ 12°/100'	11458.60	18.08	270.00	11458.11	0.86	0.00	-23.58	12.00
Landing Point	12208.60	90.00	360.00	11910.00	483.44	477.46	-171.76	12.00
Cimarex Hallertau 5 Federal #10H - PBHL	16412.00	90.00	360.00	11910.00	4684.02	4680.87	-171.78	0.00

CONTROLLED	
Plan ref	Cimarex Hallertau 5 Federal #10H
Drawing ref	Rev0 JLP 02Nov15
Copy number	of 3
Date	02-Nov-2015
1 Client	
2 Client	
3 Office	
4 Office	
Copy number	for

Cimarex Hallertau 5 Federal #10H Rev0 JLP 02Nov15 Proposal Geodetic

Report
(Non-Def Plan)

Report Date:

November 02, 2015 - 03:59 PM

Client:

Cimarex

Field:

NM Lea County (NAD 83)

Structure / Slot:

Cimarex Hallertau 5 Federal #10H / Cimarex Hallertau 5 Federal #10H TVD Reference Datum:

Survey / DLS Computation:

Minimum Curvature / Lubinski

Vertical Section Azimuth:

357.898 ° (Grid North)

Vertical Section Origin:

0.000 ft, 0.000 ft

Well:

Cimarex Hallertau 5 Federal #10H

Borehole:

Original Borehole

UWI / API#:

Unknown / Unknown

Survey Name:

Cimarex Hallertau 5 Federal #10H Rev0 JLP 02Nov15

Survey Date:

November 02, 2015

Tort / AHD / DDI / ERD Ratio:

108.080 ° / 4753.023 ft / 5.850 / 0.399

Coordinate Reference System:

NAD83 New Mexico State Plane, Eastern Zone, US Feet

Location Lat / Long:

N 32° 3' 56.93228", W 103° 42' 0.49617"

Location Grid N/E Y/X:

N 388256.290 ftUS, E 737481.970 ftUS

CRS Grid Convergence Angle:

0.3362 °

Grid Scale Factor:

0.99995316

Version / Patch:

2.8.572.0

Minimum Curvature / Lubinski

357.898 ° (Grid North)

0.000 ft, 0.000 ft

Unknown

3272.500 ft above MSL

3272.500 ft above MSL

7.009 °

998.4279mgn (9.80665 Based)

GARM

48130.829 nT

November 02, 2015

HDGM 2015

Grid North

0.3362 °

6.6730 °

Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ° °)	Longitude (E/W ° ° °)
SHL	0.00	0.00	270.00	0.00	0.00	0.00	0.00	N/A	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	100.00	0.00	270.00	100.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	200.00	0.00	270.00	200.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	300.00	0.00	270.00	300.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	400.00	0.00	270.00	400.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	500.00	0.00	270.00	500.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	600.00	0.00	270.00	600.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	700.00	0.00	270.00	700.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	800.00	0.00	270.00	800.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	900.00	0.00	270.00	900.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	1000.00	0.00	270.00	1000.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	1100.00	0.00	270.00	1100.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	1200.00	0.00	270.00	1200.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	1300.00	0.00	270.00	1300.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	1400.00	0.00	270.00	1400.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	1500.00	0.00	270.00	1500.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	1600.00	0.00	270.00	1600.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	1700.00	0.00	270.00	1700.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	1800.00	0.00	270.00	1800.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	1900.00	0.00	270.00	1900.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	2000.00	0.00	270.00	2000.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	2100.00	0.00	270.00	2100.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	2200.00	0.00	270.00	2200.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (NUS ° ' ")	Longitude (EWS ° ' ")
	2300.00	0.00	270.00	2300.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	2400.00	0.00	270.00	2400.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	2500.00	0.00	270.00	2500.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	2600.00	0.00	270.00	2600.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	2700.00	0.00	270.00	2700.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	2800.00	0.00	270.00	2800.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	2900.00	0.00	270.00	2900.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	3000.00	0.00	270.00	3000.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	3100.00	0.00	270.00	3100.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	3200.00	0.00	270.00	3200.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	3300.00	0.00	270.00	3300.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	3400.00	0.00	270.00	3400.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	3500.00	0.00	270.00	3500.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	3600.00	0.00	270.00	3600.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	3700.00	0.00	270.00	3700.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	3800.00	0.00	270.00	3800.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	3900.00	0.00	270.00	3900.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	4000.00	0.00	270.00	4000.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	4100.00	0.00	270.00	4100.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	4200.00	0.00	270.00	4200.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	4300.00	0.00	270.00	4300.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	4400.00	0.00	270.00	4400.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	4500.00	0.00	270.00	4500.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	4600.00	0.00	270.00	4600.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	4700.00	0.00	270.00	4700.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	4800.00	0.00	270.00	4800.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	4900.00	0.00	270.00	4900.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	5000.00	0.00	270.00	5000.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	5100.00	0.00	270.00	5100.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	5200.00	0.00	270.00	5200.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	5300.00	0.00	270.00	5300.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	5400.00	0.00	270.00	5400.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	5500.00	0.00	270.00	5500.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	5600.00	0.00	270.00	5600.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	5700.00	0.00	270.00	5700.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	5800.00	0.00	270.00	5800.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	5900.00	0.00	270.00	5900.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	6000.00	0.00	270.00	6000.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	6100.00	0.00	270.00	6100.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	6200.00	0.00	270.00	6200.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	6300.00	0.00	270.00	6300.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	6400.00	0.00	270.00	6400.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	6500.00	0.00	270.00	6500.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	6600.00	0.00	270.00	6600.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	6700.00	0.00	270.00	6700.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	6800.00	0.00	270.00	6800.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	6900.00	0.00	270.00	6900.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50
	7000.00	0.00	270.00	7000.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 3 56.93 W 103 42	0.50

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	7100.00	0.00	270.00	7100.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	7200.00	0.00	270.00	7200.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	7300.00	0.00	270.00	7300.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	7400.00	0.00	270.00	7400.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	7500.00	0.00	270.00	7500.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	7600.00	0.00	270.00	7600.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	7700.00	0.00	270.00	7700.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	7800.00	0.00	270.00	7800.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	7900.00	0.00	270.00	7900.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	8000.00	0.00	270.00	8000.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	8100.00	0.00	270.00	8100.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	8200.00	0.00	270.00	8200.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	8300.00	0.00	270.00	8300.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	8400.00	0.00	270.00	8400.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	8500.00	0.00	270.00	8500.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	8600.00	0.00	270.00	8600.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	8700.00	0.00	270.00	8700.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	8800.00	0.00	270.00	8800.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	8900.00	0.00	270.00	8900.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	9000.00	0.00	270.00	9000.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	9100.00	0.00	270.00	9100.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	9200.00	0.00	270.00	9200.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	9300.00	0.00	270.00	9300.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	9400.00	0.00	270.00	9400.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	9500.00	0.00	270.00	9500.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	9600.00	0.00	270.00	9600.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	9700.00	0.00	270.00	9700.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	9800.00	0.00	270.00	9800.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	9900.00	0.00	270.00	9900.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	10000.00	0.00	270.00	10000.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	10100.00	0.00	270.00	10100.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	10200.00	0.00	270.00	10200.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	10300.00	0.00	270.00	10300.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	10400.00	0.00	270.00	10400.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	10500.00	0.00	270.00	10500.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	10600.00	0.00	270.00	10600.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	10700.00	0.00	270.00	10700.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	10800.00	0.00	270.00	10800.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	10900.00	0.00	270.00	10900.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	11000.00	0.00	270.00	11000.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	11100.00	0.00	270.00	11100.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	11200.00	0.00	270.00	11200.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	11300.00	0.00	270.00	11300.00	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
Build @ 12°/100'	11307.93	0.00	270.00	11307.93	0.00	0.00	0.00	0.00	388256.29	737481.97	N 32 356.93 W 103 42	0.50
	11400.00	11.05	270.00	11399.43	0.32	0.00	-8.85	12.00	388256.29	737473.12	N 32 356.93 W 103 42	0.60
Build & Turn @ 12°/100'	11458.60	18.08	270.00	11456.11	0.86	0.00	-23.58	12.00	388256.29	737458.40	N 32 356.93 W 103 42	0.77
	11500.00	18.73	285.65	11495.42	3.13	1.79	-36.41	12.00	388258.08	737445.56	N 32 356.95 W 103 42	0.92

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	11800.00	24.60	314.51	11588.57	23.22	20.79	-66.82	12.00	388277.08	737415.15	N 32 3 57.14 W 103 42 1.27	
	11700.00	33.73	330.72	11675.94	63.19	59.74	-95.34	12.00	388316.02	737386.63	N 32 3 57.53 W 103 42 1.60	
	11800.00	44.13	340.33	11753.70	121.29	116.94	-120.73	12.00	388373.23	737361.25	N 32 3 58.10 W 103 42 1.89	
	11900.00	55.07	346.82	11818.45	194.98	189.91	-141.87	12.00	388446.19	737340.11	N 32 3 58.82 W 103 42 2.13	
	12000.00	66.28	351.75	11867.37	281.04	275.44	-157.84	12.00	388531.72	737324.14	N 32 3 59.67 W 103 42 2.31	
	12100.00	77.62	355.89	11898.31	375.71	368.80	-167.94	12.00	388626.07	737314.04	N 32 4 0.60 W 103 42 2.42	
	12200.00	89.02	359.68	11909.92	474.85	468.87	-171.73	12.00	388725.14	737310.25	N 32 4 1.58 W 103 42 2.46	
Landing Point	12208.60	90.00	360.00	11910.00	483.44	477.46	-171.76	12.00	388733.73	737310.22	N 32 4 1.67 W 103 42 2.46	
	12300.00	90.00	360.00	11910.00	574.78	568.87	-171.76	0.00	388825.13	737310.22	N 32 4 2.57 W 103 42 2.45	
	12400.00	90.00	360.00	11910.00	674.72	668.87	-171.76	0.00	388925.13	737310.22	N 32 4 3.56 W 103 42 2.45	
	12500.00	90.00	360.00	11910.00	774.65	768.87	-171.76	0.00	389025.12	737310.22	N 32 4 4.55 W 103 42 2.44	
	12600.00	90.00	360.00	11910.00	874.58	868.87	-171.76	0.00	389125.12	737310.22	N 32 4 5.54 W 103 42 2.43	
	12700.00	90.00	360.00	11910.00	974.52	968.87	-171.76	0.00	389225.11	737310.22	N 32 4 6.53 W 103 42 2.43	
	12800.00	90.00	360.00	11910.00	1074.45	1068.87	-171.76	0.00	389325.11	737310.22	N 32 4 7.52 W 103 42 2.42	
	12900.00	90.00	360.00	11910.00	1174.38	1168.87	-171.76	0.00	389425.10	737310.22	N 32 4 8.51 W 103 42 2.41	
	13000.00	90.00	360.00	11910.00	1274.31	1268.87	-171.76	0.00	389525.10	737310.22	N 32 4 9.50 W 103 42 2.41	
	13100.00	90.00	360.00	11910.00	1374.25	1368.87	-171.76	0.00	389625.09	737310.22	N 32 4 10.49 W 103 42 2.40	
	13200.00	90.00	360.00	11910.00	1474.18	1468.87	-171.76	0.00	389725.09	737310.22	N 32 4 11.48 W 103 42 2.39	
	13300.00	90.00	360.00	11910.00	1574.11	1568.87	-171.76	0.00	389825.08	737310.22	N 32 4 12.47 W 103 42 2.39	
	13400.00	90.00	360.00	11910.00	1674.04	1668.87	-171.76	0.00	389925.08	737310.22	N 32 4 13.46 W 103 42 2.38	
	13500.00	90.00	360.00	11910.00	1773.98	1768.87	-171.76	0.00	390025.07	737310.22	N 32 4 14.45 W 103 42 2.37	
	13600.00	90.00	360.00	11910.00	1873.91	1868.87	-171.76	0.00	390125.07	737310.21	N 32 4 15.44 W 103 42 2.36	
	13700.00	90.00	360.00	11910.00	1973.84	1968.87	-171.76	0.00	390225.06	737310.21	N 32 4 16.42 W 103 42 2.36	
	13800.00	90.00	360.00	11910.00	2073.78	2068.87	-171.76	0.00	390325.06	737310.21	N 32 4 17.41 W 103 42 2.35	
	13900.00	90.00	360.00	11910.00	2173.71	2168.87	-171.77	0.00	390425.05	737310.21	N 32 4 18.40 W 103 42 2.34	
	14000.00	90.00	360.00	11910.00	2273.64	2268.87	-171.77	0.00	390525.05	737310.21	N 32 4 19.39 W 103 42 2.34	
	14100.00	90.00	360.00	11910.00	2373.57	2368.87	-171.77	0.00	390625.04	737310.21	N 32 4 20.38 W 103 42 2.33	
	14200.00	90.00	360.00	11910.00	2473.51	2468.87	-171.77	0.00	390725.04	737310.21	N 32 4 21.37 W 103 42 2.32	
	14300.00	90.00	360.00	11910.00	2573.44	2568.87	-171.77	0.00	390825.03	737310.21	N 32 4 22.36 W 103 42 2.32	
	14400.00	90.00	360.00	11910.00	2673.37	2668.87	-171.77	0.00	390925.03	737310.21	N 32 4 23.35 W 103 42 2.31	
	14500.00	90.00	360.00	11910.00	2773.30	2768.87	-171.77	0.00	391025.02	737310.21	N 32 4 24.34 W 103 42 2.30	
	14600.00	90.00	360.00	11910.00	2873.24	2868.87	-171.77	0.00	391125.02	737310.21	N 32 4 25.33 W 103 42 2.30	
	14700.00	90.00	360.00	11910.00	2973.17	2968.87	-171.77	0.00	391225.01	737310.21	N 32 4 26.32 W 103 42 2.29	
	14800.00	90.00	360.00	11910.00	3073.10	3068.87	-171.77	0.00	391325.01	737310.21	N 32 4 27.31 W 103 42 2.28	
	14900.00	90.00	360.00	11910.00	3173.04	3168.87	-171.77	0.00	391425.00	737310.21	N 32 4 28.30 W 103 42 2.28	
	15000.00	90.00	360.00	11910.00	3272.97	3268.87	-171.77	0.00	391525.00	737310.21	N 32 4 29.29 W 103 42 2.27	
	15100.00	90.00	360.00	11910.00	3372.90	3368.87	-171.77	0.00	391624.99	737310.21	N 32 4 30.28 W 103 42 2.26	
	15200.00	90.00	360.00	11910.00	3472.83	3468.87	-171.77	0.00	391724.99	737310.21	N 32 4 31.27 W 103 42 2.26	
	15300.00	90.00	360.00	11910.00	3572.77	3568.87	-171.77	0.00	391824.98	737310.21	N 32 4 32.26 W 103 42 2.25	
	15400.00	90.00	360.00	11910.00	3672.70	3668.87	-171.77	0.00	391924.98	737310.21	N 32 4 33.25 W 103 42 2.24	
	15500.00	90.00	360.00	11910.00	3772.63	3768.87	-171.77	0.00	392024.97	737310.20	N 32 4 34.24 W 103 42 2.24	
	15600.00	90.00	360.00	11910.00	3872.57	3868.87	-171.77	0.00	392124.97	737310.20	N 32 4 35.23 W 103 42 2.23	
	15700.00	90.00	360.00	11910.00	3972.50	3968.87	-171.77	0.00	392224.96	737310.20	N 32 4 36.22 W 103 42 2.22	
	15800.00	90.00	360.00	11910.00	4072.43	4068.87	-171.78	0.00	392324.96	737310.20	N 32 4 37.20 W 103 42 2.22	
	15900.00	90.00	360.00	11910.00	4172.36	4168.87	-171.78	0.00	392424.95	737310.20	N 32 4 38.19 W 103 42 2.21	
	16000.00	90.00	360.00	11910.00	4272.30	4268.87	-171.78	0.00	392524.95	737310.20	N 32 4 39.18 W 103 42 2.20	
	16100.00	90.00	360.00	11910.00	4372.23	4368.87	-171.78	0.00	392624.94	737310.20	N 32 4 40.17 W 103 42 2.19	
	16200.00	90.00	360.00	11910.00	4472.16	4468.87	-171.78	0.00	392724.94	737310.20	N 32 4 41.16 W 103 42 2.19	

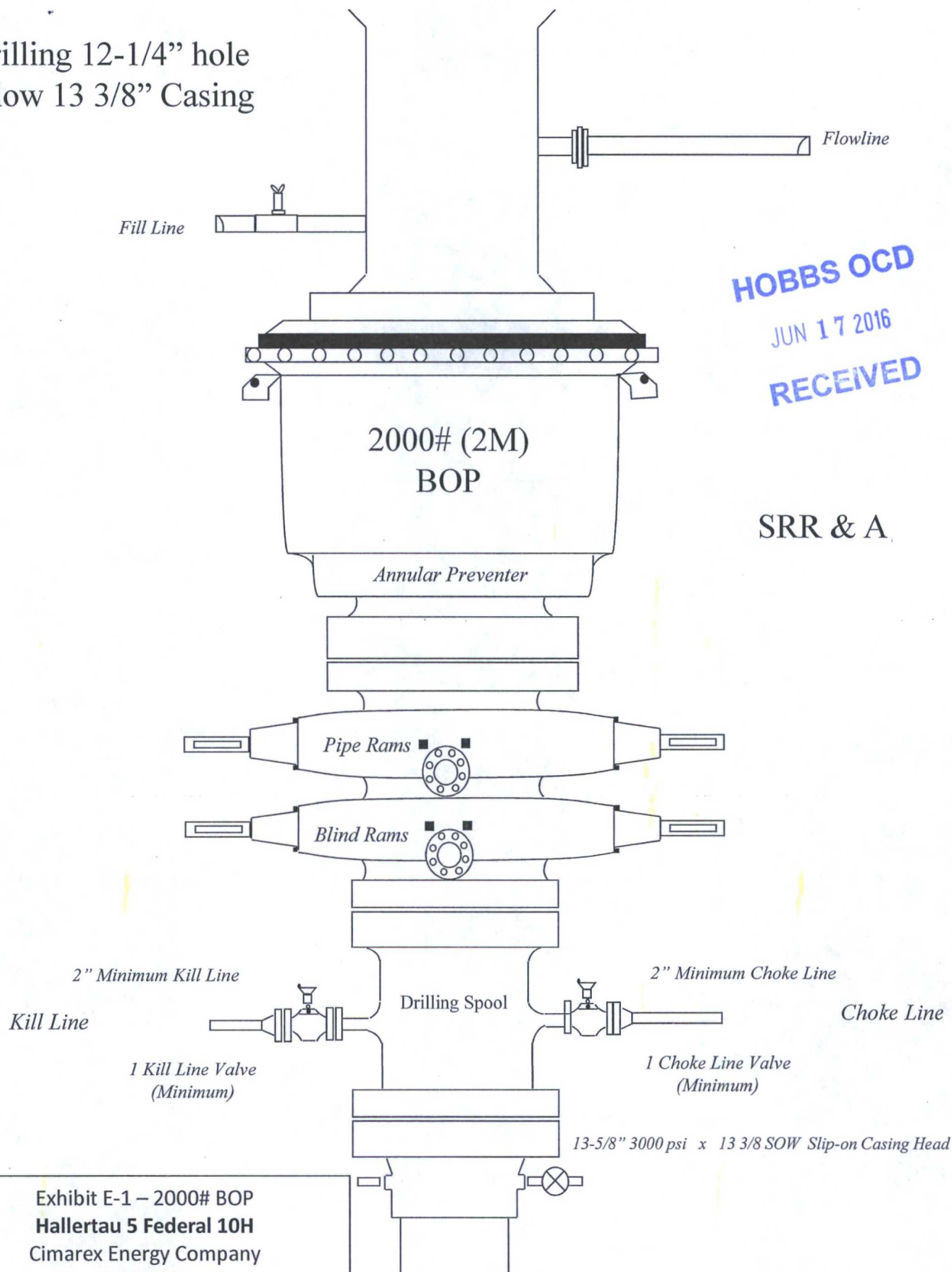
Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	16300.00	90.00	360.00	11910.00	4572.09	4568.87	-171.78	0.00	392824.93	737310.20	N 32 4 42.15 W	103 42 2.18
	16400.00	90.00	360.00	11910.00	4672.03	4668.87	-171.78	0.00	392924.93	737310.20	N 32 4 43.14 W	103 42 2.17
Cimarex Hallertau 5 Federal #10H - PBHL	16412.00	90.00	360.00	11910.00	4684.02	4680.87	-171.78	0.00	392936.93	737310.20	N 32 4 43.26 W	103 42 2.17

Survey Type: Non-Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	16412.000	1/100.000	30.000	30.000	SLB_UNKNOWN	Original Borehole / Cimarex Hallertau 5 Federal #10H Rev0

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



HOBBS OCD
JUN 17 2016
RECEIVED

SRR & A

Exhibit E-1 – 2000# BOP
Hallertau 5 Federal 10H
Cimarex Energy Company
5-26S-32E
Lea County, NM

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

All Line

10M Annular Preventer

10M Double
Ram BOP

Pipe Rams

Blind Rams

2" Kill Line Valves (2)
with Check Valve

3" Manual Choke Valve
and 3" HCR Valve

2" Kill Line

3" Choke Line

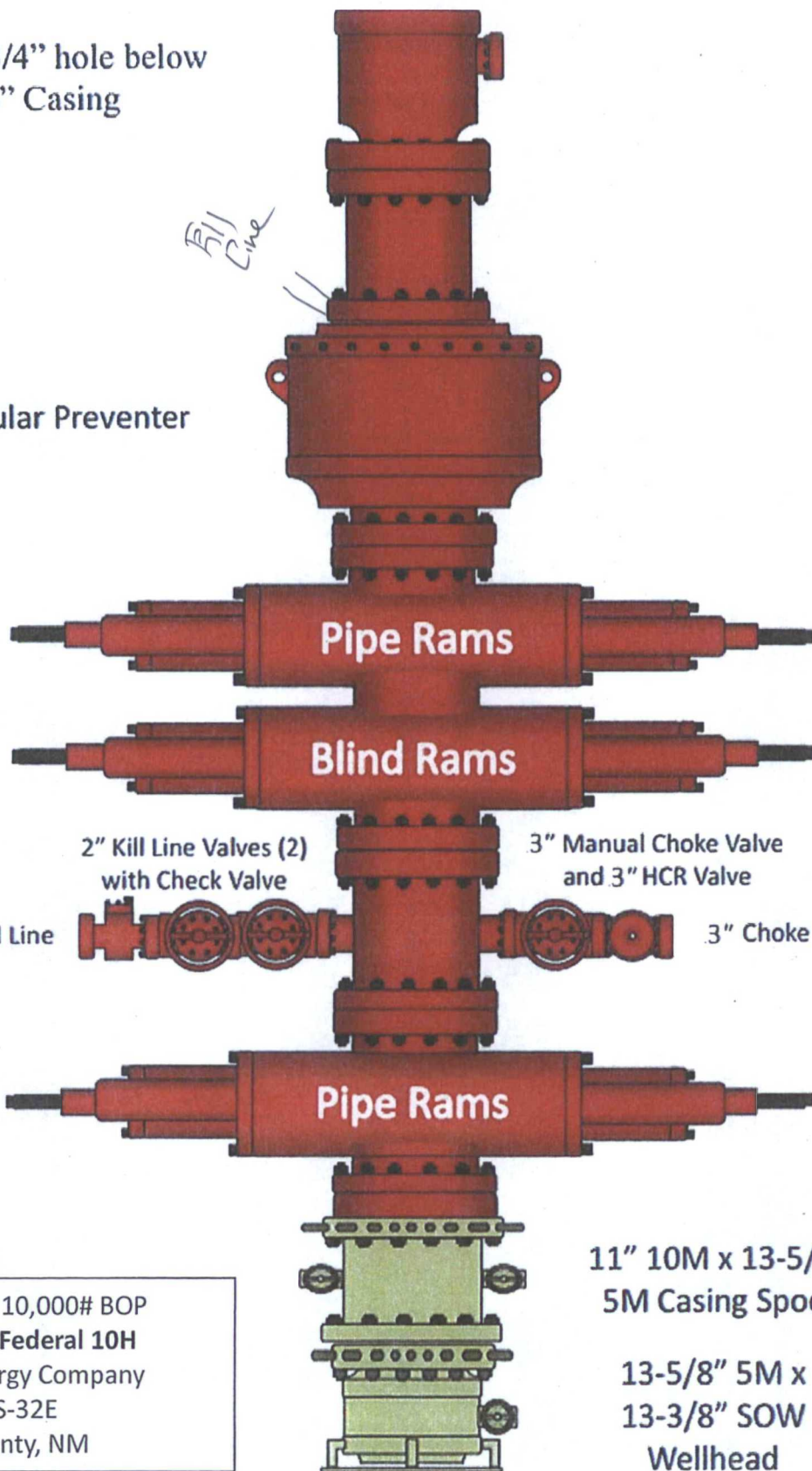
10M Single
Ram BOP

Pipe Rams

Exhibit E-1 – 10,000# BOP
Hallertau 5 Federal 10H
Cimarex Energy Company
5-26S-32E
Lea County, NM

11" 10M x 13-5/8"
5M Casing Spool

13-5/8" 5M x
13-3/8" SOW
Wellhead



Mud Tanks
40'-50' from
wellbore

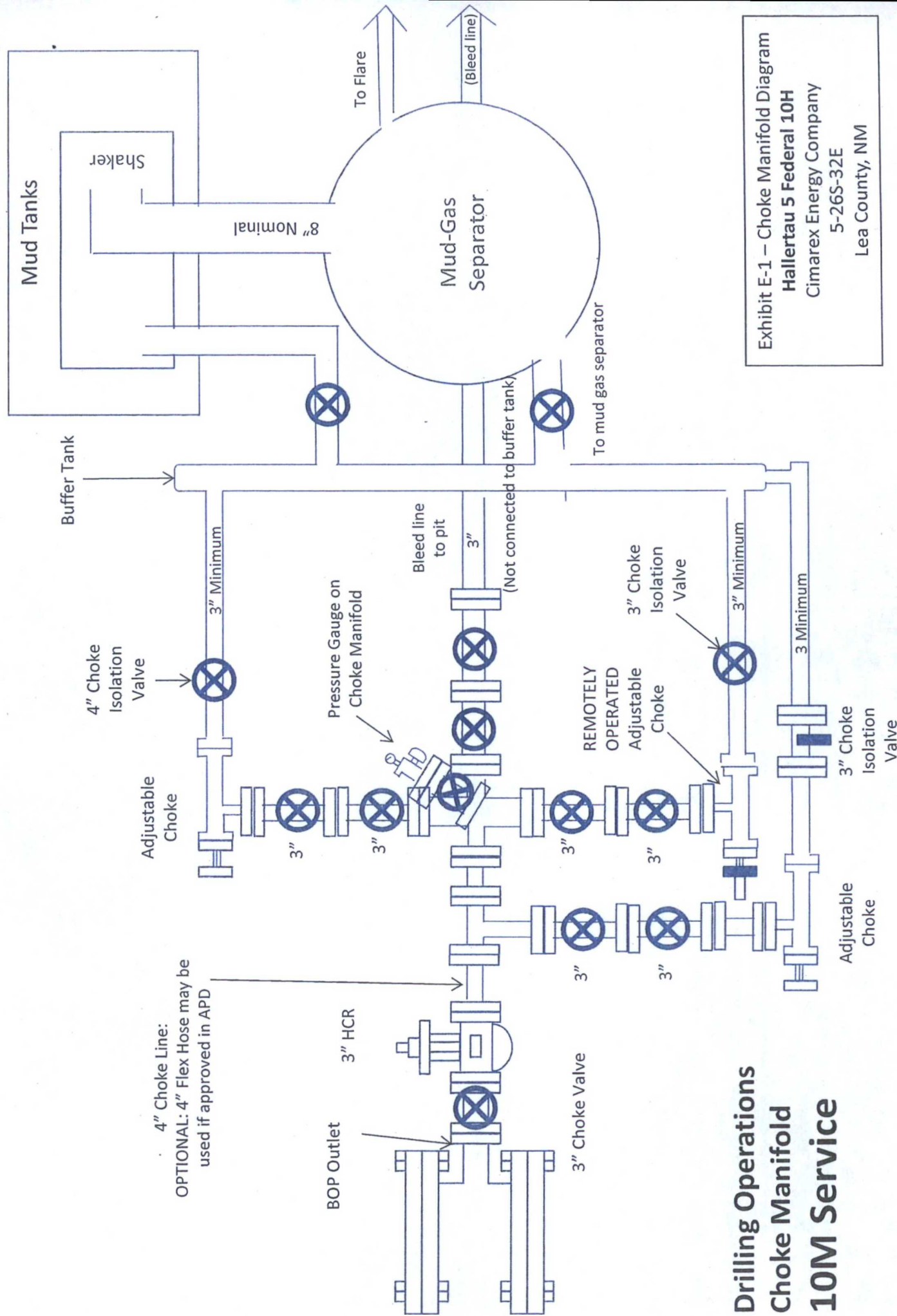


Exhibit E-1 – Choke Manifold Diagram
Hallertau 5 Federal 10H
Cimarex Energy Company
5-26S-32E
Lea County, NM

Drilling Operations Choke Manifold 10M Service

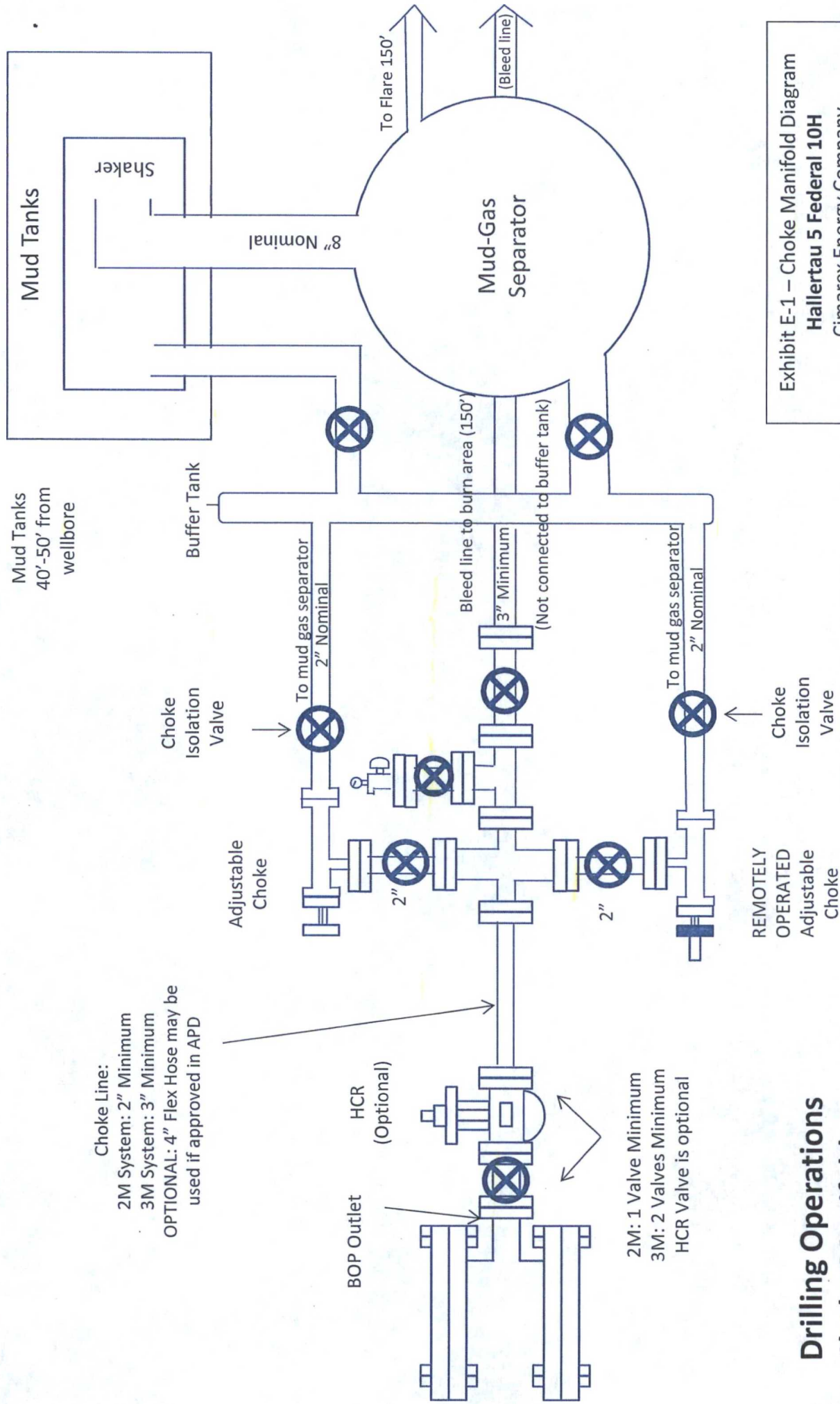


Exhibit F-1
Hallertau 5 Federal 10H
Cimarex Energy Company
5-26S-32E
Lea County, NM



Midwest Hose & Specialty, Inc.

INTERNAL HYDROSTATIC TEST REPORT

Customer: Oderco Inc		P.O. Number: odyd-271	
HOSE SPECIFICATIONS			
Type: Stainless Steel Armor Choke & Kill Hose		Hose Length: 45'ft.	
I.D. 4 INCHES		O.D. 9 INCHES	
WORKING PRESSURE 10,000 PSI	TEST PRESSURE 15,000 PSI	BURST PRESSURE 0 PSI	
COUPLINGS			
Stem Part No. OKC OKC		Ferrule No. OKC OKC	
Type of Coupling: Swage-It			
PROCEDURE			
<i>Hose assembly pressure tested with water at ambient temperature.</i>			
TIME HELD AT TEST PRESSURE 15 MIN.		ACTUAL BURST PRESSURE: 0 PSI	
Hose Assembly Serial Number: 79793		Hose Serial Number: OKC	
Comments:			
Date: 3/8/2011	Tested: <i>A. James Jones</i>	Approved: <i>Kevin Hef</i>	



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: Houston

Pick Ticket #: 94260

Hose Specifications

Hose Type
C & K

I.D.
4"

Working Pressure
10000 PSI

Length
45'

O.D.
6.09"

Burst Pressure
Standard Safety Multiplier Applies

Verification

Type of Fitting
4 1/16 10K

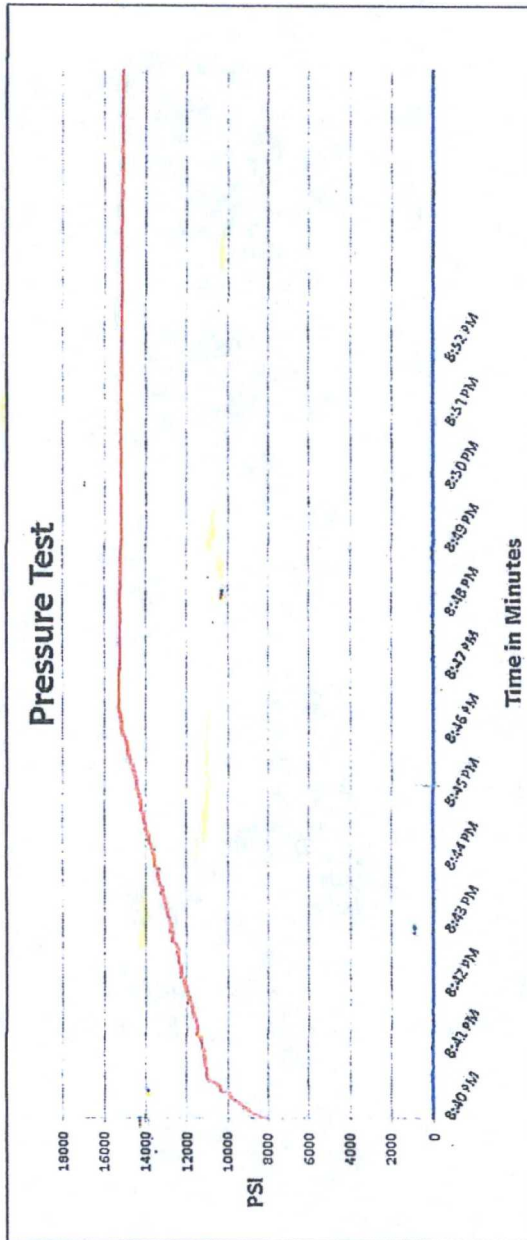
Die Size
6.38"

Hose Serial #
5544

Coupling Method
Swage

Final O.D.
6.25"

Hose Assembly Serial #
79793



Test Pressure
15000 PSI

Time Held at Test Pressure
11 Minutes

Actual Burst Pressure

Peak Pressure
15483 PSI

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

Tested By: Zac McConnell

Approved By: Kim Thomas

[Signature]

[Signature]

March 3, 2011

Exhibit F-1 – Co-Flex Hose Hydrostatic Test
Hallertau 5 Federal 10H
Cimarex Energy Company
5-26S-32E
Lea County, NM

Exhibit F-2 - Co-Flex Hose
Hallertau 5 Federal 10H
Cimarex Energy Company
5-26S-32E
Lea County, NM



Midwest Hose & Specialty, Inc.

Certificate of Conformity

Customer:		PO
DEM		ODYD-271
SPECIFICATIONS		
Sales Order	Dated:	
79793	3/8/2011	
We hereby certify that the material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards Supplier: Midwest Hose & Specialty, Inc. 10640 Tanner Road Houston, Texas 77041		
Comments:		
Approved:		Date:
		3/8/2011



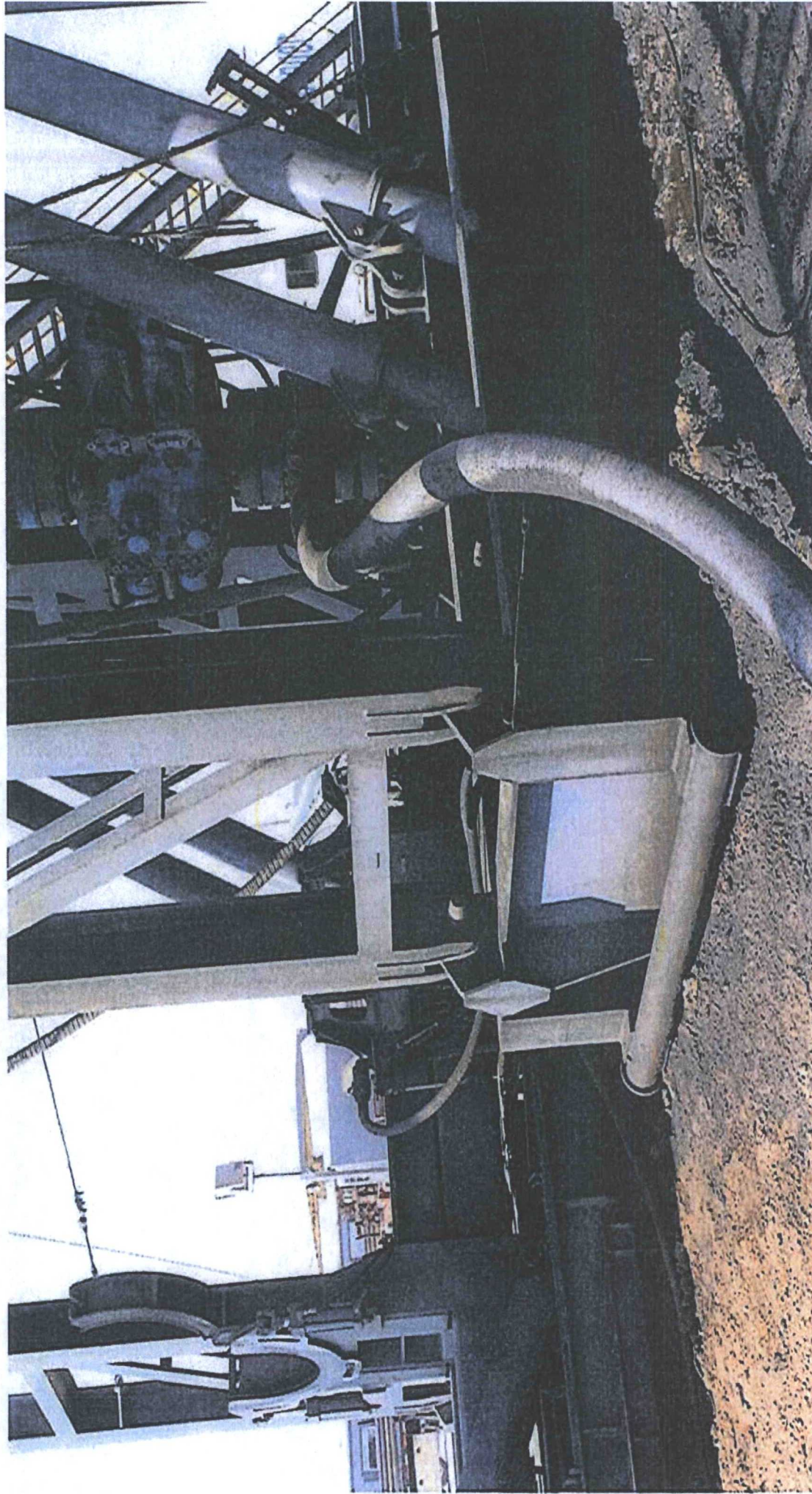
Exhibit F -3- Co-Flex Hose
Hallertau 5 Federal 10H
Cimarex Energy Company
5-26S-32E
Lea County, NM

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)

Exhibit F — Co-Flex Hose
Hallertau 5 Federal 10H
Cimarex Energy Company
5-26S-32E
Lea County, NM



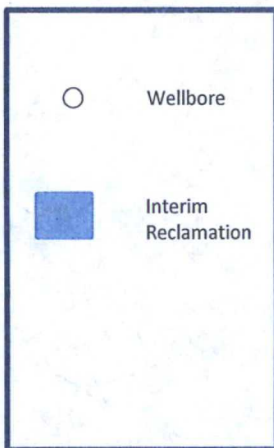
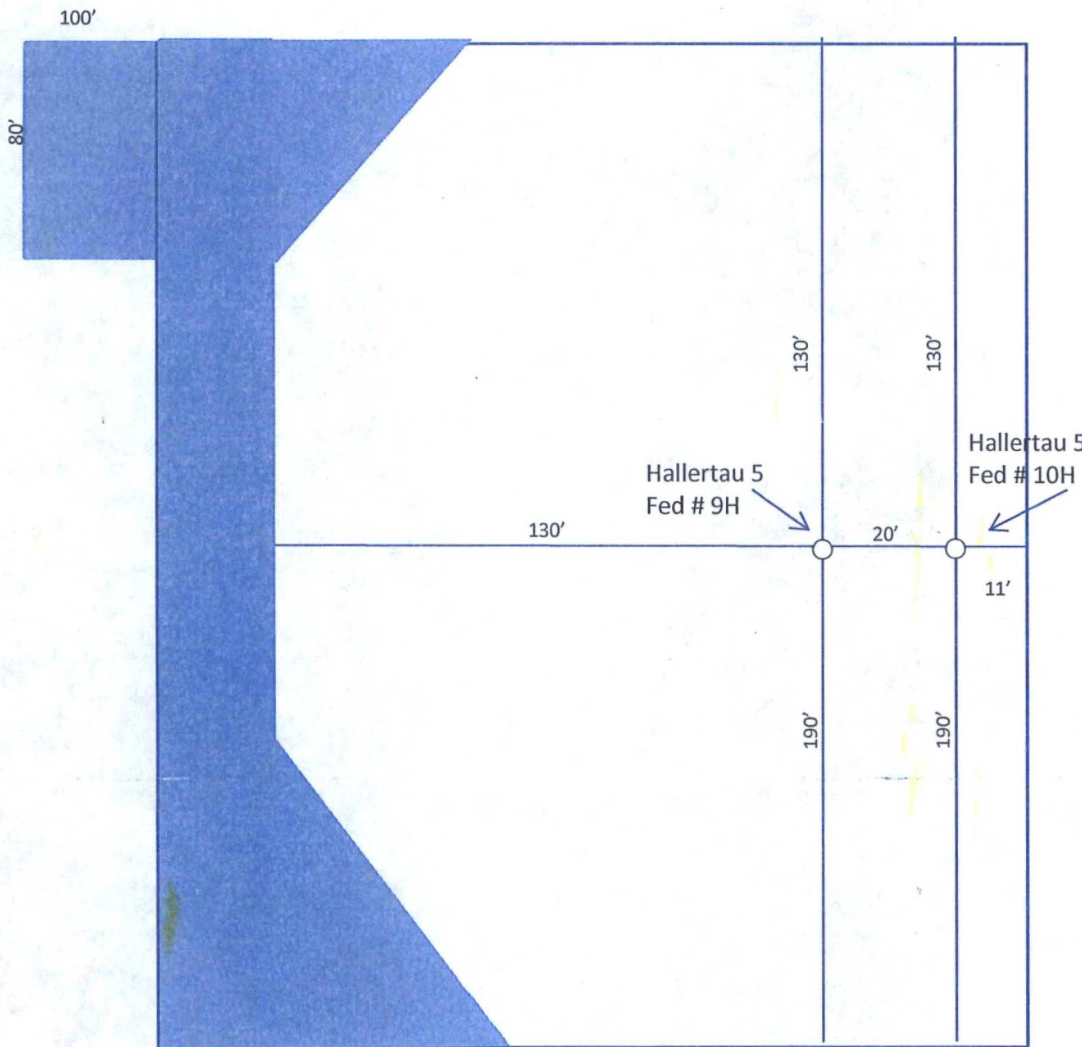


Exhibit D-1
Interim Reclamation Diagram
Hallertau 5 Federal 10H
Cimarex Energy Company
5-26S-32E
Lea County, NM