

Certificate Numbers:

Schlumberger

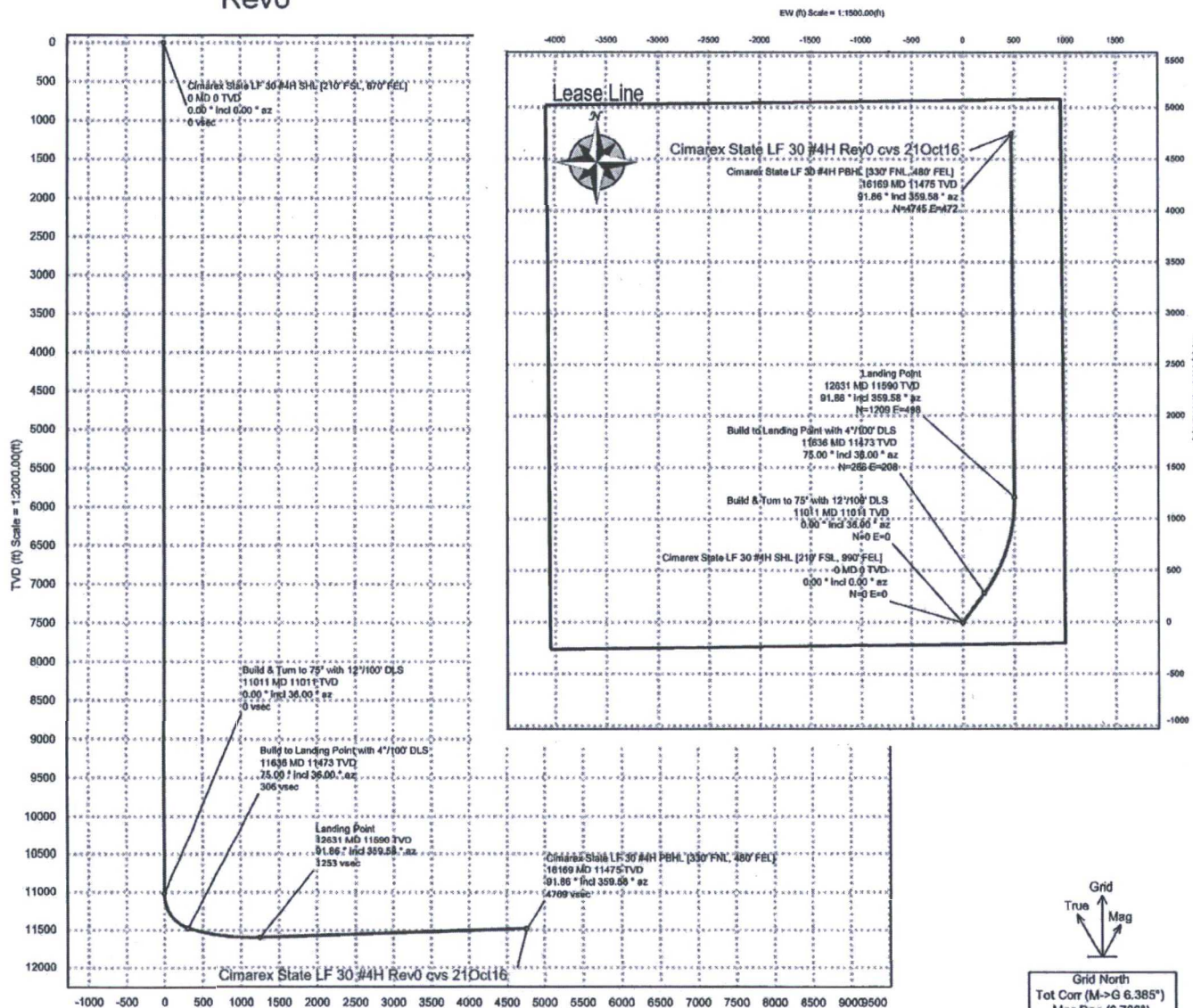
Cimarex

CIMAREX

Borehole:	Well:	Field:	Structure:
Original Borehole	Cimarex State LF 30 #4H	NM Lea County (NAD 83)	TBD

Gravity & Magnetic Parameters	Surface Location	Miscellaneous
Model: HDGM 2016 D/p: 60.895° Date: 21-Oct-2016	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Slot: Cimarex State TVD Ref: Unknown (4129.1ft above MSL)
MagDec: 6.786° FS: 48420.39mT Gravity FS: 998.515mgm (9.80665 Based)	Lat: N 32 53 16.48 Northing: 686944.281US Grid Conv: 0.401°	Plan: Cimarex State LF 30 #4H Rev0 cvs 21Oct16
	Long: W 103 35 41.44 Easting: 786933.51ftUS Scale Fact: 0.99996794	

Rev0



Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
Cimarex State LF 30 #4H SHL [210° FSL, 990° FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Build & Turn to 75° with 12°/ 100° DLS	11011.48	0.00	36.00	11011.48	0.00	0.00	0.00	0.00
Build to Landing Point with 4°/ 100° DLS	11636.48	75.00	36.00	11472.68	305.50	286.30	208.01	12.00
Landing Point	12631.09	91.86	359.58	11590.00	1252.78	1209.34	498.48	4.00
Cimarex State LF 30 #4H PBHL [330° FNL, 480° FEL]	16169.20	91.86	359.58	11475.00	4768.94	4745.48	472.46	0.00



Cimarex State LF 30 #4H Rev0 cvs 21Oct16 Proposal Geodetic Report

(Non-Def Plan)

Report Date: October 21, 2016 - 10:19 AM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex State LF 30 #4H / Cimarex State LF 30 4H
Well: Cimarex State LF 30 #4H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex State LF 30 #4H Rev0 cvs 21Oct16
Survey Date: October 21, 2016
Tort / AHD / DDI / ERD Ratio: 114.790 ° / 4874.131 ft / 5.892 / 0.420
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 53' 10.49363", W 103° 35' 41.44045"
Location Grid N/E Y/X: N 886944.280 ftUS, E 768033.510 ftUS
CRS Grid Convergence Angle: 0.4010 °
Grid Scale Factor: 0.99996794
Version / Patch: 2.10.254.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 5.686 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: Unknown
TVD Reference Elevation: 4129.100 ft above MSL
Seabed / Ground Elevation: 4129.100 ft above MSL
Magnetic Declination: 6.786 °
Total Gravity Field Strength: 998.5145mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48429.390 nT
Magnetic Dip Angle: 60.895 °
Declination Date: October 21, 2016
Magnetic Declination Model: HDGM 2016
North Reference: Grid North
Grid Convergence Used: 0.4010 °
Total Corr Mag North->Grid North: 6.3853 °
Local Coord Referenced To: 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 ° ' ")
Cimarex State LF 30 #4H SHL [210' FSL, 990' FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
Build & Turn to 75° with 12°/100' DLS	11011.48	0.00	36.00	11011.48	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
Build to Landing Point with 4°/100' DLS	11636.48	75.00	36.00	11472.68	305.50	286.30	208.01	12.00	687230.57	768241.51	N 32 53 13.31	W 103 35 38.98
Landing Point	12631.09	91.86	359.58	11590.00	1252.78	1209.34	498.48	4.00	688153.58	768531.97	N 32 53 22.42	W 103 35 35.50
Cimarex State LF 30 #4H PBHL [330' FNL, 480' FEL]	16169.20	91.86	359.58	11475.00	4768.94	4745.48	472.46	0.00	691689.60	768505.95	N 32 53 57.41	W 103 35 35.51

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)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	16169.198	1/100.000	30.000	30.000		NAL_MWD_PLUS_0.5_DEG	Original Borehole / Cimarex State LF 30 #4H Rev0 cvs 21Oct16

Cimarex State LF 30 #4H Rev0 cvs 21Oct16 Proposal Geodetic Report

(Non-Def Plan)

Report Date: October 21, 2016 - 10:29 AM
 Client: Cimarex
 Field: NM Lea County (NAD 83)
 Structure / Slot: Cimarex State LF 30 #4H / Cimarex State LF 30 4H
 Well: Cimarex State LF 30 #4H
 Borehole: Original Borehole
 UWI / API#: Unknown / Unknown
 Survey Name: Cimarex State LF 30 #4H Rev0 cvs 21Oct16
 Survey Date: October 21, 2016
 Tort / AHD / DDI / ERD Ratio: 114.790 ° / 4874.131 ft / 5.892 / 0.420
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 53' 10.49363", W 103° 35' 41.44045"
 Location Grid N/E Y/X: N 686944.280 ftUS, E 768033.510 ftUS
 CRS Grid Convergence Angle: 0.4010 °
 Grid Scale Factor: 0.99996794
 Version / Patch: 2.10.254.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 5.686 ° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: Unknown
 TVD Reference Elevation: 4129.100 ft above MSL
 Seabed / Ground Elevation: 4129.100 ft above MSL
 Magnetic Declination: 6.786 °
 Total Gravity Field Strength: 998.5145mgn (9.80665 Based)
 Gravity Model: GARIM
 Total Magnetic Field Strength: 48429.390 nT
 Magnetic Dip Angle: 60.895 °
 Declination Date: October 21, 2016
 Magnetic Declination Model: HDGM 2016
 North Reference: Grid North
 Grid Convergence Used: 0.4010 °
 Total Corr Mag North->Grid North: 6.3853 °
 Local Coord Referenced To: 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 ° ' ")
Cimarex State LF 30 #4H SHL [210' FSL, 990' FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	100.00	0.00	36.00	100.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	200.00	0.00	36.00	200.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	300.00	0.00	36.00	300.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	400.00	0.00	36.00	400.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	500.00	0.00	36.00	500.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	600.00	0.00	36.00	600.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	700.00	0.00	36.00	700.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	800.00	0.00	36.00	800.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	900.00	0.00	36.00	900.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	1000.00	0.00	36.00	1000.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	1100.00	0.00	36.00	1100.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	1200.00	0.00	36.00	1200.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	1300.00	0.00	36.00	1300.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	1400.00	0.00	36.00	1400.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	1500.00	0.00	36.00	1500.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	1600.00	0.00	36.00	1600.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	1700.00	0.00	36.00	1700.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	1800.00	0.00	36.00	1800.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	1900.00	0.00	36.00	1900.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	2000.00	0.00	36.00	2000.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	2100.00	0.00	36.00	2100.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	2200.00	0.00	36.00	2200.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	2300.00	0.00	36.00	2300.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	2400.00	0.00	36.00	2400.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	2500.00	0.00	36.00	2500.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	2600.00	0.00	36.00	2600.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	2700.00	0.00	36.00	2700.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	2800.00	0.00	36.00	2800.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	2900.00	0.00	36.00	2900.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	3000.00	0.00	36.00	3000.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (*/100ft)	Northing (RUS)	Easting (RUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	3100.00	0.00	36.00	3100.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	3200.00	0.00	36.00	3200.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	3300.00	0.00	36.00	3300.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	3400.00	0.00	36.00	3400.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	3500.00	0.00	36.00	3500.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	3600.00	0.00	36.00	3600.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	3700.00	0.00	36.00	3700.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	3800.00	0.00	36.00	3800.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	3900.00	0.00	36.00	3900.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	4000.00	0.00	36.00	4000.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	4100.00	0.00	36.00	4100.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	4200.00	0.00	36.00	4200.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	4300.00	0.00	36.00	4300.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	4400.00	0.00	36.00	4400.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	4500.00	0.00	36.00	4500.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	4600.00	0.00	36.00	4600.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	4700.00	0.00	36.00	4700.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	4800.00	0.00	36.00	4800.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	4900.00	0.00	36.00	4900.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	5000.00	0.00	36.00	5000.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	5100.00	0.00	36.00	5100.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	5200.00	0.00	36.00	5200.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	5300.00	0.00	36.00	5300.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	5400.00	0.00	36.00	5400.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	5500.00	0.00	36.00	5500.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	5600.00	0.00	36.00	5600.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	

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 ° ' ")
	9400.00	0.00	36.00	9400.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	9500.00	0.00	36.00	9500.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	9600.00	0.00	36.00	9600.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	9700.00	0.00	36.00	9700.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	9800.00	0.00	36.00	9800.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	9900.00	0.00	36.00	9900.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	10000.00	0.00	36.00	10000.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	10100.00	0.00	36.00	10100.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	10200.00	0.00	36.00	10200.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	10300.00	0.00	36.00	10300.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	10400.00	0.00	36.00	10400.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	10500.00	0.00	36.00	10500.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	10600.00	0.00	36.00	10600.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	10700.00	0.00	36.00	10700.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	10800.00	0.00	36.00	10800.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	10900.00	0.00	36.00	10900.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	11000.00	0.00	36.00	11000.00	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
Build & Turn to 75° with 12°/100'												
DLS	11011.48	0.00	36.00	11011.48	0.00	0.00	0.00	0.00	686944.28	768033.51	N 32 53 10.49	W 103 35 41.44
	11100.00	10.62	36.00	11099.49	7.06	6.62	4.81	12.00	686950.90	768038.32	N 32 53 10.56	W 103 35 41.38
	11200.00	22.62	36.00	11195.14	31.71	29.72	21.59	12.00	686974.00	768055.10	N 32 53 10.79	W 103 35 41.18
	11300.00	34.62	36.00	11282.76	72.99	68.40	49.70	12.00	687012.68	768083.21	N 32 53 11.17	W 103 35 40.85
	11400.00	46.62	36.00	11358.52	129.09	120.98	87.90	12.00	687065.26	768121.40	N 32 53 11.68	W 103 35 40.40
	11500.00	58.62	36.00	11419.12	197.57	185.15	134.52	12.00	687129.43	768168.03	N 32 53 12.32	W 103 35 39.85
	11600.00	70.62	36.00	11481.90	275.42	258.11	187.53	12.00	687202.38	768221.03	N 32 53 13.03	W 103 35 39.22
Build to Landing Point with												
4°/100' DLS	11636.48	75.00	36.00	11472.68	305.50	286.30	208.01	12.00	687230.57	768241.51	N 32 53 13.31	W 103 35 38.98
	11700.00	75.96	33.57	11488.60	359.23	336.80	243.09	4.00	687281.07	768276.59	N 32 53 13.81	W 103 35 38.56
	11800.00	77.53	29.79	11511.53	446.70	419.62	294.18	4.00	687363.88	768327.68	N 32 53 14.62	W 103 35 37.96
	11900.00	79.15	26.05	11531.76	537.34	506.14	340.03	4.00	687450.40	768373.52	N 32 53 15.48	W 103 35 37.41
	12000.00	80.81	22.36	11549.17	630.69	595.94	380.39	4.00	687540.20	768413.88	N 32 53 16.36	W 103 35 36.93
	12100.00	82.51	18.70	11563.68	726.31	688.58	415.07	4.00	687632.84	768448.56	N 32 53 17.28	W 103 35 36.52
	12200.00	84.23	15.07	11575.23	823.73	783.61	443.90	4.00	687727.86	768477.40	N 32 53 18.22	W 103 35 36.17
	12300.00	85.99	11.46	11583.76	922.48	880.57	466.75	4.00	687824.82	768500.24	N 32 53 19.17	W 103 35 35.89
	12400.00	87.75	7.86	11589.22	1022.07	978.99	483.50	4.00	687923.23	768516.99	N 32 53 20.15	W 103 35 35.69
	12500.00	89.53	4.28	11591.59	1122.02	1078.38	494.07	4.00	688022.62	768527.56	N 32 53 21.13	W 103 35 35.56
	12600.00	91.31	0.69	11590.86	1221.84	1178.26	498.41	4.00	688122.50	768531.90	N 32 53 22.12	W 103 35 35.50
Landing Point	12631.09	91.86	359.58	11590.00	1252.78	1209.34	498.48	4.00	688153.58	768531.97	N 32 53 22.42	W 103 35 35.50
	12700.00	91.86	359.58	11587.76	1321.26	1278.21	497.98	0.00	688222.45	768531.47	N 32 53 23.11	W 103 35 35.50
	12800.00	91.86	359.58	11584.51	1420.64	1378.15	497.24	0.00	688322.39	768530.74	N 32 53 24.09	W 103 35 35.50
	12900.00	91.86	359.58	11581.27	1520.02	1478.10	496.51	0.00	688422.33	768530.00	N 32 53 25.08	W 103 35 35.50
	13000.00	91.86	359.58	11578.02	1619.40	1578.04	495.78	0.00	688522.27	768529.27	N 32 53 26.07	W 103 35 35.50
	13100.00	91.86	359.58	11574.77	1718.78	1677.99	495.04	0.00	688622.21	768528.54	N 32 53 27.06	W 103 35 35.50
	13200.00	91.86	359.58	11571.52	1818.16	1777.93	494.31	0.00	688722.15	768527.80	N 32 53 28.05	W 103 35 35.50
	13300.00	91.86	359.58	11568.28	1917.54	1877.88	493.58	0.00	688822.09	768527.07	N 32 53 29.04	W 103 35 35.50
	13400.00	91.86	359.58	11565.03	2016.92	1977.82	492.84	0.00	688922.03	768526.34	N 32 53 30.03	W 103 35 35.50
	13500.00	91.86	359.58	11561.78	2116.30	2077.77	492.11	0.00	689021.98	768525.60	N 32 53 31.02	W 103 35 35.50
	13600.00	91.86	359.58	11558.53	2215.68	2177.71	491.38	0.00	689121.92	768524.87	N 32 53 32.01	W 103 35 35.50
	13700.00	91.86	359.58	11555.28	2315.06	2277.66	490.64	0.00	689221.86	768524.13	N 32 53 32.99	W 103 35 35.50
	13800.00	91.86	359.58	11552.04	2414.44	2377.60	489.91	0.00	689321.80	768523.40	N 32 53 33.98	W 103 35 35.50
	13900.00	91.86	359.58	11548.79	2513.82	2477.54	489.17	0.00	689421.74	768522.67	N 32 53 34.97	W 103 35 35.50
	14000.00	91.86	359.58	11545.54	2613.20	2577.49	488.44	0.00	689521.68	768521.93	N 32 53 35.96	W 103 35 35.50
	14100.00	91.86	359.58	11542.29	2712.58	2677.43	487.70	0.00	689621.62	768521.20	N 32 53 36.95	W 103 35 35.50
	14200.00	91.86	359.58	11539.04	2811.96	2777.38	486.97	0.00	689721.56	768520.46	N 32 53 37.94	W 103 35 35.50
	14300.00	91.86	359.58	11535.79	2911.34	2877.32	486.23	0.00	689821.50	768519.73	N 32 53 38.93	W 103 35 35.50
	14400.00	91.86	359.58	11532.54	3010.72	2977.27	485.50	0.00	689921.45	768519.00	N 32 53 39.92	W 103 35 35.50
	14500.00	91.86	359.58	11529.29	3110.10	3077.21	484.76	0.00	690021.39	768518.25	N 32 53 40.91	W 103 35 35.50
	14600.00	91.86	359.58	11526.04	3209.48	3177.16	484.02	0.00	690121.33	768517.52	N 32 53 41.89	W 103 35 35.50
	14700.00	91.86	359.58	11522.79	3308.86	3277.10	483.29	0.00	690221.27	768516.78	N 32 53 42.88	W 103 35 35.50
	14800.00	91.86	359.58	11519.54	3408.24	3377.04	482.55	0.00	690321.21	768516.05	N 32 53 43.87	W 103 35 35.50
	14900.00	91.86	359.58	11516.28	3507.62	3476.99	481.82	0.00	690421.15	768515.31	N 32 53 44.86	W 103 35 35.50
	15000.00	91.86	359.58	11513.03	3607.00	3576.93	481.08	0.00	690521.09	768514.57	N 32 53 45.85	W 103 35 35.50
	15100.00	91.86	359.58	11509.78	3706.38	3676.88	480.34	0.00	690621.03	768513.84	N 32 53 46.84	W 103 35 35.51

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 ° ' ")
	15200.00	91.86	359.58	11506.53	3805.76	3776.82	479.61	0.00	690720.97	768513.10	N 32 53 47.83	W 103 35 35.51
	15300.00	91.86	359.58	11503.28	3905.14	3876.77	478.87	0.00	690820.91	768512.36	N 32 53 48.82	W 103 35 35.51
	15400.00	91.86	359.58	11500.02	4004.52	3976.71	478.13	0.00	690920.86	768511.63	N 32 53 49.81	W 103 35 35.51
	15500.00	91.86	359.58	11496.77	4103.90	4076.66	477.39	0.00	691020.80	768510.89	N 32 53 50.79	W 103 35 35.51
	15600.00	91.86	359.58	11493.52	4203.28	4176.60	476.66	0.00	691120.74	768510.15	N 32 53 51.78	W 103 35 35.51
	15700.00	91.86	359.58	11490.27	4302.66	4276.54	475.92	0.00	691220.68	768509.41	N 32 53 52.77	W 103 35 35.51
	15800.00	91.86	359.58	11487.01	4402.03	4376.49	475.18	0.00	691320.62	768508.68	N 32 53 53.76	W 103 35 35.51
	15900.00	91.86	359.58	11483.76	4501.41	4476.43	474.44	0.00	691420.56	768507.94	N 32 53 54.75	W 103 35 35.51
	16000.00	91.86	359.58	11480.51	4600.79	4576.38	473.71	0.00	691520.50	768507.20	N 32 53 55.74	W 103 35 35.51
	16100.00	91.86	359.58	11477.25	4700.17	4676.32	472.97	0.00	691620.44	768506.46	N 32 53 56.73	W 103 35 35.51
Cimarex State LF 30 #4H PBHL [330' FNL, 480' FEL]	16169.20	91.86	359.58	11475.00	4768.94	4745.48	472.46	0.00	691689.60	768505.95	N 32 53 57.41	W 103 35 35.51

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)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	16169.198	1/100.000	30.000	30.000		NAL_MWD_PLUS_0.5_DEG	Original Borehole / Cimarex State LF 30 #4H Rev0 cvs 21Oct16