



Mesa West Directional
Telephone: 505.402.8944
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Austin Exploration

Fremont County (Nad 83)

Sec 18, T20S,R69W

C-18-#1

Stk

UWI:

API:

Plan: #1

Mesa West Planning Report

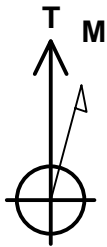
03 June, 2014





Project: Fremont County (Nad 83)
Site: Sec 18, T20S,R69W
Well: C-18-#1
Wellbore: Stk
Plan: #1

Reference Details - WELL CENTRE
Geodetic System: US State Plane 1983
Ellipsoid: GRS 1980
Zone: Colorado Central Zone
Northing: 1173867.22
Easting: 3100933.08
Latitude: 38° 18' 36.684 N
Longitude: 105° 8' 53.736 W
Grid Convergence: 0.22° West
Ground Elevation: 6019.0
KB Elevation: RKB @ 6033.0usft (Javernick #1)

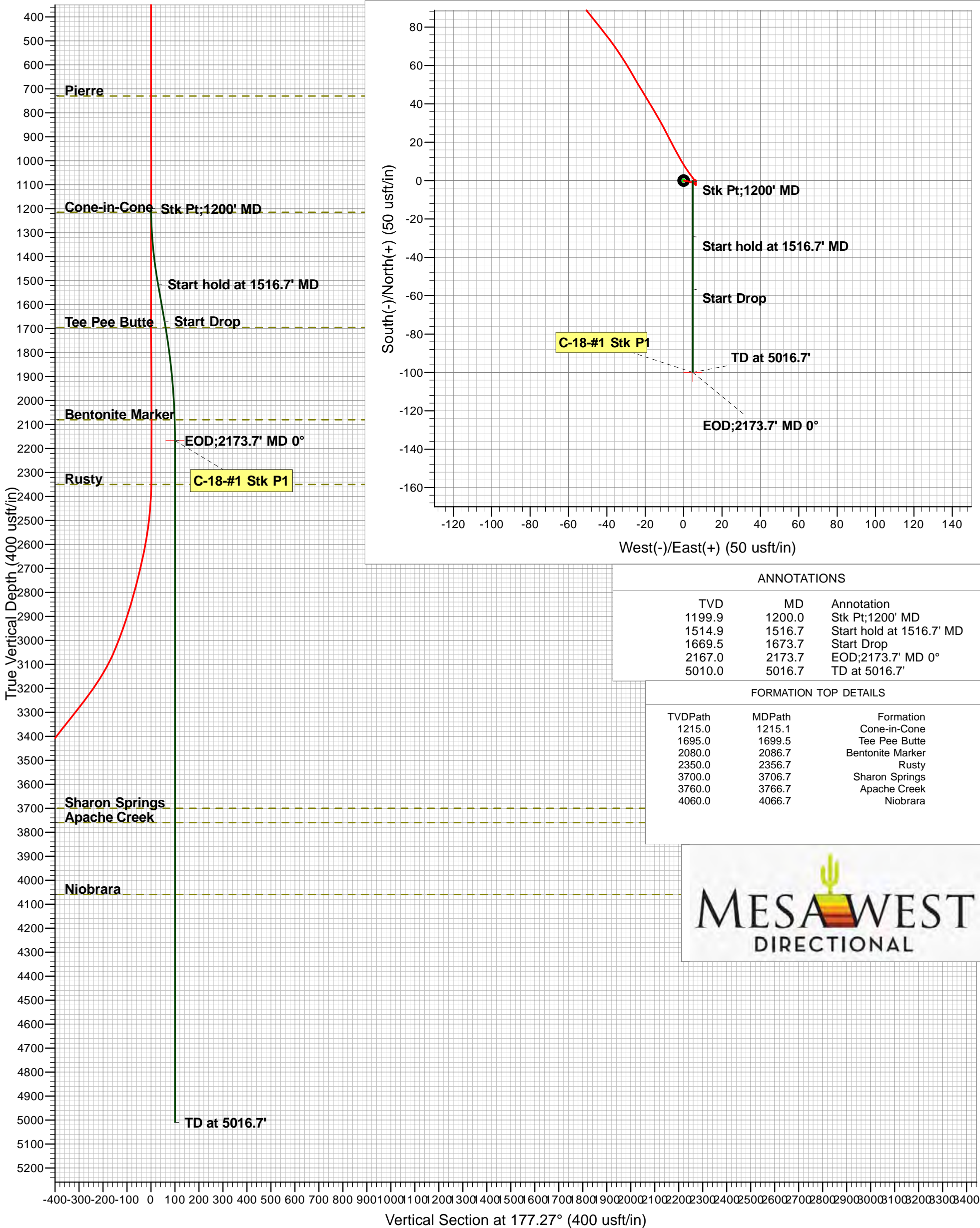


Azimuths to True North
Magnetic North: 8.48°

Magnetic Field
Strength: 51644.8snT
Dip Angle: 65.18°
Date: 6/3/2014
Model: IGRF2010

PLAN DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	1200.0	0.50	180.00	1199.9	-0.2	4.8	0.00	0.00	0.4	C-18-#1 Stk P1
2	1516.7	10.00	180.00	1514.9	-29.1	4.8	3.00	0.00	29.3	
3	1673.7	10.00	180.00	1669.5	-56.4	4.8	0.00	0.00	56.6	
4	2173.7	0.00	0.00	2167.0	-99.9	4.8	2.00	180.00	100.0	
5	5016.7	0.00	0.00	5010.0	-99.9	4.8	0.00	0.00	100.0	



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well C-18-#1
Company:	Austin Exploration	TVD Reference:	RKB @ 6033.0usft (Javernick #1)
Project:	Fremont County (Nad 83)	MD Reference:	RKB @ 6033.0usft (Javernick #1)
Site:	Sec 18, T20S,R69W	North Reference:	True
Well:	C-18-#1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Stk		
Plan:	#1		

Project	Fremont County (Nad 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site	Sec 18, T20S,R69W			
Site Position:		Northing:	1,173,713.71 usft	Latitude: 38° 18' 35.172 N
From:	Lat/Long	Easting:	3,100,788.76 usft	Longitude: 105° 8' 55.554 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.22 °

Well	C-18-#1			
Well Position	+N/-S	152.9 usft	Northing:	1,173,867.21 usft
	+E/-W	144.9 usft	Easting:	3,100,933.08 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:		Ground Level: 6,019.0 usft

Wellbore	Stk				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/3/2014	8.48	65.18	51,645

Plan	#1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	1,200.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	177.27

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
1,200.0	0.50	180.00	1,199.9	-0.2	4.8	0.00	0.00	0.00	0.00	
1,516.7	10.00	180.00	1,514.9	-29.1	4.8	3.00	3.00	0.00	0.00	
1,673.7	10.00	180.00	1,669.5	-56.4	4.8	0.00	0.00	0.00	0.00	
2,173.7	0.00	0.00	2,167.0	-99.9	4.8	2.00	-2.00	-36.00	180.00	C-18-#1 Stk P1
5,016.7	0.00	0.00	5,010.0	-99.9	4.8	0.00	0.00	0.00	0.00	

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Site:	Sec 18, T20S,R69W	North Reference:	True
Well:	C-18-#1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Stk		
Plan:	#1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Stk Pt;1200' MD										
1,200.0	0.50	180.00	1,199.9	-4,833.1	-0.2	4.8	0.4	0.00	0.00	0.00
Cone-in-Cone										
1,215.1	0.95	180.00	1,215.0	-4,818.0	-0.4	4.8	0.6	3.00	3.00	0.00
1,300.0	3.50	180.00	1,299.9	-4,733.1	-3.7	4.8	3.9	3.00	3.00	0.00
1,400.0	6.50	180.00	1,399.5	-4,633.5	-12.4	4.8	12.6	3.00	3.00	0.00
1,500.0	9.50	180.00	1,498.5	-4,534.5	-26.3	4.8	26.5	3.00	3.00	0.00
Start hold at 1516.7' MD										
1,516.7	10.00	180.00	1,514.9	-4,518.1	-29.1	4.8	29.3	3.00	3.00	0.00
1,600.0	10.00	180.00	1,597.0	-4,436.0	-43.6	4.8	43.8	0.00	0.00	0.00
Start Drop										
1,673.7	10.00	180.00	1,669.5	-4,363.5	-56.4	4.8	56.6	0.00	0.00	0.00
Tee Pee Butte										
1,699.5	9.48	180.00	1,695.0	-4,338.0	-60.8	4.8	60.9	2.00	-2.00	0.00
1,700.0	9.47	180.00	1,695.5	-4,337.5	-60.8	4.8	61.0	2.00	-2.00	0.00
1,800.0	7.47	180.00	1,794.4	-4,238.6	-75.6	4.8	75.7	2.00	-2.00	0.00
1,900.0	5.47	180.00	1,893.7	-4,139.3	-86.9	4.8	87.0	2.00	-2.00	0.00
2,000.0	3.47	180.00	1,993.4	-4,039.6	-94.7	4.8	94.8	2.00	-2.00	0.00
Bentonite Marker										
2,086.7	1.74	180.00	2,080.0	-3,953.0	-98.6	4.8	98.7	2.00	-2.00	0.00
2,100.0	1.47	180.00	2,093.3	-3,939.7	-99.0	4.8	99.1	2.00	-2.00	0.00
EOD;2173.7' MD 0° - C-18-#1 Stk P1										
2,173.7	0.00	0.00	2,167.0	-3,866.0	-99.9	4.8	100.0	2.00	-2.00	-244.31
Rusty										
2,356.7	0.00	0.00	2,350.0	-3,683.0	-99.9	4.8	100.0	0.00	0.00	0.00
Sharon Springs										
3,706.7	0.00	0.00	3,700.0	-2,333.0	-99.9	4.8	100.0	0.00	0.00	0.00
Apache Creek										
3,766.7	0.00	0.00	3,760.0	-2,273.0	-99.9	4.8	100.0	0.00	0.00	0.00
Niobrara										
4,066.7	0.00	0.00	4,060.0	-1,973.0	-99.9	4.8	100.0	0.00	0.00	0.00
TD at 5016.7'										
5,016.7	0.00	0.00	5,010.0	-1,023.0	-99.9	4.8	100.0	0.00	0.00	0.00

Design Targets										
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude		Longitude
C-18-#1 Stk P1 - plan hits target center - Point	0.00	0.00	2,167.0	-99.9	4.8	1,173,767.32	3,100,938.24	38° 18' 35.696 N		105° 8' 53.676 W

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Site:	Sec 18, T20S,R69W	North Reference:	True
Well:	C-18-#1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Stk		
Plan:	#1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Subsea Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,215.1	1,215.0	4,818.0	Cone-in-Cone			
1,699.5	1,695.0	4,338.0	Tee Pee Butte			
2,086.7	2,080.0	3,953.0	Bentonite Marker			
2,356.7	2,350.0	3,683.0	Rusty			
3,706.7	3,700.0	2,333.0	Sharon Springs			
3,766.7	3,760.0	2,273.0	Apache Creek			
4,066.7	4,060.0	1,973.0	Niobrara			

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			Comment
		+N/-S (usft)	+E/-W (usft)		
1,200.0	1,199.9	-0.2	4.8		Stk Pt;1200' MD
1,516.7	1,514.9	-29.1	4.8		Start hold at 1516.7' MD
1,673.7	1,669.5	-56.4	4.8		Start Drop
2,173.7	2,167.0	-99.9	4.8		EOD;2173.7' MD 0°
5,016.7	5,010.0	-99.9	4.8		TD at 5016.7'