

Antero Resources

McLin

McLin B

McLIN B16 (111160)

ANTERO McLIN B16

Plan: P02

Standard Planning Report - Geographic

15 March, 2012

Planning Report - Geographic

Database:	EDM5000-New	Local Co-ordinate Reference:	Well McLIN B16 (111160)
Company:	Antero Resources	TVD Reference:	RKB @ 5622.00ft
Project:	McLin	MD Reference:	RKB @ 5622.00ft
Site:	McLin B	North Reference:	Grd
Well:	McLIN B16 (111160)	Survey Calculation Method:	Minimum Curvature
Wellbore:	ANTERO McLIN B16		
Design:	P02		

Project	McLin		
Map System:	Universal Transverse Mercator	System Datum:	Mean Sea Level
Geo Datum:	NAD83 Colorado - HARN		
Map Zone:	Zone 13N (108 W to 102 W)		

Site	McLin B		
Site Position:		Northing:	14,366,636.75 usft
From:	Lat/Long	Easting:	904,982.97 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.20 in
		Latitude:	39.531054942°N
		Longitude:	107.608143570°W
		Grid Convergence:	-1.66 °

Well	McLIN B16 (111160)		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	
		Latitude:	39.531006796°N
		Longitude:	107.608216517°W
		Ground Level:	5,598.00 ft

Wellbore	ANTERO McLIN B16				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	06/16/12	10.05	65.81	52,221

Design	P02			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	209.14

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)	(°)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,150.00	0.00	0.00	1,150.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,065.67	27.47	209.14	2,030.99	-188.08	-104.85	3.00	3.00	0.00	209.14	
3,429.45	27.47	209.14	3,241.01	-737.55	-411.18	0.00	0.00	0.00	0.00	
4,345.12	0.00	209.14	4,122.00	-925.63	-516.04	3.00	-3.00	0.00	180.00	
7,195.12	0.00	209.14	6,972.00	-925.63	-516.04	0.00	0.00	0.00	209.14	TD B16 P02

Planning Report - Geographic

Database:	EDM5000-New	Local Co-ordinate Reference:	Well McLIN B16 (111160)
Company:	Antero Resources	TVD Reference:	RKB @ 5622.00ft
Project:	McLin	MD Reference:	RKB @ 5622.00ft
Site:	McLin B	North Reference:	Grid
Well:	McLIN B16 (111160)	Survey Calculation Method:	Minimum Curvature
Wellbore:	ANTERO McLIN B16		
Design:	P02		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,366,619.81	904,961.89	39.531006796°N	107.608216517°W
Wasatch									
100.00	0.00	0.00	100.00	0.00	0.00	14,366,619.81	904,961.89	39.531006796°N	107.608216517°W
200.00	0.00	0.00	200.00	0.00	0.00	14,366,619.81	904,961.89	39.531006796°N	107.608216517°W
300.00	0.00	0.00	300.00	0.00	0.00	14,366,619.81	904,961.89	39.531006796°N	107.608216517°W
400.00	0.00	0.00	400.00	0.00	0.00	14,366,619.81	904,961.89	39.531006796°N	107.608216517°W
500.00	0.00	0.00	500.00	0.00	0.00	14,366,619.81	904,961.89	39.531006796°N	107.608216517°W
600.00	0.00	0.00	600.00	0.00	0.00	14,366,619.81	904,961.89	39.531006796°N	107.608216517°W
700.00	0.00	0.00	700.00	0.00	0.00	14,366,619.81	904,961.89	39.531006796°N	107.608216517°W
800.00	0.00	0.00	800.00	0.00	0.00	14,366,619.81	904,961.89	39.531006796°N	107.608216517°W
900.00	0.00	0.00	900.00	0.00	0.00	14,366,619.81	904,961.89	39.531006796°N	107.608216517°W
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,366,619.81	904,961.89	39.531006796°N	107.608216517°W
Surf Csg at 1000 MD/TVD									
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,366,619.81	904,961.89	39.531006796°N	107.608216517°W
1,150.00	0.00	0.00	1,150.00	0.00	0.00	14,366,619.81	904,961.89	39.531006796°N	107.608216517°W
KOP 3°/100 at 1150 MD/TVD									
1,200.00	1.50	209.14	1,199.99	-0.57	-0.32	14,366,619.24	904,961.57	39.531005202°N	107.608217588°W
1,300.00	4.50	209.14	1,299.85	-5.14	-2.87	14,366,614.67	904,959.02	39.530992460°N	107.608226146°W
1,400.00	7.50	209.14	1,399.29	-14.27	-7.96	14,366,605.54	904,953.93	39.530967009°N	107.608243239°W
1,500.00	10.50	209.14	1,498.04	-27.93	-15.57	14,366,591.88	904,946.32	39.530928921°N	107.608268821°W
1,600.00	13.50	209.14	1,595.85	-48.09	-25.70	14,366,573.72	904,936.19	39.530878299°N	107.608302820°W
1,700.00	16.50	209.14	1,692.43	-68.69	-38.30	14,366,551.12	904,923.59	39.530815282°N	107.608345144°W
1,800.00	19.50	209.14	1,787.52	-95.68	-53.34	14,366,524.13	904,908.55	39.530740043°N	107.608395677°W
1,900.00	22.50	209.14	1,880.87	-126.98	-70.79	14,366,492.84	904,891.10	39.530652788°N	107.608454279°W
2,000.00	25.50	209.14	1,972.22	-162.50	-90.59	14,366,457.31	904,871.29	39.530553757°N	107.608520791°W
2,065.67	27.47	209.14	2,030.99	-188.08	-104.85	14,366,431.74	904,857.04	39.530482447°N	107.608568685°W
Hold 27° at 2066 MD/2031 TVD									
2,100.00	27.47	209.14	2,061.45	-201.91	-112.56	14,366,417.90	904,849.32	39.530443884°N	107.608594584°W
2,200.00	27.47	209.14	2,150.18	-242.20	-135.03	14,366,377.61	904,826.86	39.530331558°N	107.608670025°W
2,300.00	27.47	209.14	2,238.90	-282.49	-157.49	14,366,337.32	904,804.40	39.530219232°N	107.608745465°W
2,400.00	27.47	209.14	2,327.63	-322.78	-179.95	14,366,297.03	904,781.94	39.530106908°N	107.608820905°W
2,500.00	27.47	209.14	2,416.35	-363.07	-202.41	14,366,256.74	904,759.48	39.529994580°N	107.608896344°W
2,600.00	27.47	209.14	2,505.08	-403.36	-224.87	14,366,216.45	904,737.02	39.529882254°N	107.608971784°W
2,700.00	27.47	209.14	2,593.80	-443.65	-247.34	14,366,176.16	904,714.55	39.529769928°N	107.609047223°W
2,800.00	27.47	209.14	2,682.53	-483.94	-269.80	14,366,135.87	904,692.09	39.529657601°N	107.609122662°W
2,900.00	27.47	209.14	2,771.25	-524.23	-292.26	14,366,095.58	904,669.63	39.529545275°N	107.609198100°W
3,000.00	27.47	209.14	2,859.98	-564.53	-314.72	14,366,055.29	904,647.17	39.529432949°N	107.609273539°W
3,100.00	27.47	209.14	2,948.70	-604.82	-337.18	14,366,015.00	904,624.71	39.529320622°N	107.609348977°W
3,200.00	27.47	209.14	3,037.43	-645.11	-359.64	14,365,974.71	904,602.25	39.529208296°N	107.609424415°W
3,300.00	27.47	209.14	3,126.15	-685.40	-382.11	14,365,934.42	904,579.78	39.529095969°N	107.609499853°W
3,400.00	27.47	209.14	3,214.88	-725.69	-404.57	14,365,894.13	904,557.32	39.528983643°N	107.609575290°W
3,429.45	27.47	209.14	3,241.01	-737.55	-411.18	14,365,882.26	904,550.71	39.528950559°N	107.609597509°W
Drop 3°/100 at 3429 MD/3241 TVD									
3,500.00	25.35	209.14	3,304.19	-764.96	-426.46	14,365,854.86	904,535.43	39.528874149°N	107.609648825°W
3,519.66	24.76	209.14	3,322.00	-772.23	-430.52	14,365,847.58	904,531.37	39.528853871°N	107.609662444°W
Mesaverde									
3,600.00	22.35	209.14	3,395.64	-800.28	-446.15	14,365,819.54	904,515.74	39.528775685°N	107.609714952°W
3,700.00	19.35	209.14	3,489.08	-831.37	-463.48	14,365,788.45	904,498.41	39.528689011°N	107.609773162°W
3,800.00	16.35	209.14	3,584.25	-858.14	-478.41	14,365,761.67	904,483.48	39.528614363°N	107.609823294°W
3,900.00	13.35	209.14	3,680.90	-880.53	-490.89	14,365,739.28	904,471.00	39.528551946°N	107.609865212°W
4,000.00	10.35	209.14	3,778.75	-898.47	-500.89	14,365,721.35	904,461.00	39.528501932°N	107.609898800°W
4,100.00	7.35	209.14	3,877.55	-911.91	-508.39	14,365,707.90	904,453.50	39.528464458°N	107.609923967°W
4,200.00	4.35	209.14	3,977.02	-920.82	-513.35	14,365,699.00	904,448.54	39.528439626°N	107.609940644°W
4,300.00	1.35	209.14	4,076.88	-925.17	-515.78	14,365,694.65	904,446.11	39.528427504°N	107.609948785°W

Planning Report - Geographic

Database:	EDM5000-New	Local Co-ordinate Reference:	Well McLIN B16 (111160)
Company:	Antero Resources	TVD Reference:	RKB @ 5622.00ft
Project:	McLin	MD Reference:	RKB @ 5622.00ft
Site:	McLin B	North Reference:	Grid
Well:	McLIN B16 (111160)	Survey Calculation Method:	Minimum Curvature
Wellbore:	ANTERO McLIN B16		
Design:	P02		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,345.12	0.00	209.14	4,122.00	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
Vertical at 4345 MD/4122 TVD - Price Coal									
4,400.00	0.00	209.14	4,176.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
4,500.00	0.00	209.14	4,276.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
4,600.00	0.00	209.14	4,376.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
4,700.00	0.00	209.14	4,476.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
4,800.00	0.00	209.14	4,576.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
4,900.00	0.00	209.14	4,676.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
5,000.00	0.00	209.14	4,776.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
5,045.12	0.00	209.14	4,822.00	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
Top Gas									
5,100.00	0.00	209.14	4,876.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
5,200.00	0.00	209.14	4,976.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
5,300.00	0.00	209.14	5,076.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
5,400.00	0.00	209.14	5,176.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
5,500.00	0.00	209.14	5,276.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
5,600.00	0.00	209.14	5,376.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
5,700.00	0.00	209.14	5,476.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
5,800.00	0.00	209.14	5,576.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
5,900.00	0.00	209.14	5,676.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
5,945.12	0.00	209.14	5,722.00	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
Cameo									
6,000.00	0.00	209.14	5,776.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
6,100.00	0.00	209.14	5,876.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
6,200.00	0.00	209.14	5,976.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
6,300.00	0.00	209.14	6,076.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
6,400.00	0.00	209.14	6,176.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
6,500.00	0.00	209.14	6,276.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
6,600.00	0.00	209.14	6,376.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
6,700.00	0.00	209.14	6,476.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
6,800.00	0.00	209.14	6,576.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
6,900.00	0.00	209.14	6,676.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
7,000.00	0.00	209.14	6,776.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
7,045.12	0.00	209.14	6,822.00	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
Rollins									
7,100.00	0.00	209.14	6,876.88	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
7,195.12	0.00	209.14	6,972.00	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
TD at 7195 MD/6972 TVD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
TD B16 P02	0.00	360.00	6,972.00	-925.63	-516.04	14,365,694.18	904,445.85	39.528426206°N	107.609949656°W
- plan hits target center									
- Circle (radius 20.00)									

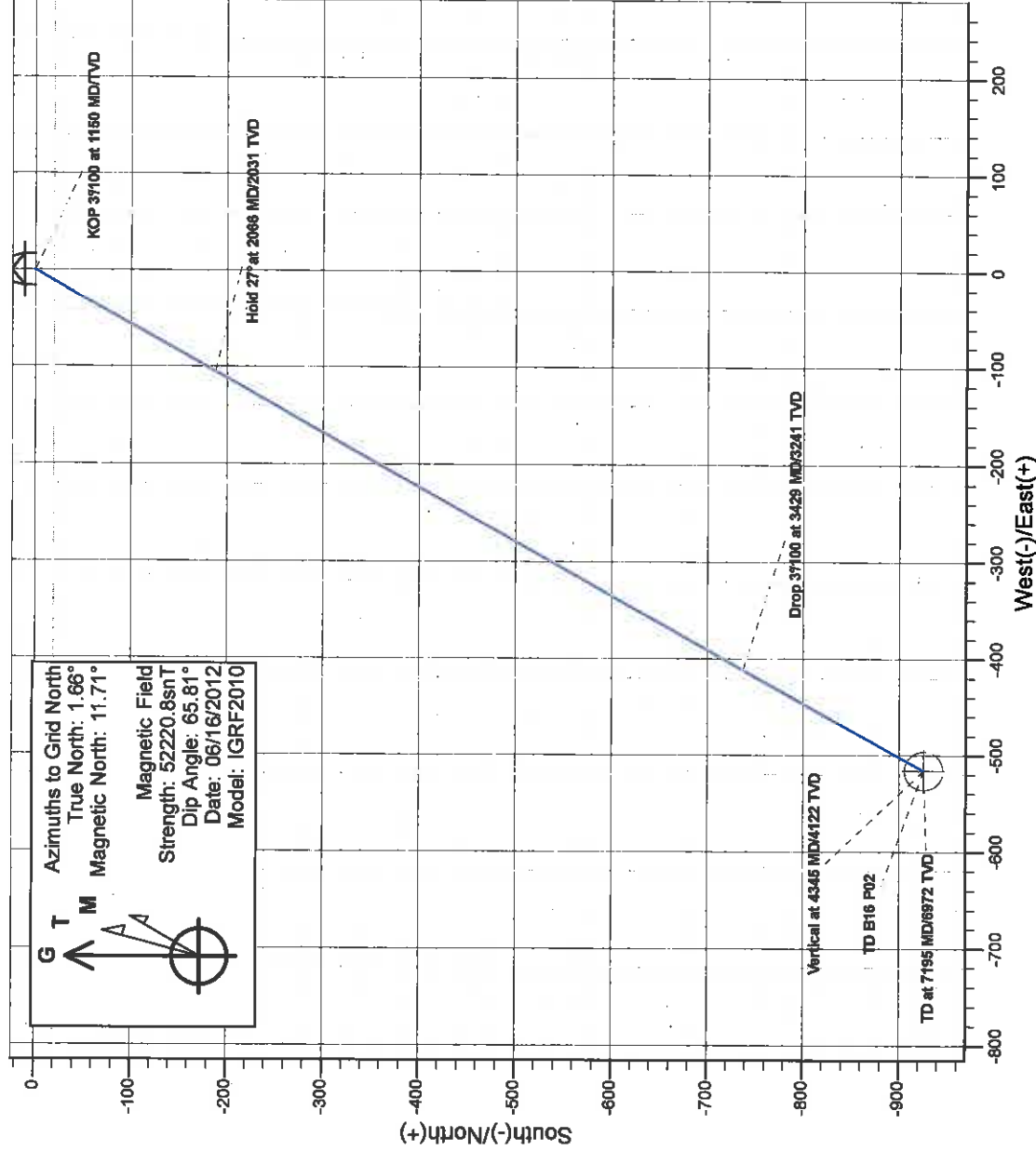
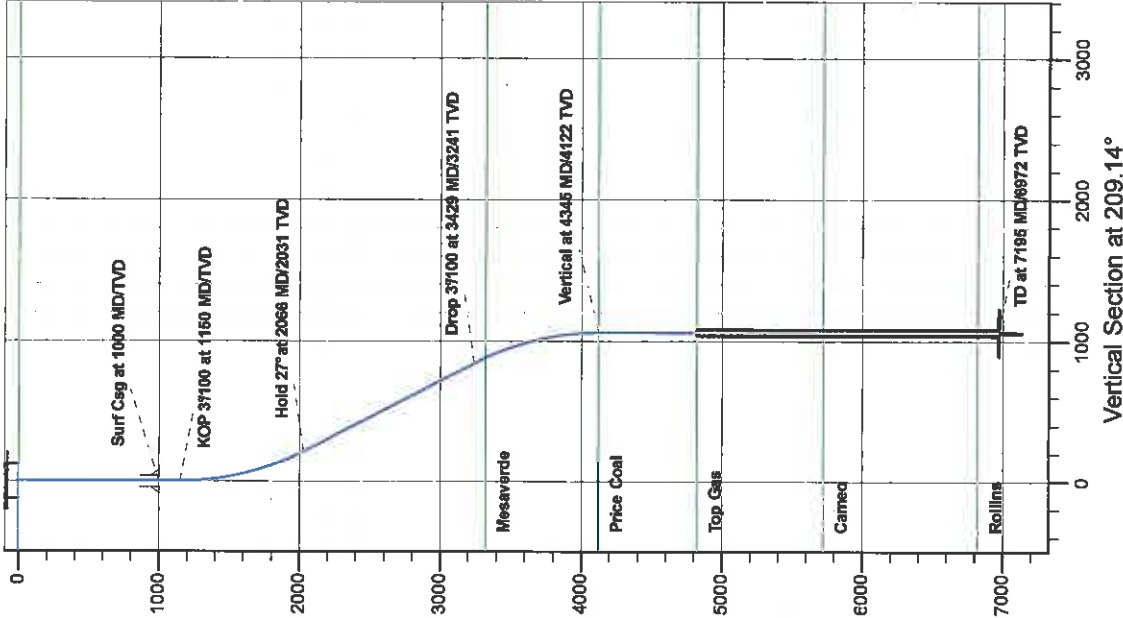
Planning Report - Geographic

Database:	EDM5000-New	Local Co-ordinate Reference:	Well McLIN B16 (111160)
Company:	Antero Resources	TVD Reference:	RKB @ 5622.00ft
Project:	McLin	MD Reference:	RKB @ 5622.00ft
Site:	McLin B	North Reference:	Grid
Well:	McLIN B16 (111160)	Survey Calculation Method:	Minimum Curvature
Wellbore:	ANTERO McLIN B16		
Design:	P02		

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,000.00	1,000.00	Surf Csg at 1000 MD/TVD	9.62	12.25

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
0.00	0.00	Wasatch			
3,519.66	3,322.00	Mesaverde			
4,345.12	4,122.00	Price Coal			
5,045.12	4,822.00	Top Gas			
5,945.12	5,722.00	Cameo			
7,045.12	6,822.00	Rollins			

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,150.00	1,150.00	0.00	0.00	KOP 3°/100 at 1150 MD/TVD
2,065.67	2,030.99	-188.08	-104.85	Hold 27° at 2066 MD/2031 TVD
3,429.45	3,241.01	-737.55	-411.18	Drop 3°/100 at 3429 MD/3241 TVD
4,345.12	4,122.00	-925.63	-516.04	Vertical at 4345 MD/4122 TVD
7,195.12	6,972.00	-925.63	-516.04	TD at 7195 MD/6972 TVD



REFERENCE INFORMATION

ordinate (N/E) Reference: Well McLIN B16 (111160), Grid North
erical (TVD) Reference: RKB @ 5622.00ft
Section (VS) Reference: Slot - (0.00N, 0.00E)
asured Depth Reference: RKB @ 5622.00ft
Calculation Method: Minimum Curvature

PROJECT DETAILS: McLin

Geodetic System: Universal Transverse Mercator
Datum: NAD83 Colorado - HARN
Ellipsoid: GRS 1980
Zone: Zone 13N (108 W to 102 W)
System Datum: Mean Sea Level

SECTION DETAILS

MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1150.00	0.00	0.00	1150.00	0.00	0.00	0.00	0.00	0.00	
2066.67	27.47	209.14	2030.99	-185.08	-104.85	3.00	209.14	215.33	
3429.45	27.47	209.14	3241.01	-737.55	-411.18	0.00	0.00	844.43	
4345.12	0.00	209.14	4122.00	-825.53	-516.04	3.00	180.00	1059.76	
7195.12	0.00	209.14	6972.00	-825.53	-516.04	0.00	209.14	1059.76	B16 P02