

5D Plan Report**Kinder Morgan****Field Name:** *Kinder Morgan Montezuma Co., CO (NAD 83 COS)***Site Name:** *CD-4***Well Name:** *CD-4***Plan:** *P1:V4*

30 May 2014



CD-4
Montezuma Co, CO

Plan Data for CD-4

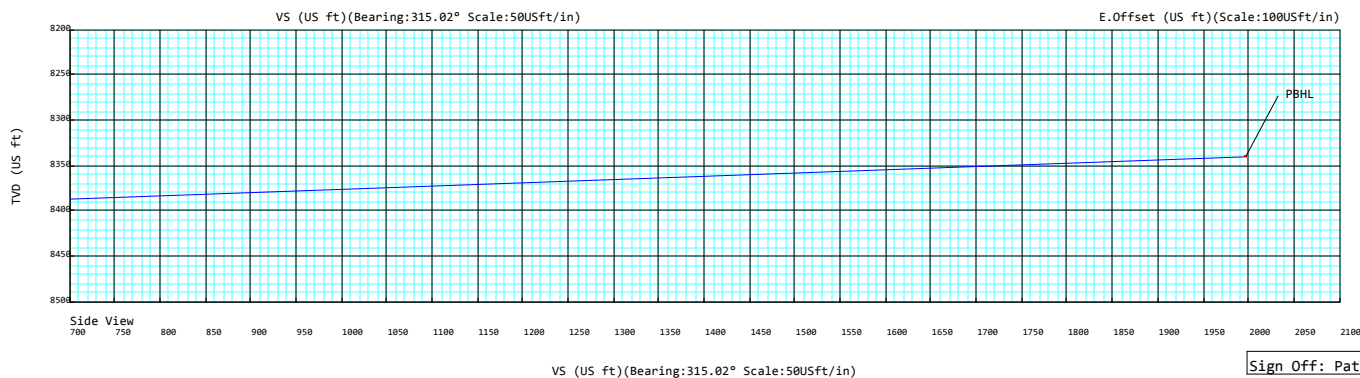
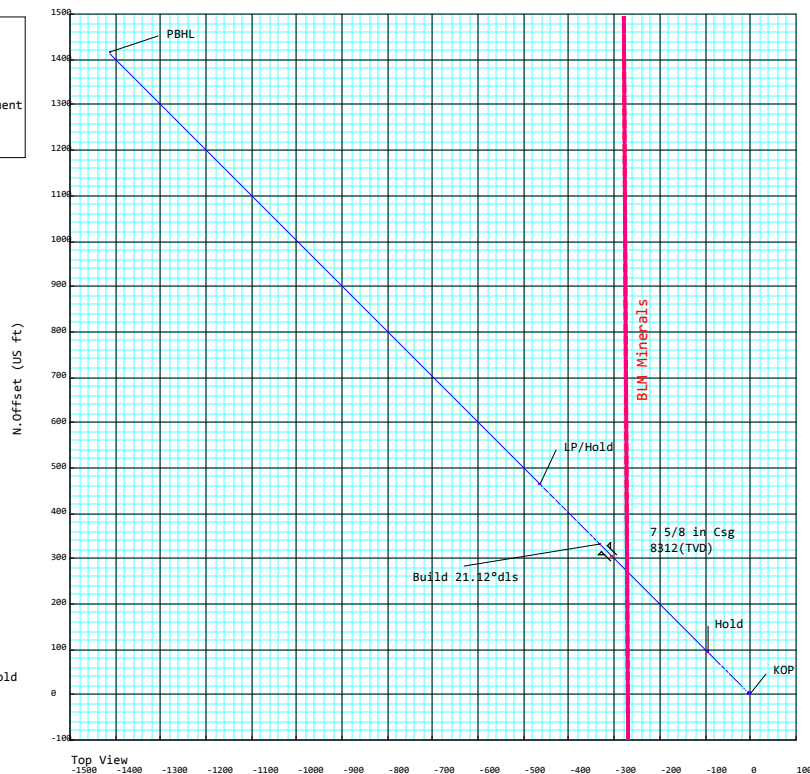
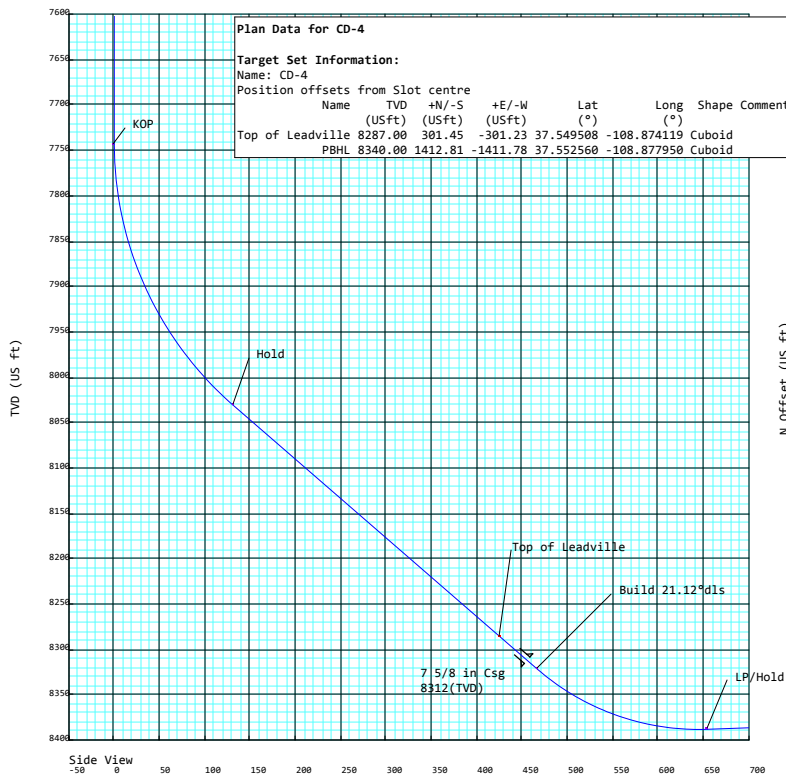
Site: CD-4
Unit: USFeet TVD Reference:
Company Name: Kinder Morgan
Position: Northing: 1338811.36USft Latitude: 37.548680°
Easting: 202328.11USft Longitude: -108.873080°
North Reference: True Grid Convergence: -2.07°
Elevation Above VRD: 6795.40USft

Plan Data for CD-4

Plan Point Information:

Dogleg Severity Unit: °/100.00ft				Position offsets from Slot centre					
MD	Inc	Az	TVD	+N/-S	+E/-W	Lat	Long	VSec	DLS
(USft)	(°)	(°)	(USft)	(USft)	(USft)	(°)	(°)	(USft)	(DLSU)
0.00	0.00	0.00	0.00	0.00	0.00	37.548680	-108.873080	0.00	0.00
7743.00	0.00	0.00	7743.00	0.00	0.00	37.548680	-108.873080	0.00	0.00
8070.06	49.06	315.02	8031.54	93.14	-93.07	37.548936	-108.873401	131.67	15.00
8513.32	49.06	315.02	8322.00	329.99	-329.75	37.549586	-108.874217	466.51	0.00
8716.92	92.05	315.02	8388.19	462.63	-462.29	37.549951	-108.874675	654.02	21.12
10061.05	92.05	315.02	8340.00	1412.81	-1411.78	37.552560	-108.877950	1997.29	0.00

KB-XXXX
GL-6795.4



Sign Off: Patrick Rudolph

CD-4

Field Name Kinder Morgan Montezuma Co., CO (NAD 83 COS)	Map Units : US ft		Company Name : Kinder Morgan	
	Vertical Reference Datum (VRD) : Mean Sea Level			
	Projected Coordinate System : NAD83 / Colorado South (ftUS)			
	Comment :			
Site Name CD-4	Units : US ft	North Reference : True		Convergence Angle : -2.07
	Position	Northing : 1338811.36 US ft		Latitude : 37° 32' 55.25"
		Easting : 2022328.11 US ft		Longitude : -108° 52' 23.09"
	Elevation above Mean Sea Level:6795.40 US ft			
Comment :				
Slot Name CD-4	Position (Offsets relative to Site Centre)			
	+N / -S : 0.00 US ft	Northing :1338811.36 US ft		Latitude : 37°32'55.25"
	+E / -W : 0.00 US ft	Easting :2022328.11 US ft		Longitude : -108°52'23.09"
	Slot TVD Reference : Ground Elevation			
	Elevation above Mean Sea Level : 6795.40 US ft			
	Comment :			
Well Name CD-4	Type : Main well		UWI :	Plan : P1:V4
	Rig Height <i>Drill Floor</i> : 0.00 US ft		Comment :	
	Relative to Mean Sea Level: 6795.40 US ft			
	Closure Distance : 1997.29 US ft		Closure Azimuth : 315.021°	
	Vertical Section (Position of Origin Relative to Slot)			
	+N / -S : 0.00 US ft		+E / -W : 0.00 US ft	Az :315.02°
	Magnetic Parameters			
	Model : BGGM	Field Strength : 50682.1nT	Dec : 10.16°	Dip : 63.89°

Target Set

Name : CD-4 **Number of Targets** : 2

Comment :

Target Name: Top of Leadville Shape: Cuboid	Position (Relative to Slot centre)			
	+N / -S : 301.45US ft		Northing : 1339123.49 US ft	Latitude : 37°32'58.23"
	+E / -W : -301.23 US ft		Easting : 2022037.95US ft	Longitude : -108°52'26.83"
	TVD (Drill Floor) : 8287.00 US ft			
	Orientation Azimuth : 0.00°		Inclination : 0.00°	
	Dimensions Length : 0.00 US ft	Breadth : 0.00 US ft	Height : 0.00 US ft	

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Target Name: PBHL Shape: Cuboid	Position (Relative to Slot centre)			
	+N / -S : 1412.81US ft	Northing : 1340274.22 US ft	Latitude : 37°33'9.22"	
	+E / -W : -1411.78 US ft	Easting : 2020968.25US ft	Longitude : -108°52'40.62"	
	TVD (Drill Floor) : 8340.00 US ft			
	Orientation	Azimuth : 0.00°	Inclination : 0.00°	
	Dimensions	Length : 0.00 US ft	Breadth : 0.00 US ft	Height : 0.00 US ft

Casing Points (Relative to Slot centre, TVD relative to Drill Floor)								
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Name
8498.07	49.06	315.02	8312.00	321.84	-321.61	1339144.60	2022018.33	Csg 7 5/8 in

Well path created using minimum curvature

Salient Points (Relative to Slot centre, TVD relative to Drill Floor)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	DLS (°/100 US ft)	VS (US ft)	B.Rate (°/100 US ft)	T.Rate (°/100 US ft)	T.Face (°)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7743.00	0.00	0.00	7743.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	KOP
8070.06	49.06	315.02	8031.54	93.14	-93.07	15.00	131.67	15.00	0.00	315.02	Hold
8498.07	49.06	315.02	8312.00	321.84	-321.61	0.00	454.98	0.00	0.00	0.00	7 5/8 in Csg
8513.32	49.06	315.02	8322.00	329.99	-329.75	0.00	466.51	0.00	0.00	0.00	Build 21.12°dls
8716.92	92.05	315.02	8388.19	462.63	-462.29	21.12	654.02	21.12	0.00	0.00	LP/Hold
10061.05	92.05	315.02	8340.00	1412.81	-1411.78	0.00	1997.29	0.00	0.00	0.00	PBHL

Interpolated Points (Relative to Slot centre, TVD relative to Drill Floor)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Northing (US ft)	Easting (US ft)	T.Face (°)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
1600.00	0.00	0.00	1600.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
1700.00	0.00	0.00	1700.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
1900.00	0.00	0.00	1900.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
2100.00	0.00	0.00	2100.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
2300.00	0.00	0.00	2300.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
2400.00	0.00	0.00	2400.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
2600.00	0.00	0.00	2600.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	

5D Plan Report

Interpolated Points (Relative to Slot centre, TVD relative to Drill Floor)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Northing (US ft)	Easting (US ft)	T.Face (°)	Comment
2700.00	0.00	0.00	2700.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
2800.00	0.00	0.00	2800.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
2900.00	0.00	0.00	2900.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
3000.00	0.00	0.00	3000.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
3100.00	0.00	0.00	3100.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
3200.00	0.00	0.00	3200.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
3300.00	0.00	0.00	3300.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
3400.00	0.00	0.00	3400.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
3500.00	0.00	0.00	3500.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
3600.00	0.00	0.00	3600.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
3700.00	0.00	0.00	3700.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
3800.00	0.00	0.00	3800.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
3900.00	0.00	0.00	3900.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
4000.00	0.00	0.00	4000.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
4100.00	0.00	0.00	4100.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
4200.00	0.00	0.00	4200.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
4300.00	0.00	0.00	4300.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
4400.00	0.00	0.00	4400.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
4500.00	0.00	0.00	4500.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
4600.00	0.00	0.00	4600.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
4700.00	0.00	0.00	4700.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
4800.00	0.00	0.00	4800.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
4900.00	0.00	0.00	4900.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
5000.00	0.00	0.00	5000.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
5100.00	0.00	0.00	5100.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
5200.00	0.00	0.00	5200.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
5300.00	0.00	0.00	5300.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
5400.00	0.00	0.00	5400.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
5500.00	0.00	0.00	5500.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
5600.00	0.00	0.00	5600.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
5700.00	0.00	0.00	5700.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
5800.00	0.00	0.00	5800.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
5900.00	0.00	0.00	5900.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
6000.00	0.00	0.00	6000.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
6100.00	0.00	0.00	6100.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
6200.00	0.00	0.00	6200.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
6300.00	0.00	0.00	6300.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
6400.00	0.00	0.00	6400.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
6500.00	0.00	0.00	6500.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
6600.00	0.00	0.00	6600.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
6700.00	0.00	0.00	6700.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
6800.00	0.00	0.00	6800.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
6900.00	0.00	0.00	6900.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
7000.00	0.00	0.00	7000.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
7100.00	0.00	0.00	7100.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
7200.00	0.00	0.00	7200.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
7300.00	0.00	0.00	7300.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
7400.00	0.00	0.00	7400.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
7500.00	0.00	0.00	7500.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
7600.00	0.00	0.00	7600.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
7700.00	0.00	0.00	7700.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	
7743.00	0.00	0.00	7743.00	0.00	0.00	0.00	0.00	1338811.36	2022328.11	0.00	KOP
7800.00	8.55	315.02	7799.79	3.00	-3.00	4.25	15.00	1338814.47	2022325.21	315.02	
7900.00	23.55	315.02	7895.62	22.50	-22.49	31.81	15.00	1338834.66	2022306.44	0.00	
8000.00	38.55	315.02	7981.04	58.88	-58.84	83.25	15.00	1338872.33	2022271.43	0.00	
8070.06	49.06	315.02	8031.54	93.14	-93.07	131.67	15.00	1338907.80	2022238.46	0.00	Hold
8100.00	49.06	315.02	8051.15	109.14	-109.06	154.29	0.00	1338924.36	2022223.06	0.00	
8200.00	49.06	315.02	8116.68	162.57	-162.45	229.83	0.00	1338979.69	2022171.63	0.00	

5D Plan Report

Interpolated Points (Relative to Slot centre, TVD relative to Drill Floor)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Northing (US ft)	Easting (US ft)	T.Face (°)	Comment
8300.00	49.06	315.02	8182.21	216.01	-215.85	305.37	0.00	1339035.02	2022120.20	0.00	
8400.00	49.06	315.02	8247.74	269.44	-269.24	380.91	0.00	1339090.34	2022068.77	0.00	
8459.92	49.06	315.02	8287.00	301.45	-301.23	426.17	0.00	1339123.49	2022037.95	0.00	Leadville : 7 5/8 in Csg
8498.07	49.06	315.02	8312.00	321.84	-321.61	454.98	0.00	1339144.60	2022018.33	0.00	
8500.00	49.06	315.02	8313.27	322.87	-322.64	456.44	0.00	1339145.67	2022017.34	0.00	
8513.32	49.06	315.02	8322.00	329.99	-329.75	466.51	0.00	1339153.04	2022010.48	0.00	Build 21.12°dls
8600.00	67.36	315.02	8367.46	381.89	-381.61	539.87	21.12	1339206.77	2021960.53	0.00	
8700.00	88.48	315.02	8388.27	450.67	-450.34	637.10	21.12	1339277.99	2021894.33	0.00	
8716.92	92.05	315.02	8388.19	462.63	-462.29	654.02	21.12	1339290.38	2021882.82	0.00	LP/Hold
8800.00	92.05	315.02	8385.21	521.36	-520.98	737.05	0.00	1339351.19	2021826.29	0.00	
8900.00	92.05	315.02	8381.62	592.05	-591.62	836.98	0.00	1339424.38	2021758.24	0.00	
9000.00	92.05	315.02	8378.04	662.74	-662.26	936.92	0.00	1339497.58	2021690.20	0.00	
9100.00	92.05	315.02	8374.45	733.44	-732.90	1036.86	0.00	1339570.78	2021622.16	0.00	
9200.00	92.05	315.02	8370.87	804.13	-803.54	1136.79	0.00	1339643.97	2021554.12	0.00	
9300.00	92.05	315.02	8367.28	874.82	-874.18	1236.73	0.00	1339717.17	2021486.08	0.00	
9400.00	92.05	315.02	8363.70	945.51	-944.82	1336.66	0.00	1339790.36	2021418.04	0.00	
9500.00	92.05	315.02	8360.11	1016.20	-1015.46	1436.60	0.00	1339863.56	2021350.00	0.00	
9600.00	92.05	315.02	8356.53	1086.89	-1086.10	1536.53	0.00	1339936.75	2021281.96	0.00	
9700.00	92.05	315.02	8352.94	1157.58	-1156.74	1636.47	0.00	1340009.95	2021213.92	0.00	
9800.00	92.05	315.02	8349.36	1228.27	-1227.38	1736.41	0.00	1340083.14	2021145.87	0.00	
9900.00	92.05	315.02	8345.77	1298.96	-1298.01	1836.34	0.00	1340156.34	2021077.83	0.00	
10000.00	92.05	315.02	8342.19	1369.66	-1368.65	1936.28	0.00	1340229.53	2021009.79	0.00	
10061.05	92.05	315.02	8340.00	1412.81	-1411.78	1997.29	0.00	1340274.22	2020968.25	0.00	PBHL

Formation Points (Relative to Slot centre, TVD relative to Drill Floor)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Name	Comment		
8459.92	49.06	315.02	8287.00	301.45	-301.23	1339123.49	2022037.95	Leadville			



Weatherford®

Weatherford Drilling Services

GeoDec v5.03

Report Date: May 19, 2014

Job Number: _____

Customer: Kinder Morgan

Well Name: CD-4

API Number: _____

Rig Name: _____

Location: Montezuma Co., CO

Block: _____

Engineer: Patrick Rudolph

Geodetic Latitude / Longitude

Geodetic Latitude / Longitude

System : Latitude / Longitude

System : Latitude / Longitude

Projection: Geodetic Latitude and Longitude

Projection: Geodetic Latitude and Longitude

Datum : North American Datum 1983

Datum : North American Datum 1983

Ellipsoid: GRS 1980

Ellipsoid: GRS 1980

Latitude 37.5486800 DEG

Latitude 37.5486800 DEG

Longitude -108.8730800 DEG

Longitude -108.8730800 DEG

Geodetic Location WGS84

Elevation = 0.0 Meters

Latitude = 37.54868° N

37° 32 min 55.248 sec

Longitude = 108.87308° W

108° 52 min 23.088 sec

Magnetic Declination = 10.16° [True North Offset]

Local Gravity = .9993 g

Checksum = 7557

Local Field Strength = 50682 nT

Magnetic VectorX = 21958 nT

Magnetic Dip = 63.89°

Magnetic VectorY = 3935 nT

Magnetic Model = bggm2014

Magnetic VectorZ = 45509 nT

Spud Date = Sep 01, 2014

Magnetic VectorH = 22308 nT

Signed: _____ Date: _____