

5D Plan Report**Kinder Morgan****Field Name:** *Montezuma Co., CO (NAD 83 COS)***Site Name:** *CX-14***Well Name:** *CX-14***Plan:** *P1:V1*

13 January 2016





Plan Data for CX-14

Slot: CX-14

Position:

Offset is from Site centre

+N/-S: 0.00USft	Northing: 1346603.85USft	Latitude: 37.571560°	
+E/-W: 0.00USft	Easting: 2037498.64USft	Longitude: -108.821740°	
	Elevation Above VRD: 6891.80USft		

Plan Data for CX-14

Well: CX-14

Type: Main-Well

File Number:

Plan Folder: P1 Plan: P1:V1

Vertical Section: Position offset of origin from Slot centre:
+N/-S: 0.00USft Azimuth: 304.80°
+E/-W: 0.00USft

Magnetic Parameters:

Model:	Field Strength:	Declination:	Dip:	Date:
bggm2015	50549(nT)	9.77°	63.92°	2016-03-15





CX-14

Field Name: 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: CX-14	Units: US ft	North Reference: True	Convergence Angle: -2.04	
	Position:	Northing: 1346603.85US ft	Latitude: 37° 34' 17.62"	
		Easting: 2037498.64US ft	Longitude: -108° 49' 18.26"	
	Elevation above MSL:6891.80 US ft			
Comment:				
Slot: CX-14	Position (Relative to Site Centre)			
	+N/-S: 0.00US ft	Northing: 1346603.85US ft	Latitude: 37°34'17.62"	
	+E/-W: 0.00US ft	Easting: 2037498.64US ft	Longitude: -108°49'18.26"	
	Slot TVD Reference: Ground Elevation			
	Elevation above MSL: 6891.80US ft			
Comment:				
Well: CX-14	Type:Main well		UWI:	Plan:P1:V1
	File Number:	Comment:		
	Closure Distance:497.649US ft		Closure Azimuth:304.80°	
	Vertical Section: Position of Origin (Relative to Slot centre)			
	+N/-S: 0.00US ft		+E/-W: 0.00US ft	Az: 304.80°
	Magnetic Parameters:			
	Model: bggm2015	Field Strength:	Declination: 9.77°	Dip: 63.92°
	50549.6nT			Date: 15/Mar/2016

Drill floor: Plan: P1:V1

Rig Height (Kelly Bushing): Elevation above MSL:	Inclination: 0.00°	Azimuth: 0.00°
16.00us ft	6907.80us ft	

Target set: CX-14 Comment:

Target Name:	Shape:	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (° ' ")	Longitude (° ' ")	Comment
PBHL	Point	8647.00	284.02	-408.64	37°34'20.42"	-108°49'23.34"	

Casing Points: (Relative to Slot centre)(TVD relative to Kelly Bushing)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (° ' ")	Longitude (° ' ")	Name
2821.00	0.00	0.00	2821.00	0.00	0.00	37°34'17.62"	-108°49'18.26"	9 5/8 in
8317.14	0.00	0.00	8272.00	284.02	-408.64	37°34'20.42"	-108°49'23.34"	7 in

Wellpath created using minimum curvature.

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Tie Point:											
MD: 0.00USFt	Inclination: 0.00°	Azimuth: 0.00°	TVD: 0.00USFt	North Offset: 0.00USFt	East Offset: 0.00USFt						

Salient Points: (Relative to Slot centre)(TVD relative to Kelly Bushing)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100US ft)	B.Rate (°/100US ft)	T.Rate (°/100US 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	
2821.00	0.00	0.00	2821.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9 5/8 in
2921.00	0.00	0.00	2921.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	KOP
3293.61	11.18	304.80	3291.25	20.68	-29.75	36.23	3.00	3.00	0.00	304.80	Hold
5299.92	11.18	304.80	5259.49	242.66	-349.14	425.18	0.00	0.00	0.00	0.00	Drop
6045.14	0.00	0.00	6000.00	284.02	-408.64	497.65	1.50	-1.50	0.00	180.00	Hold
8317.14	0.00	0.00	8272.00	284.02	-408.64	497.65	0.00	0.00	0.00	0.00	7 in
8692.14	0.00	0.00	8647.00	284.02	-408.64	497.65	0.00	0.00	0.00	0.00	PBHL CX-14

Interpolated Points: (Relative to Slot centre)(TVD relative to Kelly Bushing)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100US ft)	Latitude (° ' ")	Longitude (° ' ")	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26 "	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26 "	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26 "	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26 "	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26 "	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26 "	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26 "	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26 "	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26 "	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26 "	
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26 "	
1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26 "	
1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26 "	
1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26 "	
1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26 "	
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26 "	
1600.00	0.00	0.00	1600.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26 "	
1700.00	0.00	0.00	1700.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26 "	
1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26 "	

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Interpolated Points: (Relative to Slot centre)(TVD relative to Kelly Bushing)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100US ft)	Latitude (° ' ")	Longitude (° ' ")	Comment
1900.00	0.00	0.00	1900.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26"	
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26"	
2100.00	0.00	0.00	2100.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26"	
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26"	
2300.00	0.00	0.00	2300.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26"	
2400.00	0.00	0.00	2400.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26"	
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26"	
2600.00	0.00	0.00	2600.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26"	
2700.00	0.00	0.00	2700.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26"	
2800.00	0.00	0.00	2800.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26"	
2821.00	0.00	0.00	2821.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26"	9 5/8 in
2900.00	0.00	0.00	2900.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26"	
2921.00	0.00	0.00	2921.00	0.00	0.00	0.00	0.00	37°34'17.62"	- 108°49'18.26"	KOP
3000.00	2.37	304.80	2999.98	0.93	-1.34	1.63	3.00	37°34'17.63"	- 108°49'18.28"	
3100.00	5.37	304.80	3099.74	4.78	-6.88	8.38	3.00	37°34'17.66"	- 108°49'18.35"	
3200.00	8.37	304.80	3199.01	11.61	-16.70	20.34	3.00	37°34'17.73"	- 108°49'18.47"	
3293.61	11.18	304.80	3291.25	20.68	-29.75	36.23	3.00	37°34'17.82"	- 108°49'18.63"	Hold
3300.00	11.18	304.80	3297.52	21.39	-30.77	37.47	0.00	37°34'17.83"	- 108°49'18.65"	
3400.00	11.18	304.80	3395.62	32.45	-46.69	56.86	0.00	37°34'17.94"	- 108°49'18.84"	
3500.00	11.18	304.80	3493.73	43.51	-62.61	76.24	0.00	37°34'18.05"	- 108°49'19.04"	
3600.00	11.18	304.80	3591.83	54.58	-78.53	95.63	0.00	37°34'18.16"	- 108°49'19.24"	
3700.00	11.18	304.80	3689.93	65.64	-94.45	115.02	0.00	37°34'18.27"	- 108°49'19.44"	
3800.00	11.18	304.80	3788.03	76.71	-110.36	134.40	0.00	37°34'18.37"	- 108°49'19.63"	
3900.00	11.18	304.80	3886.14	87.77	-126.28	153.79	0.00	37°34'18.48"	- 108°49'19.83"	
4000.00	11.18	304.80	3984.24	98.84	-142.20	173.18	0.00	37°34'18.59"	- 108°49'20.03"	
4100.00	11.18	304.80	4082.34	109.90	-158.12	192.56	0.00	37°34'18.70"	- 108°49'20.23"	

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Interpolated Points: (Relative to Slot centre)(TVD relative to Kelly Bushing)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100US ft)	Latitude (° ' ")	Longitude (° ' ")	Comment
4200.00	11.18	304.80	4180.45	120.96	-174.04	211.95	0.00	37°34'18.81"	- 108°49'20.43"	
4300.00	11.18	304.80	4278.55	132.03	-189.96	231.34	0.00	37°34'18.92"	- 108°49'20.62"	
4400.00	11.18	304.80	4376.65	143.09	-205.88	250.72	0.00	37°34'19.03"	- 108°49'20.82"	
4500.00	11.18	304.80	4474.75	154.16	-221.80	270.11	0.00	37°34'19.14"	- 108°49'21.02"	
4600.00	11.18	304.80	4572.86	165.22	-237.72	289.49	0.00	37°34'19.25"	- 108°49'21.22"	
4700.00	11.18	304.80	4670.96	176.29	-253.63	308.88	0.00	37°34'19.36"	- 108°49'21.41"	
4800.00	11.18	304.80	4769.06	187.35	-269.55	328.27	0.00	37°34'19.47"	- 108°49'21.61"	
4900.00	11.18	304.80	4867.16	198.41	-285.47	347.65	0.00	37°34'19.58"	- 108°49'21.81"	
5000.00	11.18	304.80	4965.27	209.48	-301.39	367.04	0.00	37°34'19.69"	- 108°49'22.01"	
5100.00	11.18	304.80	5063.37	220.54	-317.31	386.43	0.00	37°34'19.80"	- 108°49'22.21"	
5200.00	11.18	304.80	5161.47	231.61	-333.23	405.81	0.00	37°34'19.91"	- 108°49'22.40"	
5299.92	11.18	304.80	5259.49	242.66	-349.14	425.18	0.00	37°34'20.02"	- 108°49'22.60"	Drop
5300.00	11.18	304.80	5259.58	242.67	-349.15	425.20	0.00	37°34'20.02"	- 108°49'22.60"	
5400.00	9.68	304.80	5357.92	253.00	-364.01	443.30	1.50	37°34'20.12"	- 108°49'22.79"	
5500.00	8.18	304.80	5456.71	261.86	-376.75	458.81	1.50	37°34'20.20"	- 108°49'22.94"	
5600.00	6.68	304.80	5555.87	269.23	-387.37	471.74	1.50	37°34'20.28"	- 108°49'23.08"	
5700.00	5.18	304.80	5655.33	275.13	-395.85	482.07	1.50	37°34'20.34"	- 108°49'23.18"	
5800.00	3.68	304.80	5755.03	279.53	-402.18	489.79	1.50	37°34'20.38"	- 108°49'23.26"	
5900.00	2.18	304.80	5854.89	282.45	-406.38	494.89	1.50	37°34'20.41"	- 108°49'23.31"	
6000.00	0.68	304.80	5954.86	283.87	-408.42	497.38	1.50	37°34'20.42"	- 108°49'23.34"	
6045.14	0.00	0.00	6000.00	284.02	-408.64	497.65	1.50	37°34'20.42"	- 108°49'23.34"	Hold
6100.00	0.00	0.00	6054.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34"	
6200.00	0.00	0.00	6154.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34"	
6300.00	0.00	0.00	6254.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34"	
6400.00	0.00	0.00	6354.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34"	
6500.00	0.00	0.00	6454.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34"	

5D Plan Report

Interpolated Points: (Relative to Slot centre)(TVD relative to Kelly Bushing)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100US ft)	Latitude (° ' ")	Longitude (° ' ")	Comment
6600.00	0.00	0.00	6554.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	
6700.00	0.00	0.00	6654.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	
6800.00	0.00	0.00	6754.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	
6900.00	0.00	0.00	6854.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	
7000.00	0.00	0.00	6954.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	
7100.00	0.00	0.00	7054.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	
7200.00	0.00	0.00	7154.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	
7300.00	0.00	0.00	7254.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	
7400.00	0.00	0.00	7354.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	
7500.00	0.00	0.00	7454.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	
7600.00	0.00	0.00	7554.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	
7700.00	0.00	0.00	7654.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	
7800.00	0.00	0.00	7754.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	
7900.00	0.00	0.00	7854.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	
8000.00	0.00	0.00	7954.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	
8100.00	0.00	0.00	8054.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	
8200.00	0.00	0.00	8154.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	
8300.00	0.00	0.00	8254.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	
8317.14	0.00	0.00	8272.00	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	7 in
8400.00	0.00	0.00	8354.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	
8500.00	0.00	0.00	8454.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	
8600.00	0.00	0.00	8554.86	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	
8692.14	0.00	0.00	8647.00	284.02	-408.64	497.65	0.00	37°34'20.42"	- 108°49'23.34 "	PBHL CX-14