



## Drilling Services

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## Proposal

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DOE CANYON 11

DOLORES CO., CO

WELL FILE: **PLAN 2**

NOVEMBER 1, 2011

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Doe Canyon 11  
Dolores Co., Colorado



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	270.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	8226.00	0.00	270.00	8226.00	0.00	0.00	0.00	0.00	0.00	
3	8420.78	90.00	270.00	8350.00	0.00	-124.00	46.21	270.00	124.00	
4	10297.99	90.00	270.00	8350.00	0.07	-2001.21	0.00	0.00	2001.21	PBHL

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
DC 11	0.00	0.00	1405343.95	2035969.37	37°43'57.432N	108°50'03.336W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	8350.00	0.07	-2001.21	1405415.44	2033969.44	Point

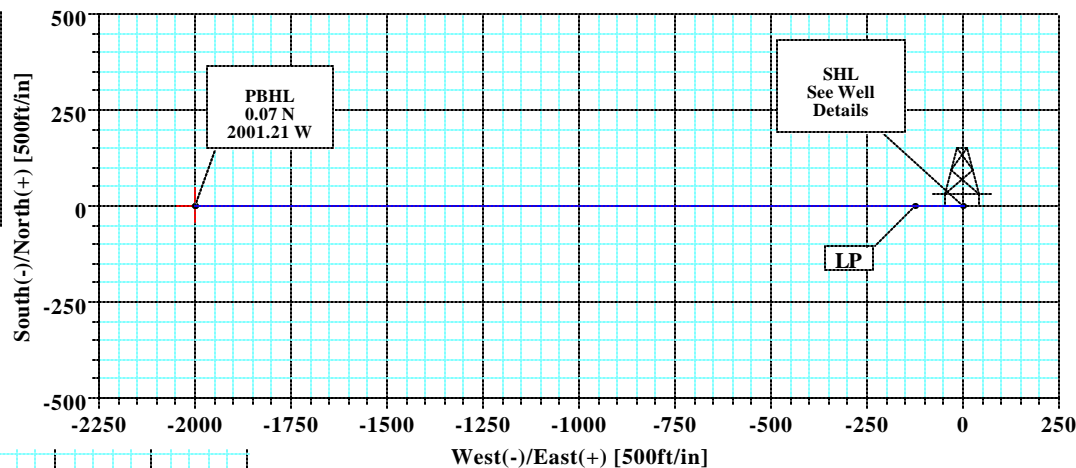
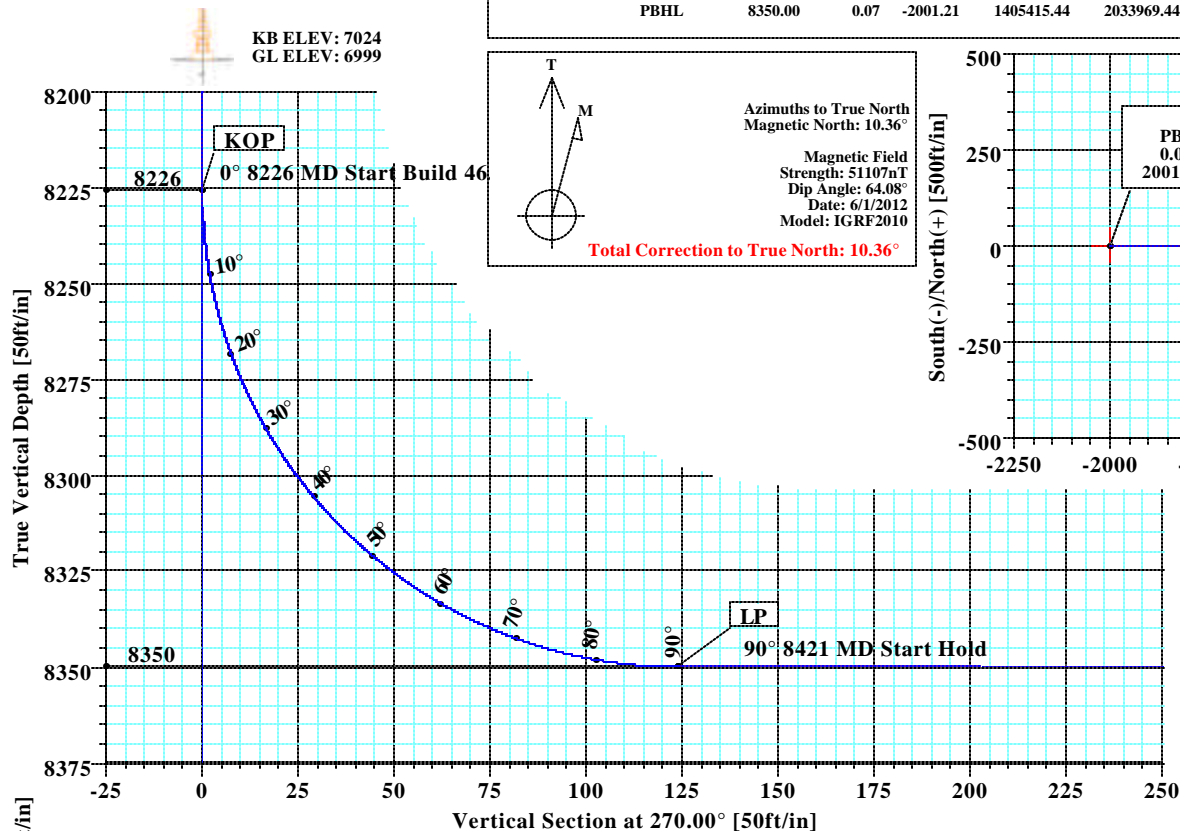
FIELD DETAILS

Dolores County, CO (NAD 83)  
USA

Geodetic System: US State Plane Coordinate System 1983  
Ellipsoid: GRS 1980  
Zone: Colorado, Southern Zone  
Magnetic Model: IGRF2010

System Datum: Mean Sea Level  
Local North: True North

KB ELEV: 7024  
GL ELEV: 6999

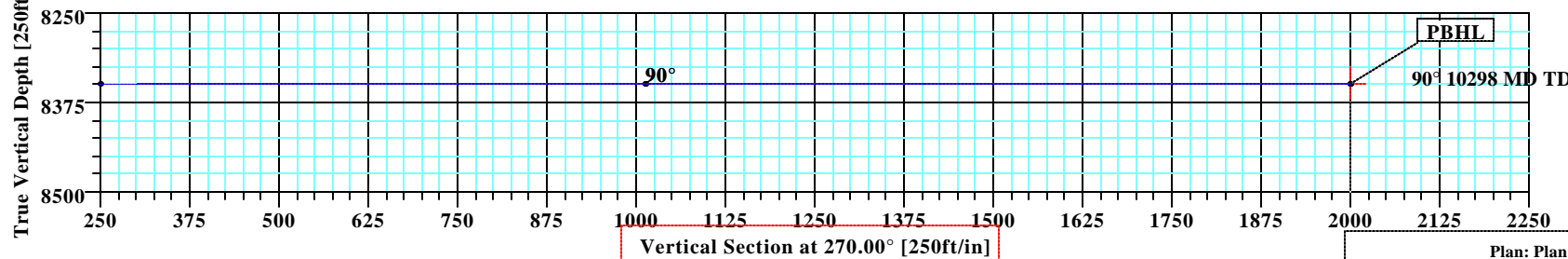


LEGEND

- DC 11 (Pilot)
- Lateral
- Plan #2

SITE DETAILS

Doe Canyon 11  
Site Centre Latitude: 37°43'57.432N  
Longitude: 108°50'03.336W  
Ground Level: 6999.00  
Positional Uncertainty: 0.00  
Convergence: -2.05



Plan: Plan #2 (DC 11/Lateral)

Created By: Keith Noack

Date: 11/1/2011



<b>Company:</b> Kinder Morgan	<b>Date:</b> 11/1/2011	<b>Time:</b> 13:57:36	<b>Page:</b> 1
<b>Field:</b> Dolores County, CO (NAD 83)	<b>Co-ordinate(NE) Reference:</b>	Site: Doe Canyon 11, True North	
<b>Site:</b> Doe Canyon 11	<b>Vertical (TVD) Reference:</b>	SITE 7024.0	
<b>Well:</b> DC 11	<b>Section (VS) Reference:</b>	Well (0.00N,0.00E,270.00Azi)	
<b>Wellpath:</b> Lateral	<b>Survey Calculation Method:</b>	Minimum Curvature	<b>Db:</b> Sybase

<b>Plan:</b> Plan #2	<b>Date Composed:</b> 10/19/2011
<b>Principal:</b> Yes	<b>Version:</b> 1
	<b>Tied-to:</b> From Surface

**Field:** Dolores County, CO (NAD 83)

USA

**Map System:** US State Plane Coordinate System 1983

**Geo Datum:** GRS 1980

**Sys Datum:** Mean Sea Level

**Map Zone:** Colorado, Southern Zone

**Coordinate System:** Site Centre

**Geomagnetic Model:** IGRF2010

**Site:** Doe Canyon 11

<b>Site Position:</b>	<b>Northing:</b> 1405343.95 ft	<b>Latitude:</b> 37 43 57.432 N
<b>From:</b> Geographic	<b>Easting:</b> 2035969.37 ft	<b>Longitude:</b> 108 50 3.336 W
<b>Position Uncertainty:</b> 0.00 ft		<b>North Reference:</b> True
<b>Ground Level:</b> 6999.00 ft		<b>Grid Convergence:</b> -2.05 deg

**Well:** DC 11

**Slot Name:**

<b>Well Position:</b> +N/-S 0.00 ft	<b>Northing:</b> 1405343.95 ft	<b>Latitude:</b> 37 43 57.432 N
+E/-W 0.00 ft	<b>Easting :</b> 2035969.37 ft	<b>Longitude:</b> 108 50 3.336 W
<b>Position Uncertainty:</b> 0.00 ft		

**Wellpath:** Lateral

**Drilled From:** Pilot

<b>Current Datum:</b> SITE	<b>Height</b> 7024.00 ft	<b>Tie-on Depth:</b> 0.00 ft
<b>Magnetic Data:</b> 6/1/2012		<b>Above System Datum:</b> Mean Sea Level
<b>Field Strength:</b> 51107 nT		<b>Declination:</b> 10.36 deg
<b>Vertical Section:</b> Depth From (TVD)	+N/-S	<b>Mag Dip Angle:</b> 64.08 deg
ft	ft	<b>+E/-W</b>
		ft
		<b>Direction</b>
		deg
8350.00	0.00	0.00 270.00

#### Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	270.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8226.00	0.00	270.00	8226.00	0.00	0.00	0.00	0.00	0.00	0.00	
8420.78	90.00	270.00	8350.00	0.00	-124.00	46.21	46.21	0.00	270.00	
10297.99	90.00	270.00	8350.00	0.07	-2001.21	0.00	0.00	0.00	0.00	PBHL

#### Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
8200.00	0.00	270.00	8200.00	0.00	0.00	0.00	0.00	1405343.95	2035969.37	
8221.00	0.00	270.00	8221.00	0.00	0.00	0.00	0.00	1405343.95	2035969.37	
8226.00	0.00	270.00	8226.00	0.00	0.00	0.00	0.00	1405343.95	2035969.37	7"
8230.00	1.85	270.00	8230.00	0.00	-0.06	0.06	46.21	1405343.95	2035969.31	KOP
8240.00	6.47	270.00	8239.97	0.00	-0.79	0.79	46.21	1405343.98	2035968.58	
8250.00	11.09	270.00	8249.85	0.00	-2.32	2.32	46.21	1405344.03	2035967.06	
8260.00	15.71	270.00	8259.58	0.00	-4.63	4.63	46.21	1405344.12	2035964.74	
8270.00	20.33	270.00	8269.08	0.00	-7.72	7.72	46.21	1405344.23	2035961.65	
8280.00	24.95	270.00	8278.31	0.00	-11.57	11.57	46.21	1405344.36	2035957.80	
8290.00	29.57	270.00	8287.20	0.00	-16.15	16.15	46.21	1405344.53	2035953.23	
8300.00	34.19	270.00	8295.69	0.00	-21.43	21.43	46.21	1405344.72	2035947.95	
8310.00	38.81	270.00	8303.72	0.00	-27.38	27.38	46.21	1405344.93	2035942.01	
8320.00	43.43	270.00	8311.25	0.00	-33.96	33.96	46.21	1405345.16	2035935.44	
8330.00	48.05	270.00	8318.23	0.00	-41.12	41.12	46.21	1405345.42	2035928.28	
8340.00	52.68	270.00	8324.61	0.00	-48.81	48.81	46.21	1405345.69	2035920.59	
8350.00	57.30	270.00	8330.34	0.00	-57.00	57.00	46.21	1405345.99	2035912.40	
8360.00	61.92	270.00	8335.40	0.00	-65.63	65.63	46.21	1405346.30	2035903.79	

<b>Company:</b> Kinder Morgan <b>Field:</b> Dolores County, CO (NAD 83) <b>Site:</b> Doe Canyon 11 <b>Well:</b> DC 11 <b>Wellpath:</b> Lateral	<b>Date:</b> 11/1/2011 <b>Co-ordinate(NE) Reference:</b> <b>Vertical (TVD) Reference:</b> <b>Section (VS) Reference:</b> <b>Survey Calculation Method:</b>	<b>Time:</b> 13:57:36 <b>Site:</b> Doe Canyon 11, True North <b>SITE</b> 7024.0 <b>Well</b> (0.00N,0.00E,270.00Azi) <b>Minimum Curvature</b>	<b>Page:</b> 2 <b>Db:</b> Sybase
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## Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
8370.00	66.54	270.00	8339.75	0.00	-74.63	74.63	46.21	1405346.62	2035894.79	
8380.00	71.16	270.00	8343.35	0.00	-83.95	83.95	46.21	1405346.95	2035885.47	
8390.00	75.78	270.00	8346.20	0.00	-93.54	93.54	46.21	1405347.29	2035875.89	
8400.00	80.40	270.00	8348.26	0.00	-103.32	103.32	46.21	1405347.64	2035866.12	
8410.00	85.02	270.00	8349.53	0.00	-113.23	113.23	46.21	1405348.00	2035856.21	
8420.78	90.00	270.00	8350.00	0.00	-124.00	124.00	46.21	1405348.38	2035845.45	LP
8500.00	90.00	270.00	8350.00	0.01	-203.22	203.22	0.00	1405351.21	2035766.28	
8600.00	90.00	270.00	8350.00	0.01	-303.22	303.22	0.00	1405354.78	2035666.34	
8700.00	90.00	270.00	8350.00	0.01	-403.22	403.22	0.00	1405358.36	2035566.41	
8800.00	90.00	270.00	8350.00	0.02	-503.22	503.22	0.00	1405361.93	2035466.47	
8900.00	90.00	270.00	8350.00	0.02	-603.22	603.22	0.00	1405365.50	2035366.53	
9000.00	90.00	270.00	8350.00	0.03	-703.22	703.22	0.00	1405369.07	2035266.60	
9100.00	90.00	270.00	8350.00	0.03	-803.22	803.22	0.00	1405372.65	2035166.66	
9200.00	90.00	270.00	8350.00	0.03	-903.22	903.22	0.00	1405376.22	2035066.73	
9300.00	90.00	270.00	8350.00	0.04	-1003.22	1003.22	0.00	1405379.79	2034966.79	
9400.00	90.00	270.00	8350.00	0.04	-1103.22	1103.22	0.00	1405383.36	2034866.85	
9500.00	90.00	270.00	8350.00	0.04	-1203.22	1203.22	0.00	1405386.94	2034766.92	
9600.00	90.00	270.00	8350.00	0.05	-1303.22	1303.22	0.00	1405390.51	2034666.98	
9700.00	90.00	270.00	8350.00	0.05	-1403.22	1403.22	0.00	1405394.08	2034567.04	
9800.00	90.00	270.00	8350.00	0.06	-1503.22	1503.22	0.00	1405397.65	2034467.11	
9900.00	90.00	270.00	8350.00	0.06	-1603.22	1603.22	0.00	1405401.22	2034367.17	
10000.00	90.00	270.00	8350.00	0.06	-1703.22	1703.22	0.00	1405404.80	2034267.24	
10100.00	90.00	270.00	8350.00	0.07	-1803.22	1803.22	0.00	1405408.37	2034167.30	
10200.00	90.00	270.00	8350.00	0.07	-1903.22	1903.22	0.00	1405411.94	2034067.36	
10297.99	90.00	270.00	8350.00	0.07	-2001.21	2001.21	0.00	1405415.44	2033969.44	PBHL

## Targets

Name	Description	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude --->			<--- Longitude --->		
	Dip.							Deg	Min	Sec	Deg	Min	Sec
PBHL			8350.00	0.07	-2001.21	1405415.44	2033969.44	37	43	57.432 N	108	50	28.248 W

## Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
2438.00	2438.00	9.625	9.625	9 5/8"
8221.00	8221.00	7.000	7.000	7"

## Annotation

MD ft	TVD ft	
8226.00	8226.00	KOP
8420.78	8350.00	LP
10297.98	8350.00	PBHL

## Formations

MD	TVD	Formations	Lithology	Dip Angle	Dip Direction

**Weatherford®****Weatherford Drilling Services**

GeoDec v5.03

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Report Date: October 19, 2011  
Job Number: \_\_\_\_\_  
Customer: Kinder Morgan  
Well Name: Doe Canyon 11  
API Number: \_\_\_\_\_  
Rig Name: \_\_\_\_\_  
Location: Dolores Co., CO (Nad 83)  
Block: \_\_\_\_\_  
Engineer: KRN

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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 43 57.4320000 DMS	Latitude 37.7326200 DEG
Longitude -108 50 3.3360000 DMS	Longitude -108.8342600 DEG

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Geodetic Location WGS84	Elevation =	0.0 Meters
Latitude =	37.73262° N	37° 43 min 57.432 sec
Longitude =	108.83426° W	108° 50 min 3.336 sec

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Magnetic Declination =	10.36°	[True North Offset]
Local Gravity =	.9993 g	Checksum = 7406
Local Field Strength =	51103 nT	Magnetic Vector X = 21973 nT
Magnetic Dip =	64.08°	Magnetic Vector Y = 4017 nT
Magnetic Model =	IGRF-2010g11	Magnetic Vector Z = 45963 nT
Spud Date =	Jun 01, 2012	Magnetic Vector H = 22337 nT

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Signed: \_\_\_\_\_

Date: \_\_\_\_\_