



Weatherford®

Drilling Services

Proposal



DOE CANYON #13

DOLORES CO., COLORADO

WELL FILE: **PLAN 1**

OCTOBER 20, 2011

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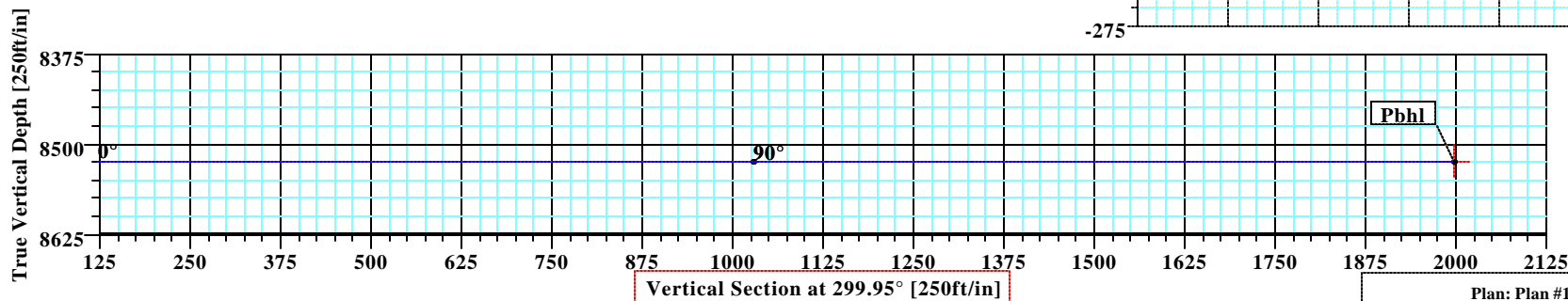
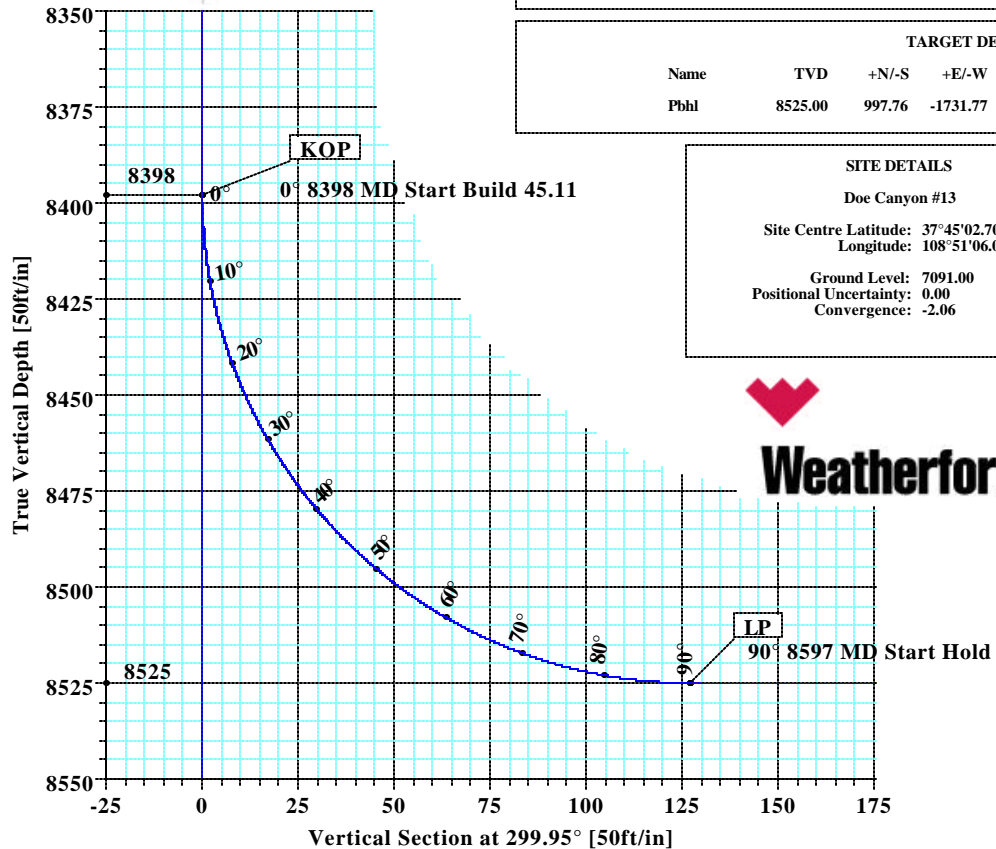
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Doe Canyon #13 Dolores Co., Colorado



KB ELEV: 7116
GL ELEV: 7091



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	299.95	0.00	0.00	0.00	0.00	0.00	0.00	
2	8398.00	0.00	299.95	8398.00	0.00	0.00	0.00	0.00	0.00	
3	8597.49	90.00	299.95	8525.00	63.40	-110.04	45.11	299.95	127.00	
4	10469.13	90.00	299.95	8525.00	997.76	-1731.77	0.00	0.00	1998.64	Pbhl

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Doe Canyon #13	0.00	0.00	1412121.67	2031168.80	37°45'02.700N	108°51'06.084W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Pbhl	8525.00	997.76	-1731.77	1413180.91	2029473.94	Point

SITE DETAILS

Doe Canyon #13
Site Centre Latitude: 37°45'02.700N
Longitude: 108°51'06.084W
Ground Level: 7091.00
Positional Uncertainty: 0.00
Convergence: -2.06



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

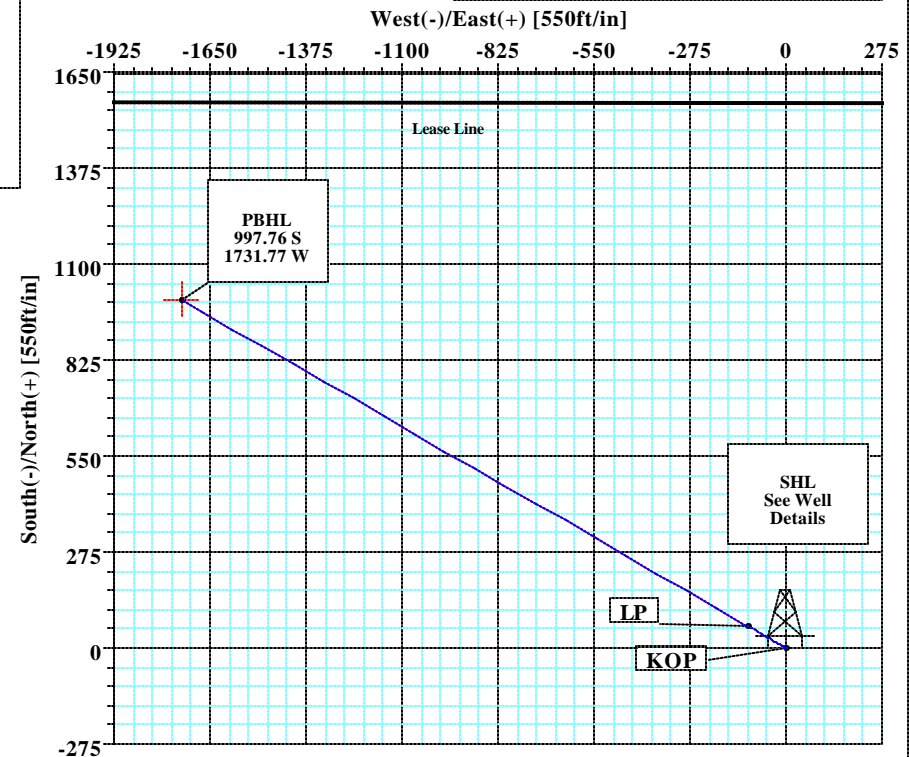
System Datum: Mean Sea Level
Local North: True North



Azimuths to True North
Magnetic North: 10.35°

Magnetic Field
Strength: 51099nT
Dip Angle: 64.09°
Date: 8/1/2012
Model: IGRF2010

Total Correction to True North: 10.35°



LEGEND

Doe Canyon #13 (Pilot)
Lateral
Plan #1

Plan: Plan #1 (Doe Canyon #13/Lateral)

Created By: Patrick Rudolph

Date: 10/20/2011



Company: Kinder Morgan	Date: 10/19/2011	Time: 14:11:31	Page: 1
Field: Dolores County, CO (NAD 83)	Co-ordinate(NE) Reference:	Site: Doe Canyon #13, True North	
Site: Doe Canyon #13	Vertical (TVD) Reference:	SITE 7116.0	
Well: Doe Canyon #13	Section (VS) Reference:	Well (0.00N,0.00E,299.95Azi)	
Wellpath: 1	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Plan: Plan #1	Date Composed: 10/19/2011
Principal: Yes	Version: 1
	Tied-to: 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 #13

Site Position:	Northing: 1412121.67 ft	Latitude: 37 45 2.700 N
From: Geographic	Easting: 2031168.80 ft	Longitude: 108 51 6.084 W
Position Uncertainty: 0.00 ft		North Reference: True
Ground Level: 7091.00 ft		Grid Convergence: -2.06 deg

Well: Doe Canyon #13**Slot Name:**

Well Position: +N/-S 0.00 ft	Northing: 1412121.67 ft	Latitude: 37 45 2.700 N
+E/-W 0.00 ft	Easting : 2031168.80 ft	Longitude: 108 51 6.084 W
Position Uncertainty: 0.00 ft		

Wellpath: 1

Current Datum: SITE	Height 7116.00 ft	Drilled From: Surface
Magnetic Data: 8/1/2012		Tie-on Depth: 0.00 ft
Field Strength: 51099 nT		Above System Datum: Mean Sea Level
Vertical Section: Depth From (TVD)	+N/-S	Declination: 10.35 deg
ft	ft	Mag Dip Angle: 64.09 deg
		+E/-W ft
		Direction deg
8525.00	0.00	0.00 299.95

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	299.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8398.00	0.00	299.95	8398.00	0.00	0.00	0.00	0.00	0.00	0.00	
8597.49	90.00	299.95	8525.00	63.40	-110.04	45.11	45.11	0.00	299.95	
10469.13	90.00	299.95	8525.00	997.76	-1731.77	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
8300.00	0.00	299.95	8300.00	0.00	0.00	0.00	0.00	1412121.67	2031168.80	
8393.00	0.00	299.95	8393.00	0.00	0.00	0.00	0.00	1412121.67	2031168.80	
8398.00	0.00	299.95	8398.00	0.00	0.00	0.00	0.00	1412121.67	2031168.80	
8400.00	0.90	299.95	8400.00	0.01	-0.01	0.02	45.11	1412121.67	2031168.79	
8410.00	5.41	299.95	8409.98	0.28	-0.49	0.57	45.11	1412121.97	2031168.32	
8420.00	9.93	299.95	8419.89	0.95	-1.65	1.90	45.11	1412122.67	2031167.19	
8430.00	14.44	299.95	8429.66	2.00	-3.47	4.01	45.11	1412123.79	2031165.40	
8440.00	18.95	299.95	8439.24	3.44	-5.96	6.88	45.11	1412125.31	2031162.97	
8450.00	23.46	299.95	8448.56	5.24	-9.10	10.50	45.11	1412127.23	2031159.90	
8460.00	27.97	299.95	8457.57	7.41	-12.85	14.84	45.11	1412129.53	2031156.22	
8470.00	32.48	299.95	8466.20	9.92	-17.22	19.87	45.11	1412132.20	2031151.96	
8480.00	36.99	299.95	8474.42	12.76	-22.15	25.57	45.11	1412135.22	2031147.12	
8490.00	41.51	299.95	8482.16	15.92	-27.63	31.89	45.11	1412138.57	2031141.76	
8500.00	46.02	299.95	8489.38	19.37	-33.62	38.81	45.11	1412142.23	2031135.90	
8510.00	50.53	299.95	8496.04	23.10	-40.09	46.27	45.11	1412146.19	2031129.57	
8520.00	55.04	299.95	8502.08	27.07	-46.99	54.23	45.11	1412150.41	2031122.82	
8530.00	59.55	299.95	8507.48	31.27	-54.28	62.64	45.11	1412154.86	2031115.68	

Company: Kinder Morgan Field: Dolores County, CO (NAD 83) Site: Doe Canyon #13 Well: Doe Canyon #13 Wellpath: 1	Date: 10/19/2011 Co-ordinate(NE) Reference: Site: Doe Canyon #13, True North Vertical (TVD) Reference: SITE 7116.0 Section (VS) Reference: Well (0.00N,0.00E,299.95Azi) Survey Calculation Method: Minimum Curvature Db: 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
8540.00	64.06	299.95	8512.21	35.67	-61.91	71.45	45.11	1412159.53	2031108.21	
8550.00	68.57	299.95	8516.22	40.24	-69.84	80.61	45.11	1412164.39	2031100.45	
8560.00	73.09	299.95	8519.51	44.96	-78.03	90.05	45.11	1412169.39	2031092.44	
8570.00	77.60	299.95	8522.04	49.78	-86.41	99.72	45.11	1412174.52	2031084.24	
8580.00	82.11	299.95	8523.80	54.70	-94.93	109.56	45.11	1412179.73	2031075.89	
8590.00	86.62	299.95	8524.78	59.66	-103.56	119.51	45.11	1412185.01	2031067.46	
8597.49	90.00	299.95	8525.00	63.40	-110.04	127.00	45.11	1412188.97	2031061.11	LP
8600.00	90.00	299.95	8525.00	64.65	-112.22	129.51	0.00	1412190.30	2031058.98	
8700.00	90.00	299.95	8525.00	114.58	-198.86	229.51	0.00	1412243.30	2030974.18	
8800.00	90.00	299.95	8525.00	164.50	-285.51	329.51	0.00	1412296.30	2030889.38	
8900.00	90.00	299.95	8525.00	214.42	-372.16	429.51	0.00	1412349.30	2030804.58	
9000.00	90.00	299.95	8525.00	264.34	-458.81	529.51	0.00	1412402.30	2030719.78	
9100.00	90.00	299.95	8525.00	314.26	-545.45	629.51	0.00	1412455.30	2030634.98	
9200.00	90.00	299.95	8525.00	364.19	-632.10	729.51	0.00	1412508.29	2030550.18	
9300.00	90.00	299.95	8525.00	414.11	-718.75	829.51	0.00	1412561.29	2030465.37	
9400.00	90.00	299.95	8525.00	464.03	-805.40	929.51	0.00	1412614.29	2030380.57	
9500.00	90.00	299.95	8525.00	513.95	-892.04	1029.51	0.00	1412667.29	2030295.77	
9600.00	90.00	299.95	8525.00	563.87	-978.69	1129.51	0.00	1412720.29	2030210.97	
9700.00	90.00	299.95	8525.00	613.80	-1065.34	1229.51	0.00	1412773.28	2030126.17	
9800.00	90.00	299.95	8525.00	663.72	-1151.99	1329.51	0.00	1412826.28	2030041.37	
9900.00	90.00	299.95	8525.00	713.64	-1238.63	1429.51	0.00	1412879.28	2029956.57	
10000.00	90.00	299.95	8525.00	763.56	-1325.28	1529.51	0.00	1412932.28	2029871.77	
10100.00	90.00	299.95	8525.00	813.48	-1411.93	1629.51	0.00	1412985.28	2029786.97	
10200.00	90.00	299.95	8525.00	863.41	-1498.58	1729.51	0.00	1413038.28	2029702.17	
10300.00	90.00	299.95	8525.00	913.33	-1585.22	1829.51	0.00	1413091.27	2029617.37	
10400.00	90.00	299.95	8525.00	963.25	-1671.87	1929.51	0.00	1413144.27	2029532.57	
10469.13	90.00	299.95	8525.00	997.76	-1731.77	1998.64	0.00	1413180.91	2029473.94	Pbhl

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude ---> Deg Min Sec			<--- Longitude ---> Deg Min Sec		
Pbhl			8525.00	997.76	-1731.77	1413180.91	2029473.94	37	45	12.564 N	108	51	27.648 W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
2471.00	2471.00	9.625	0.000	Csg
8393.00	8393.00	7.000	0.000	Csg

Annotation

MD ft	TVD ft	
8398.00	8398.00	KOP
8597.49	8525.00	LP
10469.13	8525.00	Pbhl

Formations

MD	TVD	Formations	Lithology	Dip Angle	Dip Direction

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

GeoDec v5.03

Report Date: October 19, 2011
Job Number: _____
Customer: Kinder Morgan
Well Name: Doe Canyon 13
API Number: _____
Rig Name: _____
Location: Dolores Co., CO (Nad 83)
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 37.7507500 DEG	Latitude 37 45 2.7000000 DMS
Longitude -108.8516900 DEG	Longitude -108 51 6.0840000 DMS

Geodetic Location WGS84	Elevation =	0.0 Meters
Latitude =	37.75075° N	37° 45 min 2.700 sec
Longitude =	108.85169° W	108° 51 min 6.084 sec

Magnetic Declination =	10.35°	[True North Offset]	
Local Gravity =	.9993 g	Checksum =	7450
Local Field Strength =	51094 nT	Magnetic Vector X =	21963 nT
Magnetic Dip =	64.09°	Magnetic Vector Y =	4011 nT
Magnetic Model =	IGRF-2010g11	Magnetic Vector Z =	45958 nT
Spud Date =	Aug 01, 2012	Magnetic Vector H =	22326 nT

Signed: _____

Date: _____