



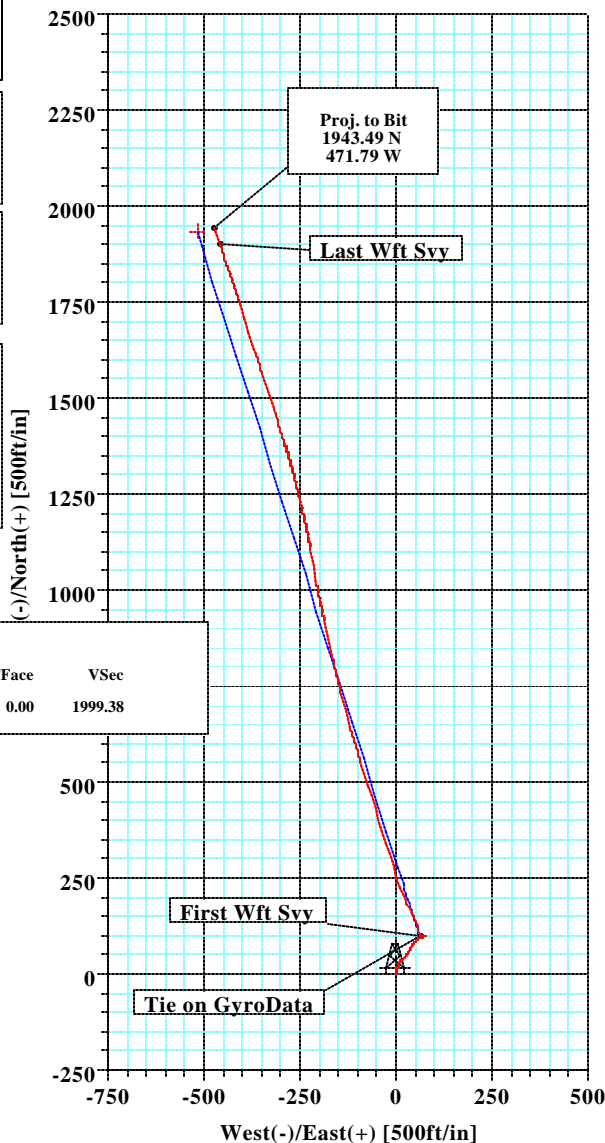
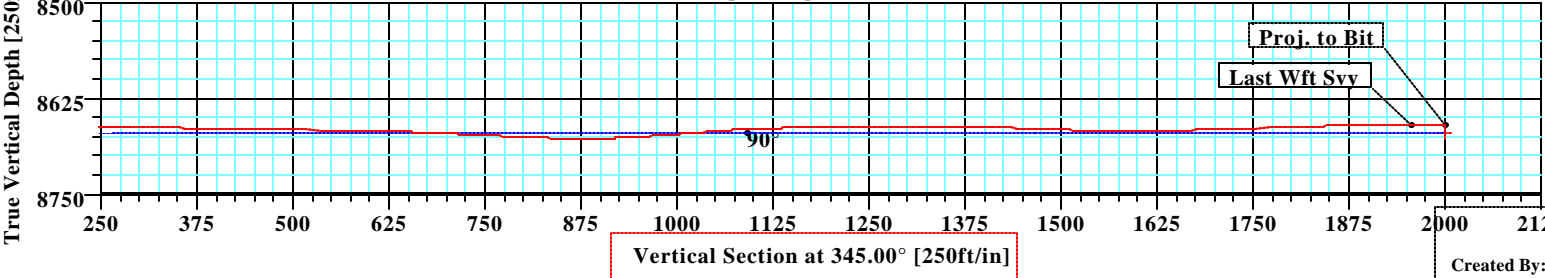
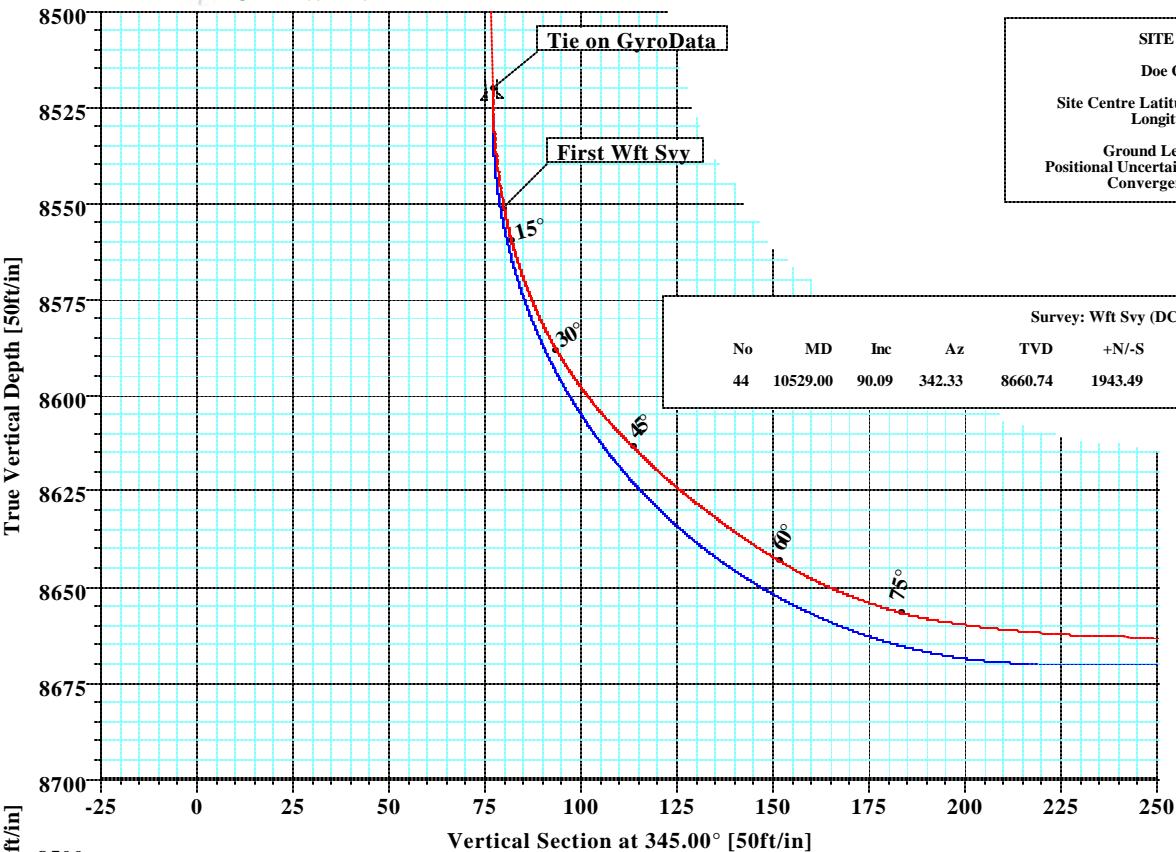
KB ELEV: NA
GL ELEV: 7227.4

SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target	
1	8522.00	0.84	278.61	8520.26	96.59	63.28	0.00	0.00	76.92		
2	8530.00	0.84	278.61	8528.26	96.60	63.17	0.00	0.00	76.96		
3	8753.20	90.00	342.49	8670.00	232.11	18.47	40.16	63.89	219.42		
4	10535.48	90.00	342.49	8670.00	1931.85	-517.64	0.00	0.00	2000.00	PBHL	

WELL DETAILS							
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
DC 15	0.00	0.00	1409139.41	2040398.62	37°44'36.492N	108°49'09.912W	N/A

TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape	
PBHL	8670.00	1931.85	-517.64	1411088.43	2039949.95	Point	

SITE DETAILS	
Doe Canyon 15	
Site Centre Latitude:	37°44'36.492N
Longitude:	108°49'09.912W
Ground Level:	7227.40
Positional Uncertainty:	0.00
Convergence:	-2.04





Company: Kinder Morgan	Date: 9/9/2013	Time: 07:40:48	Page: 1
Field: Dolores County, CO (NAD 83)	Co-ordinate(NE) Reference: Well: DC 15, True North		
Site: Doe Canyon 15	Vertical (TVD) Reference: SITE 7227.4		
Well: DC 15	Section (VS) Reference: Well (0.00N,0.00E,345.00Azi)		
Wellpath: 1	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Survey: Wft Svy	Start Date: 8/30/2013
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Company: Weatherford International Ltd.	Engineer: Patrick Rudolph
Tool: MWD;MWD - Standard	Tied-to: User Defined

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: Well Centre

Geomagnetic Model: IGRF2010

Site: Doe Canyon 15

Site Position:	Northing: 1409139.41 ft	Latitude: 37 44 36.492 N
From: Geographic	Easting: 2040398.62 ft	Longitude: 108 49 9.912 W
Position Uncertainty: 0.00 ft		North Reference: True
Ground Level: 7227.40 ft		Grid Convergence: -2.04 deg

Well: DC 15

Slot Name:

Well Position: +N/-S 0.00 ft	Northing: 1409139.41 ft	Latitude: 37 44 36.492 N
+E/-W 0.00 ft	Easting: 2040398.62 ft	Longitude: 108 49 9.912 W
Position Uncertainty: 0.00 ft		

Wellpath: 1

Drilled From: Surface
Tie-on Depth: 0.00 ft
Above System Datum: Mean Sea Level
Declination: 10.20 deg
Mag Dip Angle: 64.06 deg
Direction: deg

Current Datum: SITE	Height 7227.40 ft
Magnetic Data: 8/26/2013	
Field Strength: 50994 nT	
Vertical Section: Depth From (TVD) ft	+N/-S ft
0.00	0.00

0.00 0.00 0.00 345.00

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Lat	Min	Sec	Long	Min	Sec	Comment
8522.00	0.84	278.61	8520.26	96.59	63.28	76.92	0.00	37	44	37.447	108	49	9.124	Tie on Gyro
8525.00	1.59	311.86	8523.26	96.62	63.23	76.96	33.21	37	44	37.447	108	49	9.125	Csg
8553.00	10.73	335.52	8551.07	99.25	61.86	79.86	33.21	37	44	37.473	108	49	9.142	First Wft Sv
8568.00	17.94	340.43	8565.59	102.71	60.50	83.55	48.70	37	44	37.507	108	49	9.159	
8585.00	25.75	346.16	8581.36	108.77	58.74	89.86	47.57	37	44	37.567	108	49	9.181	
8600.00	34.19	348.94	8594.34	116.08	57.15	97.33	57.01	37	44	37.640	108	49	9.200	
8617.00	42.56	348.63	8607.66	126.42	55.10	107.86	49.25	37	44	37.742	108	49	9.226	
8632.00	47.06	339.70	8618.31	136.56	52.19	118.40	51.53	37	44	37.842	108	49	9.262	
8648.00	52.69	336.00	8628.62	147.88	47.56	130.53	39.37	37	44	37.954	108	49	9.320	
8663.00	56.35	328.89	8637.33	158.69	41.90	142.43	45.64	37	44	38.061	108	49	9.390	
8680.00	61.98	329.35	8646.04	171.21	34.42	156.47	33.20	37	44	38.185	108	49	9.484	
8695.00	69.31	335.50	8652.23	183.32	28.12	169.79	61.48	37	44	38.304	108	49	9.562	
8705.00	72.44	336.50	8655.50	191.95	24.28	179.12	32.69	37	44	38.390	108	49	9.610	
8720.00	81.03	338.04	8658.94	205.40	18.64	193.58	58.13	37	44	38.523	108	49	9.680	
8740.00	84.63	340.25	8661.44	223.94	11.58	213.31	21.08	37	44	38.706	108	49	9.768	
8768.00	88.90	341.41	8663.02	250.34	2.41	241.19	15.80	37	44	38.967	108	49	9.882	
8800.00	89.97	342.55	8663.33	280.77	-7.49	273.14	4.89	37	44	39.268	108	49	10.005	
8831.00	89.58	342.76	8663.45	310.36	-16.73	304.11	1.43	37	44	39.560	108	49	10.120	
8863.00	89.16	342.59	8663.81	340.90	-26.26	336.09	1.42	37	44	39.862	108	49	10.239	
8895.00	88.88	342.38	8664.35	371.42	-35.89	368.05	1.09	37	44	40.164	108	49	10.359	
8926.00	88.95	342.83	8664.94	400.99	-45.16	399.02	1.47	37	44	40.456	108	49	10.474	
8958.00	89.18	343.26	8665.46	431.60	-54.49	430.99	1.52	37	44	40.759	108	49	10.590	
8989.00	89.28	343.39	8665.88	461.29	-63.38	461.98	0.53	37	44	41.053	108	49	10.701	
9021.00	89.25	342.41	8666.29	491.87	-72.79	493.95	3.06	37	44	41.355	108	49	10.818	



Company: Kinder Morgan
 Field: Dolores County, CO (NAD 83)
 Site: Doe Canyon 15
 Well: DC 15
 Wellpath: 1

Date: 9/9/2013 Time: 07:40:48 Page: 2
 Co-ordinate(NE) Reference: Well: DC 15, True North
 Vertical (TVD) Reference: SITE 7227.4
 Section (VS) Reference: Well (0.00N,0.00E,345.00Azi)
 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Lat	Min	Sec	Long	Min	Sec	Comment
9084.00	88.97	342.45	8667.27	551.93	-91.81	556.88	0.45	37	44	41.949	108	49	11.055	
9179.00	88.69	343.84	8669.21	642.83	-119.35	651.81	1.49	37	44	42.847	108	49	11.398	
9226.00	87.08	344.60	8670.94	688.02	-132.12	698.77	3.79	37	44	43.294	108	49	11.557	
9274.00	87.27	346.31	8673.31	734.43	-144.16	746.71	3.58	37	44	43.753	108	49	11.707	
9290.00	87.06	346.38	8674.10	749.95	-147.93	762.69	1.38	37	44	43.907	108	49	11.754	
9369.00	88.15	347.18	8677.40	826.79	-165.98	841.58	1.71	37	44	44.666	108	49	11.979	
9464.00	93.28	347.14	8676.22	919.38	-187.08	936.47	5.40	37	44	45.582	108	49	12.241	
9558.00	94.70	349.69	8669.67	1011.23	-205.92	1030.07	3.10	37	44	46.490	108	49	12.476	
9609.00	93.41	349.72	8666.07	1061.28	-215.01	1080.77	2.53	37	44	46.984	108	49	12.589	
9655.00	91.10	349.88	8664.26	1106.52	-223.15	1126.57	5.03	37	44	47.432	108	49	12.690	
9750.00	89.94	346.88	8663.40	1199.55	-242.28	1221.39	3.39	37	44	48.352	108	49	12.929	
9845.00	91.64	345.39	8662.09	1291.77	-265.04	1316.35	2.38	37	44	49.263	108	49	13.212	
9940.00	87.41	342.93	8662.87	1383.13	-290.96	1411.31	5.15	37	44	50.167	108	49	13.535	
10035.00	88.23	342.17	8666.49	1473.69	-319.43	1506.15	1.18	37	44	51.062	108	49	13.889	
10129.00	90.30	342.23	8667.69	1563.18	-348.16	1600.03	2.20	37	44	51.947	108	49	14.247	
10192.00	91.24	342.02	8666.85	1623.13	-367.49	1662.94	1.53	37	44	52.539	108	49	14.488	
10226.00	91.66	342.14	8665.99	1655.47	-377.95	1696.89	1.28	37	44	52.859	108	49	14.618	
10321.00	92.08	342.34	8662.89	1745.90	-406.91	1791.73	0.49	37	44	53.753	108	49	14.979	
10416.00	90.21	341.05	8660.99	1836.07	-436.74	1886.54	2.39	37	44	54.645	108	49	15.350	
10486.00	90.09	342.33	8660.80	1902.52	-458.73	1956.42	1.84	37	44	55.302	108	49	15.624	Last Wft Svy
10529.00	90.09	342.33	8660.74	1943.49	-471.79	1999.38	0.00	37	44	55.707	108	49	15.786	Proj. to Bit

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
8525.00	8523.26	0.000	0.000	Csg

Annotation

MD ft	TVD ft	
8522.00	8520.26	Tie on GyroData
8553.00	8551.07	First Wft Svy
10486.00	8660.80	Last Wft Svy
10529.00	8660.74	Proj. to Bit

Formations

MD	TVD	Formations	Lithology	Dip Angle	Dip Direction