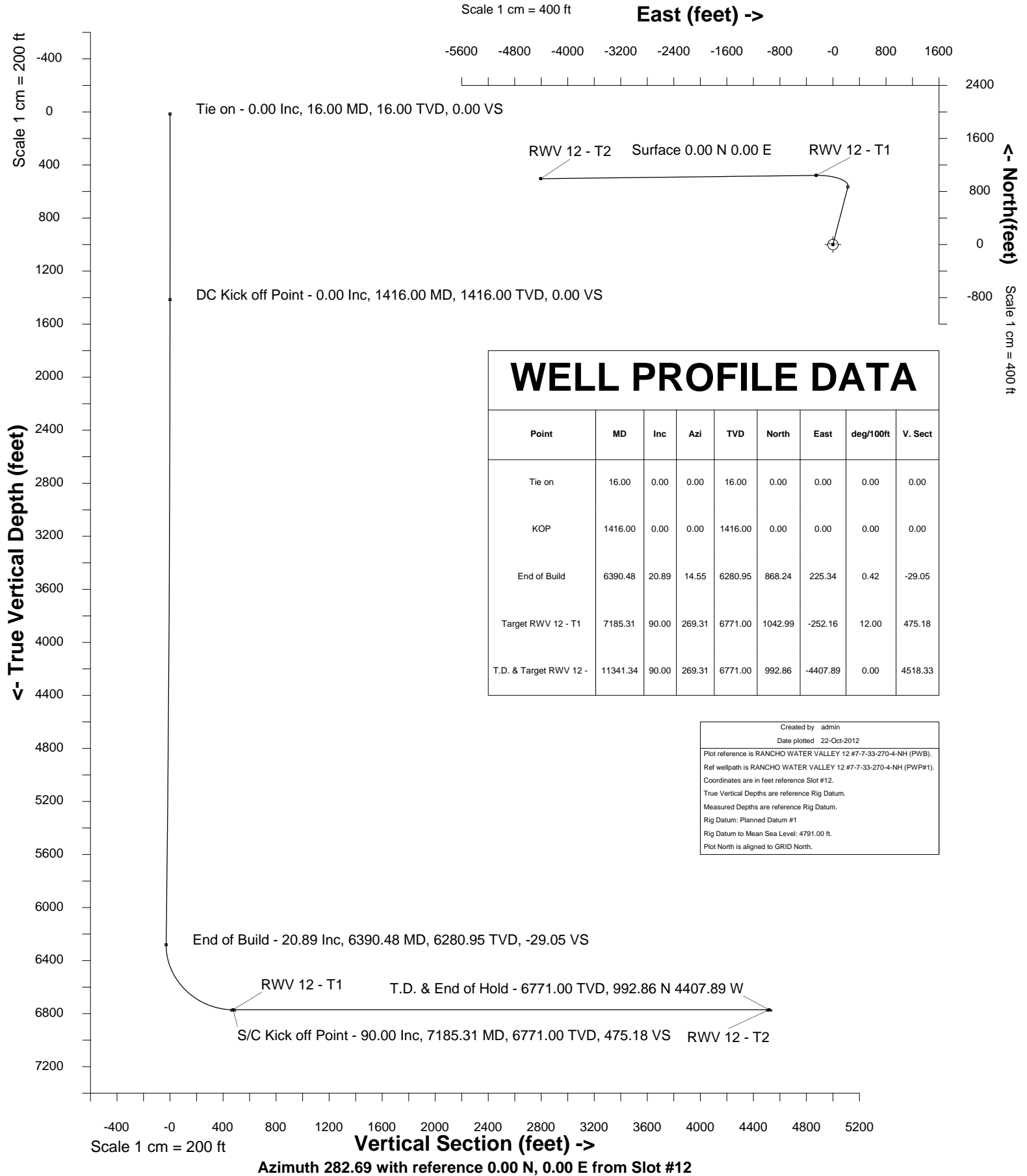


TEKTON WINDSOR, LLC

Location	Windsor, CO, USA	Slot	Slot #12
Field	Windsor Project	Well	RANCHO WATER VALLEY 12 #7-7-33-270-4-NH
Installation	Rancho Water Valley	Wellbore	RANCHO WATER VALLEY 12 #7-7-33-270-4-NH (PWB)





SYSDRILL
Well Design Combined Report
Wellbore: RANCHO WATER VALLEY 12 #7-7-33-270-4-NH (PWB)
Wellpath: RANCHO WATER VALLEY 12 #7-7-33-270-4-NH (PWP#1)

Wellhead Details

Name	Northing	Easting	Latitude	Longitude	North	East
Slot #12	1402073.4737	3170215.8145	N40 26 7.7367	W104 53 18.6360	0.00N	128.05W

Site Details

Name	Northing	Easting	Coord System Name	North Alignment
Rancho Water Valley	1402073.4733	3170343.8622	CO83-NF on NORTH AMERICAN DATUM 1983 datum	Grid

Summary Wellpath

MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
16.00	0.00	0.000	16.00	0.00N	0.00E		0.00	1402073.47	3170215.81
1416.00	0.00	0.000	1416.00	0.00N	0.00E	==>	0.00	1402073.47	3170215.81
6390.48	20.89	14.550	6280.95	868.24N	225.34E	0.42	-29.05	1402941.68	3170441.15
7185.31	90.00	269.310	6771.00	1042.99N	252.16W	12.00	475.18	1403116.42	3169963.66
11341.34	90.00	269.310	6771.00	992.86N	4407.89W	==>	4518.33	1403066.29	3165808.10

Interpolated Wellpath

MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
0.00	0.00	0.000	0.00	0.00N	0.00E		0.00	1402073.47	3170215.81
16.00	0.00	0.000	16.00	0.00N	0.00E	==>	0.00	1402073.47	3170215.81
100.00	0.00	0.000	100.00	0.00N	0.00E	==>	0.00	1402073.47	3170215.81
200.00	0.00	0.000	200.00	0.00N	0.00E	==>	0.00	1402073.47	3170215.81
300.00	0.00	0.000	300.00	0.00N	0.00E	==>	0.00	1402073.47	3170215.81
400.00	0.00	0.000	400.00	0.00N	0.00E	==>	0.00	1402073.47	3170215.81
500.00	0.00	0.000	500.00	0.00N	0.00E	==>	0.00	1402073.47	3170215.81
600.00	0.00	0.000	600.00	0.00N	0.00E	==>	0.00	1402073.47	3170215.81
700.00	0.00	0.000	700.00	0.00N	0.00E	==>	0.00	1402073.47	3170215.81
800.00	0.00	0.000	800.00	0.00N	0.00E	==>	0.00	1402073.47	3170215.81
900.00	0.00	0.000	900.00	0.00N	0.00E	==>	0.00	1402073.47	3170215.81
1000.00	0.00	0.000	1000.00	0.00N	0.00E	==>	0.00	1402073.47	3170215.81
1100.00	0.00	0.000	1100.00	0.00N	0.00E	==>	0.00	1402073.47	3170215.81
1200.00	0.00	0.000	1200.00	0.00N	0.00E	==>	0.00	1402073.47	3170215.81
1300.00	0.00	0.000	1300.00	0.00N	0.00E	==>	0.00	1402073.47	3170215.81
1400.00	0.00	0.000	1400.00	0.00N	0.00E	==>	0.00	1402073.47	3170215.81
1416.00	0.00	0.000	1416.00	0.00N	0.00E	==>	0.00	1402073.47	3170215.81
1500.00	0.35	14.550	1500.00	0.25N	0.06E	0.42	-0.01	1402073.72	3170215.88
1600.00	0.77	14.550	1599.99	1.20N	0.31E	0.42	-0.04	1402074.67	3170216.13
1700.00	1.19	14.550	1699.98	2.86N	0.74E	0.42	-0.10	1402076.34	3170216.56
1800.00	1.61	14.550	1799.95	5.23N	1.36E	0.42	-0.18	1402078.70	3170217.17
1900.00	2.03	14.550	1899.90	8.31N	2.16E	0.42	-0.28	1402081.78	3170217.97
2000.00	2.45	14.550	1999.82	12.10N	3.14E	0.42	-0.40	1402085.57	3170218.95
2100.00	2.87	14.550	2099.71	16.60N	4.31E	0.42	-0.56	1402090.07	3170220.12
2200.00	3.29	14.550	2199.57	21.80N	5.66E	0.42	-0.73	1402095.27	3170221.47
2300.00	3.71	14.550	2299.38	27.72N	7.19E	0.42	-0.93	1402101.19	3170223.01
2400.00	4.13	14.550	2399.15	34.34N	8.91E	0.42	-1.15	1402107.81	3170224.73
2500.00	4.55	14.550	2498.86	41.67N	10.81E	0.42	-1.39	1402115.14	3170226.63
2600.00	4.97	14.550	2598.51	49.70N	12.90E	0.42	-1.66	1402123.18	3170228.71
2700.00	5.39	14.550	2698.10	58.45N	15.17E	0.42	-1.96	1402131.92	3170230.98
2800.00	5.81	14.550	2797.63	67.90N	17.62E	0.42	-2.27	1402141.37	3170233.44
2900.00	6.23	14.550	2897.07	78.06N	20.26E	0.42	-2.61	1402151.53	3170236.07
3000.00	6.65	14.550	2996.44	88.92N	23.08E	0.42	-2.97	1402162.39	3170238.89
3100.00	7.07	14.550	3095.73	100.48N	26.08E	0.42	-3.36	1402173.95	3170241.89
3200.00	7.49	14.550	3194.92	112.75N	29.26E	0.42	-3.77	1402186.22	3170245.08
3300.00	7.91	14.550	3294.02	125.73N	32.63E	0.42	-4.21	1402199.20	3170248.44
3400.00	8.33	14.550	3393.01	139.41N	36.18E	0.42	-4.66	1402212.87	3170251.99
3500.00	8.75	14.550	3491.90	153.79N	39.91E	0.42	-5.14	1402227.25	3170255.73
3600.00	9.17	14.550	3590.68	168.87N	43.83E	0.42	-5.65	1402242.33	3170259.64
3700.00	9.59	14.550	3689.34	184.65N	47.92E	0.42	-6.18	1402258.11	3170263.74
3800.00	10.01	14.550	3787.88	201.13N	52.20E	0.42	-6.73	1402274.59	3170268.01
3900.00	10.43	14.550	3886.29	218.31N	56.66E	0.42	-7.30	1402291.77	3170272.47
4000.00	10.85	14.550	3984.57	236.18N	61.30E	0.42	-7.90	1402309.65	3170277.11
4100.00	11.27	14.550	4082.72	254.76N	66.12E	0.42	-8.52	1402328.22	3170281.93
4200.00	11.69	14.550	4180.71	274.03N	71.12E	0.42	-9.17	1402347.49	3170286.93
4300.00	12.11	14.550	4278.56	293.99N	76.30E	0.42	-9.84	1402367.45	3170292.11
4400.00	12.53	14.550	4376.26	314.65N	81.66E	0.42	-10.53	1402388.11	3170297.48
4500.00	12.95	14.550	4473.80	336.00N	87.21E	0.42	-11.24	1402409.46	3170303.02
4600.00	13.37	14.550	4571.17	358.04N	92.93E	0.42	-11.98	1402431.50	3170308.74
4700.00	13.79	14.550	4668.37	380.78N	98.83E	0.42	-12.74	1402454.24	3170314.64
4800.00	14.21	14.550	4765.40	404.20N	104.91E	0.42	-13.52	1402477.66	3170320.72
4900.00	14.63	14.550	4862.25	428.31N	111.16E	0.42	-14.33	1402501.77	3170326.97
5000.00	15.05	14.550	4958.91	453.11N	117.60E	0.42	-15.16	1402526.56	3170333.41
5100.00	15.47	14.550	5055.38	478.59N	124.21E	0.42	-16.01	1402552.04	3170340.02

All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 4791.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 282.690 degrees
Bottom hole distance is 4518.33 Feet on azimuth 282.69 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Peterson Energy
Date Printed: 22-Oct-2012



SYSDRILL
Well Design Combined Report
Wellbore: RANCHO WATER VALLEY 12 #7-7-33-270-4-NH (PWB)
Wellpath: RANCHO WATER VALLEY 12 #7-7-33-270-4-NH (PWP#1)

Interpolated Wellpath

MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
5200.00	15.89	14.550	5151.66	504.75N	131.00E	0.42	-16.89	1402578.21	3170346.81
5300.00	16.31	14.550	5247.73	531.60N	137.97E	0.42	-17.78	1402605.05	3170353.78
5400.00	16.73	14.550	5343.60	559.13N	145.12E	0.42	-18.71	1402632.58	3170360.93
5500.00	17.15	14.550	5439.26	587.34N	152.44E	0.42	-19.65	1402660.79	3170368.25
5600.00	17.57	14.550	5534.71	616.23N	159.93E	0.42	-20.62	1402689.67	3170375.74
5700.00	17.99	14.550	5629.93	645.79N	167.61E	0.42	-21.60	1402719.24	3170383.42
5800.00	18.41	14.550	5724.92	676.03N	175.46E	0.42	-22.62	1402749.47	3170391.26
5900.00	18.83	14.550	5819.68	706.94N	183.48E	0.42	-23.65	1402780.38	3170399.29
6000.00	19.25	14.550	5914.21	738.52N	191.67E	0.42	-24.71	1402811.96	3170407.48
6100.00	19.67	14.550	6008.50	770.77N	200.05E	0.42	-25.79	1402844.22	3170415.85
6200.00	20.09	14.550	6102.53	803.69N	208.59E	0.42	-26.89	1402877.13	3170424.40
6300.00	20.51	14.550	6196.32	837.28N	217.31E	0.42	-28.01	1402910.72	3170433.11
6390.48	20.89	14.550	6280.95	868.24N	225.34E	0.42	-29.05	1402941.68	3170441.15
6400.00	20.64	11.410	6289.86	871.53N	226.10E	12.00	-29.06	1402944.97	3170441.91
6500.00	21.60	337.780	6383.48	905.97N	222.61E	12.00	-18.09	1402979.41	3170438.42
6600.00	27.98	313.200	6474.46	939.19N	198.46E	12.00	12.77	1403012.63	3170414.27
6700.00	37.08	298.480	6558.81	969.74N	154.71E	12.00	62.17	1403043.17	3170370.51
6800.00	47.34	289.150	6632.86	996.27N	93.25E	12.00	127.95	1403069.70	3170309.06
6900.00	58.13	282.540	6693.36	1017.63N	16.79E	12.00	207.23	1403091.07	3170232.61
7000.00	69.20	277.350	6737.68	1032.89N	71.34W	12.00	296.56	1403106.33	3170144.48
7100.00	80.40	272.880	6763.87	1041.38N	167.28W	12.00	392.03	1403114.81	3170048.54
7185.31	90.00	269.310	6771.00	1042.99N	252.16W	12.00	475.18	1403116.42	3169963.66
7200.00	90.00	269.310	6771.00	1042.81N	266.86W	==>	489.48	1403116.24	3169948.97
7300.00	90.00	269.310	6771.00	1041.60N	366.85W	==>	586.76	1403115.03	3169848.98
7400.00	90.00	269.310	6771.00	1040.40N	466.84W	==>	684.05	1403113.83	3169748.99
7500.00	90.00	269.310	6771.00	1039.19N	566.83W	==>	781.33	1403112.62	3169649.00
7600.00	90.00	269.310	6771.00	1037.98N	666.83W	==>	878.62	1403111.42	3169549.01
7700.00	90.00	269.310	6771.00	1036.78N	766.82W	==>	975.90	1403110.21	3169449.03
7800.00	90.00	269.310	6771.00	1035.57N	866.81W	==>	1073.18	1403109.00	3169349.04
7900.00	90.00	269.310	6771.00	1034.37N	966.80W	==>	1170.47	1403107.80	3169249.05
8000.00	90.00	269.310	6771.00	1033.16N	1066.80W	==>	1267.75	1403106.59	3169149.06
8100.00	90.00	269.310	6771.00	1031.95N	1166.79W	==>	1365.03	1403105.39	3169049.07
8200.00	90.00	269.310	6771.00	1030.75N	1266.78W	==>	1462.32	1403104.18	3168949.08
8300.00	90.00	269.310	6771.00	1029.54N	1366.78W	==>	1559.60	1403102.97	3168849.09
8400.00	90.00	269.310	6771.00	1028.34N	1466.77W	==>	1656.88	1403101.77	3168749.11
8500.00	90.00	269.310	6771.00	1027.13N	1566.76W	==>	1754.17	1403100.56	3168649.12
8600.00	90.00	269.310	6771.00	1025.92N	1666.75W	==>	1851.45	1403099.36	3168549.13
8700.00	90.00	269.310	6771.00	1024.72N	1766.75W	==>	1948.74	1403098.15	3168449.14
8800.00	90.00	269.310	6771.00	1023.51N	1866.74W	==>	2046.02	1403096.94	3168349.15
8900.00	90.00	269.310	6771.00	1022.30N	1966.73W	==>	2143.30	1403095.74	3168249.16
9000.00	90.00	269.310	6771.00	1021.10N	2066.72W	==>	2240.59	1403094.53	3168149.17
9100.00	90.00	269.310	6771.00	1019.89N	2166.72W	==>	2337.87	1403093.33	3168049.18
9200.00	90.00	269.310	6771.00	1018.69N	2266.71W	==>	2435.15	1403092.12	3167949.20
9300.00	90.00	269.310	6771.00	1017.48N	2366.70W	==>	2532.44	1403090.91	3167849.21
9400.00	90.00	269.310	6771.00	1016.27N	2466.70W	==>	2629.72	1403089.71	3167749.22
9500.00	90.00	269.310	6771.00	1015.07N	2566.69W	==>	2727.01	1403088.50	3167649.23
9600.00	90.00	269.310	6771.00	1013.86N	2666.68W	==>	2824.29	1403087.30	3167549.24
9700.00	90.00	269.310	6771.00	1012.66N	2766.67W	==>	2921.57	1403086.09	3167449.25
9800.00	90.00	269.310	6771.00	1011.45N	2866.67W	==>	3018.86	1403084.88	3167349.26
9900.00	90.00	269.310	6771.00	1010.24N	2966.66W	==>	3116.14	1403083.68	3167249.27
10000.00	90.00	269.310	6771.00	1009.04N	3066.65W	==>	3213.42	1403082.47	3167149.29
10100.00	90.00	269.310	6771.00	1007.83N	3166.64W	==>	3310.71	1403081.27	3167049.30
10200.00	90.00	269.310	6771.00	1006.63N	3266.64W	==>	3407.99	1403080.06	3166949.31
10300.00	90.00	269.310	6771.00	1005.42N	3366.63W	==>	3505.28	1403078.85	3166849.32
10400.00	90.00	269.310	6771.00	1004.21N	3466.62W	==>	3602.56	1403077.65	3166749.33
10500.00	90.00	269.310	6771.00	1003.01N	3566.62W	==>	3699.84	1403076.44	3166649.34
10600.00	90.00	269.310	6771.00	1001.80N	3666.61W	==>	3797.13	1403075.23	3166549.35
10700.00	90.00	269.310	6771.00	1000.60N	3766.60W	==>	3894.41	1403074.03	3166449.36
10800.00	90.00	269.310	6771.00	999.39N	3866.59W	==>	3991.69	1403072.82	3166349.38
10900.00	90.00	269.310	6771.00	998.18N	3966.59W	==>	4088.98	1403071.62	3166249.39
11000.00	90.00	269.310	6771.00	996.98N	4066.58W	==>	4186.26	1403070.41	3166149.40
11100.00	90.00	269.310	6771.00	995.77N	4166.57W	==>	4283.54	1403069.20	3166049.41
11200.00	90.00	269.310	6771.00	994.56N	4266.56W	==>	4380.83	1403068.00	3165949.42
11300.00	90.00	269.310	6771.00	993.36N	4366.56W	==>	4478.11	1403066.79	3165849.43
11341.34	90.00	269.310	6771.00	992.86N	4407.89W	==>	4518.33	1403066.29	3165808.10

All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 4791.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 282.690 degrees
Bottom hole distance is 4518.33 Feet on azimuth 282.69 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Peterson Energy
Date Printed: 22-Oct-2012



SYSDRILL
Well Design Combined Report
Wellbore: RANCHO WATER VALLEY 12 #7-7-33-270-4-NH (PWB)
Wellpath: RANCHO WATER VALLEY 12 #7-7-33-270-4-NH (PWP#1)

Targets

Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting	Last Revised
RWV 12 - T1	1042.99N	252.16W	6771.00	N40 26 18.0600	W104 53 21.8040	1403116.42	3169963.66	19-Oct-2012
RWV 12 - T2	992.86N	4407.89W	6771.00	N40 26 17.8440	W104 54 15.5520	1403066.29	3165808.10	19-Oct-2012

Survey Tool Program

Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
5407	Planned	11341.34	6771.00	ISCWSA MWD	Rev 0

Notes

All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 4791.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 282.690 degrees
Bottom hole distance is 4518.33 Feet on azimuth 282.69 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Peterson Energy
Date Printed: 22-Oct-2012



SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: RANCHO WATER VALLEY 12 #7-7-33-270-4-NH (PWB)
Wellpath: RANCHO WATER VALLEY 12 #7-7-33-270-4-NH (PWP#1)

Ellipse separations are reported ONLY if BOTH wells have uncertainty data
Only Depth and Magnetic Reference Field error terms are correlated across tie points
Cutoff is calculated on CENTRE to CENTRE distance

Summary data uses Closest Approach clearance calculation for all minima
Hole size/Casings ARE included
Hole size/Casings are NOT subtracted from Centre-Centre distance
Confidence limit of 95.00% / 2.80 SD.

Wellbore

Name	Created	Last Revised
RANCHO WATER VALLEY 12 #7-7-33-270-4-NH (PWB)	17-Oct-2012	17-Oct-2012

Well

Name	Government ID	Last Revised
RANCHO WATER VALLEY 12 #7-7-33-270-4-NH		17-Oct-2012

Slot

Name	Grid Northing	Grid Easting	Latitude	Longitude	North	East
Slot #12	1402073.4737	3170215.8145	N40 26 7.7367	W104 53 18.6360	0.00N	128.05W

Installation

Name	Easting	Northing	Coord System Name	North Alignment
Rancho Water Valley	3170343.8622	1402073.4733	CO83-NF on NORTH AMERICAN DATUM 1983 datum	Grid

Field

Name	Easting	Northing	Coord System Name	North Alignment
Windsor Project	3162710.0707	1407271.6545	CO83-NF on NORTH AMERICAN DATUM 1983 datum	Grid

Clearance Summary

Offset WellName	Offset Wellbore	Offset Slot	Offset Structure	Separation [ft]	MD[ft]	Diverging From[ft]	Ellipse Separation [ft]	Ellipse MD[ft]	Clearance Factor	Clearance MD[ft]
RANCHO WATER VALLEY 11 #7-7-33-27 0-6-CH	RANCHO WATER VALLEY 11 #7-7-33-270-6 -CH (PWB)	Slot #11	Rancho Water Valley	16.23	1757.65	11341.34	-46.81	11341.34	0.81	11341.34
RANCHO WATER VALLEY 13 #7-6-33-27 0-6-CH	RANCHO WATER VALLEY 13 #7-6-33-270-6 -CH (PWB)	Slot #13	Rancho Water Valley	16.65	1416.00	6701.65	14.30	1443.17	1.65	11341.34
RANCHO WATER VALLEY 10 #7-8-33-27 0-4-NH	RANCHO WATER VALLEY 10 #7-8-33-270-4 -NH (PWB)	Slot #10	Rancho Water Valley	32.38	1886.08	11257.30	29.48	1918.89	1.41	11257.30
RANCHO WATER VALLEY 9 #8-7-33-00 0-4-CH	RANCHO WATER VALLEY 9 #8-7-33-000-4 -CH (PWB)	Slot #9	Rancho Water Valley	45.81	1985.54	6964.71	42.98	2017.31	5.55	7053.40
RANCHO WATER VALLEY 8 #7-8-33-27 0-5-CH	RANCHO WATER VALLEY 8 #7-8-33-270-5 -CH (PWB)	Slot #8	Rancho Water Valley	62.08	2000.91	6833.55	59.05	2000.91	4.59	6872.96
RANCHO WATER VALLEY #2-6-4	RANCHO WATER VALLEY #2-6-4 (AWB)	Slot #7	Rancho Water Valley	77.29	1057.23	8484.89	72.65	1065.87	12.88	8841.46
RANCHO WATER VALLEY 7 #8-7-33-00 0-4-NH	RANCHO WATER VALLEY 7 #8-7-33-000-4 -NH (PWB)	Slot #6	Rancho Water Valley	80.37	1616.29	11341.34	77.86	1616.29	2.10	11341.34
RANCHO WATER VALLEY 6 #0-7-4-270 -5-NH	RANCHO WATER VALLEY 6 #0-7-4-270-5 -NH (PWB)	Slot #3	Rancho Water Valley	94.33	2200.54	11341.34	91.00	2216.00	4.15	11341.34

All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 4791.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 282.690 degrees
Prepared by Peterson Energy
Date Printed: 22-Oct-2012



SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: RANCHO WATER VALLEY 12 #7-7-33-270-4-NH (PWB)
Wellpath: RANCHO WATER VALLEY 12 #7-7-33-270-4-NH (PWP#1)

Clearance Summary

Offset WellName	Offset Wellbore	Offset Slot	Offset Structure	Separation [ft]	MD[ft]	Diverging From[ft]	Ellipse Separation [ft]	Ellipse MD[ft]	Clearance Factor	Clearance MD[ft]
RANCHO WATER VALLEY 5 #7-2-4-270-4-NH	RANCHO WATER VALLEY 5 #7-2-4-270-4-NH (PWB)	Slot #5	Rancho Water Valley	110.32	1783.98	11259.15	107.69	1783.98	5.36	11341.34
RANCHO WATER VALLEY 4 #7-1-4-270-4-NH	RANCHO WATER VALLEY 4 #7-1-4-270-4-NH (PWB)	Slot #4	Rancho Water Valley	127.99	1500.20	11187.26	125.57	1500.20	3.53	11252.88
RANCHO WATER VALLEY 2-8-4	RANCHO WATER VALLEY 2-8-4 (AWB)	Slot #2	Rancho Water Valley	131.24	1754.85	7241.53	127.02	1771.25	27.68	1984.50
RANCHO WATER VALLEY #3-9-4	RANCHO WATER VALLEY #3-9-4 (AWB)	Slot #1	Rancho Water Valley	178.13	560.75	560.75	176.29	573.74	43.74	8857.86