

Location	Windsor, CO, USA(Imported)	Slot	Slot #7
Field	Windsor Project	Well	FRYE FARMS #7
Installation	Frye Farms	Wellbore	FRYE FARMS #7 (Rev)

Scale 1 cm = 500 ft

East (feet) ->

-3000 -2000 -1000 0 1000 2000 3000 4000 5000 6000 7000

Created by admin
Date plotted 21-May-2014
Plot reference is FRYE FARMS #7 (Rev).
Ref wellpath is FRYE FARMS #7 (Rev).
Coordinates are in feet reference Slot #7.
True Vertical Depths are reference Rig Datum.
Measured Depths are reference Rig Datum.
Rig Datum: Planned Datum #1
Rig Datum to Mean Sea Level: 4903.50 ft.
Plot North is aligned to GRID North.

FF7R - T1
Surface 0.00 N 0.00 E
FF7R - T2

North (feet)
Scale 1 cm = 500 ft
2000
1000
0
-1000

Tie on - 0.00 Inc, 22.50 MD, 22.50 TVD, 0.00 VS

9 5/8in Surface Casing
3DS Kick off Point - 0.00 Inc, 1000.00 MD, 1000.00 TVD, 0.00 VS

End of Build - 18.00 Inc, 1900.05 MD, 1885.32 TVD, -136.48 VS

WELL PROFILE DATA

Point	MD	Inc	Azi	TVD	North	East	deg/100ft	V. Sect
Tie on	22.50	0.00	0.00	22.50	0.00	0.00	0.00	0.00
KOP	1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00
End of Build	1900.05	18.00	280.02	1885.32	24.39	-138.09	2.00	-136.48
End of Hold	6426.79	18.00	280.02	6190.48	267.68	-1515.69	0.00	-1497.96
Target FF7R - T1	7503.89	90.00	89.85	6936.50	311.84	-969.99	10.00	-950.63
T.D. & Target FF7R - T2	14234.20	90.00	89.85	6936.50	329.02	5760.30	0.00	5769.68

End of Hold - 18.00 Inc, 6426.79 MD, 6190.48 TVD, -1497.96 VS

7.0in Intermediate Casing

FF7R - T1

4 1/2in Production Liner

FF7R - T2

S/C Kick off Point - 90.00 Inc, 7503.89 MD, 6936.50 TVD, -950.63 VS

T.D. & End of Hold - 6936.50 TVD, 329.02 N 5760.30 E

Scale 1 cm = 250 ft
True Vertical Depth (feet)

-500
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
6500
7000
7500

-2000 -1500 -1000 -500 0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500
Scale 1 cm = 250 ft
Vertical Section (feet) ->

Azimuth 86.73 with reference 0.00 N, 0.00 E from Slot #7



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL
Well Design Combined Report
Wellbore: FRYE FARMS #7 (Rev)



Wellhead Details

Name	Northing	Easting	Latitude	Longitude	North	East	Elevation Above Inst.
Slot #7	1403445.7679	3164051.5366	40.43936385	-104.91062135	71.73N	63.76W	-0.00

Declination

Date	Source	Time
25-Oct-2012	IGRF Model [1900.0-2015.0]	11:47

Site Details

Name	Northing	Easting	Coord System Name	North Alignment
Frye Farms	1403374.0431	3164115.2936	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
22.50	0.00	0.000	22.50	0.00N	0.00E		0.00	1403445.77	3164051.54
1000.00	0.00	0.000	1000.00	0.00N	0.00E	==>	0.00	1403445.77	3164051.54
6426.79	18.00	280.020	6190.48	267.68N	1515.69W	==>	-1497.96	1403713.44	3162535.91
7503.89	90.00	89.850	6936.50	311.84N	969.99W	10.00	-950.63	1403757.59	3163081.58
14234.20	90.00	89.850	6936.50	329.02N	5760.30E	==>	5769.68	1403774.77	3169811.60

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	1403445.77	3164051.54
22.50	0.00	0.000	22.50	0.00N	0.00E	==>	0.00	1403445.77	3164051.54
100.00	0.00	0.000	100.00	0.00N	0.00E	==>	0.00	1403445.77	3164051.54
200.00	0.00	0.000	200.00	0.00N	0.00E	==>	0.00	1403445.77	3164051.54
300.00	0.00	0.000	300.00	0.00N	0.00E	==>	0.00	1403445.77	3164051.54
400.00	0.00	0.000	400.00	0.00N	0.00E	==>	0.00	1403445.77	3164051.54
500.00	0.00	0.000	500.00	0.00N	0.00E	==>	0.00	1403445.77	3164051.54
600.00	0.00	0.000	600.00	0.00N	0.00E	==>	0.00	1403445.77	3164051.54
700.00	0.00	0.000	700.00	0.00N	0.00E	==>	0.00	1403445.77	3164051.54
800.00	0.00	0.000	800.00	0.00N	0.00E	==>	0.00	1403445.77	3164051.54
900.00	0.00	0.000	900.00	0.00N	0.00E	==>	0.00	1403445.77	3164051.54
977.50	0.00	0.000	977.50	0.00N	0.00E	==>	0.00	1403445.77	3164051.54
1000.00	0.00	0.000	1000.00	0.00N	0.00E	==>	0.00	1403445.77	3164051.54
1077.50	1.55	280.020	1077.49	0.18N	1.03W	2.00	-1.02	1403445.95	3164050.50
1177.50	3.55	280.020	1177.39	0.96N	5.41W	2.00	-5.35	1403446.72	3164046.12
1277.50	5.55	280.020	1277.07	2.34N	13.22W	2.00	-13.07	1403448.10	3164038.31
1377.50	7.55	280.020	1376.41	4.32N	24.46W	2.00	-24.17	1403450.09	3164027.08
1477.50	9.55	280.020	1475.29	6.90N	39.10W	2.00	-38.64	1403452.67	3164012.44
1577.50	11.55	280.020	1573.60	10.09N	57.13W	2.00	-56.46	1403455.86	3163994.41
1677.50	13.55	280.020	1671.20	13.87N	78.52W	2.00	-77.61	1403459.64	3163973.02
1777.50	15.55	280.020	1767.99	18.24N	103.26W	2.00	-102.05	1403464.00	3163948.28
1877.50	17.55	280.020	1863.84	23.19N	131.31W	2.00	-129.78	1403468.96	3163920.23
1900.00	18.00	280.020	1885.27	24.38N	138.08W	2.00	-136.46	1403470.15	3163913.47
2000.00	18.00	280.020	1980.37	29.76N	168.51W	==>	-166.54	1403475.53	3163883.03
2100.00	18.00	280.020	2075.48	35.13N	198.94W	==>	-196.61	1403480.90	3163852.60
2200.00	18.00	280.020	2170.58	40.51N	229.37W	==>	-226.69	1403486.27	3163822.17
2300.00	18.00	280.020	2265.69	45.88N	259.81W	==>	-256.77	1403491.65	3163791.74
2400.00	18.00	280.020	2360.79	51.26N	290.24W	==>	-286.84	1403497.02	3163761.31
2500.00	18.00	280.020	2455.90	56.63N	320.67W	==>	-316.92	1403502.40	3163730.88
2600.00	18.00	280.020	2551.00	62.01N	351.10W	==>	-347.00	1403507.77	3163700.45
2700.00	18.00	280.020	2646.11	67.38N	381.54W	==>	-377.07	1403513.15	3163670.02
2800.00	18.00	280.020	2741.21	72.76N	411.97W	==>	-407.15	1403518.52	3163639.59
2900.00	18.00	280.020	2836.32	78.13N	442.40W	==>	-437.23	1403523.89	3163609.15
3000.00	18.00	280.020	2931.42	83.50N	472.83W	==>	-467.30	1403529.27	3163578.72
3100.00	18.00	280.020	3026.53	88.88N	503.27W	==>	-497.38	1403534.64	3163548.29
3200.00	18.00	280.020	3121.63	94.25N	533.70W	==>	-527.45	1403540.02	3163517.86
3300.00	18.00	280.020	3216.74	99.63N	564.13W	==>	-557.53	1403545.39	3163487.43
3400.00	18.00	280.020	3311.85	105.00N	594.56W	==>	-587.61	1403550.77	3163457.00

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 4903.5ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 86.730 degrees
Bottom hole distance is 5769.68 Feet on azimuth 86.73 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 21-May-2014



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL
Well Design Combined Report
Wellbore: FRYE FARMS #7 (Rev)



Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
3500.00	18.00	280.020	3406.95	110.38N	624.99W	==>	-617.68	1403556.14	3163426.57
3600.00	18.00	280.020	3502.06	115.75N	655.43W	==>	-647.76	1403561.52	3163396.14
3700.00	18.00	280.020	3597.16	121.13N	685.86W	==>	-677.84	1403566.89	3163365.70
3800.00	18.00	280.020	3692.27	126.50N	716.29W	==>	-707.91	1403572.26	3163335.27
3900.00	18.00	280.020	3787.37	131.88N	746.72W	==>	-737.99	1403577.64	3163304.84
4000.00	18.00	280.020	3882.48	137.25N	777.16W	==>	-768.07	1403583.01	3163274.41
4100.00	18.00	280.020	3977.58	142.62N	807.59W	==>	-798.14	1403588.39	3163243.98
4200.00	18.00	280.020	4072.69	148.00N	838.02W	==>	-828.22	1403593.76	3163213.55
4300.00	18.00	280.020	4167.79	153.37N	868.45W	==>	-858.29	1403599.14	3163183.12
4400.00	18.00	280.020	4262.90	158.75N	898.89W	==>	-888.37	1403604.51	3163152.69
4500.00	18.00	280.020	4358.00	164.12N	929.32W	==>	-918.45	1403609.88	3163122.25
4600.00	18.00	280.020	4453.11	169.50N	959.75W	==>	-948.52	1403615.26	3163091.82
4700.00	18.00	280.020	4548.21	174.87N	990.18W	==>	-978.60	1403620.63	3163061.39
4800.00	18.00	280.020	4643.32	180.25N	1020.62W	==>	-1008.68	1403626.01	3163030.96
4900.00	18.00	280.020	4738.42	185.62N	1051.05W	==>	-1038.75	1403631.38	3163000.53
5000.00	18.00	280.020	4833.53	191.00N	1081.48W	==>	-1068.83	1403636.76	3162970.10
5100.00	18.00	280.020	4928.63	196.37N	1111.91W	==>	-1098.91	1403642.13	3162939.67
5200.00	18.00	280.020	5023.74	201.74N	1142.35W	==>	-1128.98	1403647.50	3162909.24
5300.00	18.00	280.020	5118.84	207.12N	1172.78W	==>	-1159.06	1403652.88	3162878.80
5400.00	18.00	280.020	5213.95	212.49N	1203.21W	==>	-1189.14	1403658.25	3162848.37
5500.00	18.00	280.020	5309.05	217.87N	1233.64W	==>	-1219.21	1403663.63	3162817.94
5600.00	18.00	280.020	5404.16	223.24N	1264.08W	==>	-1249.29	1403669.00	3162787.51
5700.00	18.00	280.020	5499.26	228.62N	1294.51W	==>	-1279.36	1403674.38	3162757.08
5800.00	18.00	280.020	5594.37	233.99N	1324.94W	==>	-1309.44	1403679.75	3162726.65
5900.00	18.00	280.020	5689.47	239.37N	1355.37W	==>	-1339.52	1403685.12	3162696.22
6000.00	18.00	280.020	5784.58	244.74N	1385.81W	==>	-1369.59	1403690.50	3162665.79
6100.00	18.00	280.020	5879.68	250.11N	1416.24W	==>	-1399.67	1403695.87	3162635.36
6200.00	18.00	280.020	5974.79	255.49N	1446.67W	==>	-1429.75	1403701.25	3162604.92
6300.00	18.00	280.020	6069.89	260.86N	1477.10W	==>	-1459.82	1403706.62	3162574.49
6400.00	18.00	280.020	6165.00	266.24N	1507.54W	==>	-1489.90	1403712.00	3162544.06
6426.79	18.00	280.020	6190.48	267.68N	1515.69W	==>	-1497.96	1403713.44	3162535.91
6500.00	10.89	287.190	6261.33	271.69N	1533.46W	10.00	-1515.47	1403717.45	3162518.14
6600.00	3.30	353.090	6360.60	277.36N	1542.85W	10.00	-1524.52	1403723.12	3162508.75
6700.00	10.15	71.180	6459.99	283.08N	1534.84W	10.00	-1516.20	1403728.84	3162516.76
6800.00	19.87	80.730	6556.47	288.68N	1509.66W	10.00	-1490.74	1403734.43	3162541.94
6900.00	29.78	84.100	6647.12	293.98N	1468.08W	10.00	-1448.92	1403739.73	3162583.52
7000.00	39.72	85.900	6729.19	298.83N	1411.36W	10.00	-1392.02	1403744.58	3162640.23
7100.00	49.69	87.070	6800.17	303.08N	1341.23W	10.00	-1321.77	1403748.83	3162710.36
7200.00	59.67	87.930	6857.91	306.59N	1259.82W	10.00	-1240.29	1403752.35	3162791.77
7300.00	69.65	88.640	6900.66	309.28N	1169.60W	10.00	-1150.06	1403755.03	3162881.98
7400.00	79.63	89.250	6927.12	311.04N	1073.31W	10.00	-1053.83	1403756.79	3162978.27
7500.00	89.61	89.830	6936.49	311.83N	973.88W	10.00	-954.51	1403757.58	3163077.70
7503.89	90.00	89.850	6936.50	311.84N	969.99W	10.00	-950.63	1403757.59	3163081.58
7600.00	90.00	89.850	6936.50	312.08N	873.88W	==>	-854.66	1403757.84	3163177.69
7700.00	90.00	89.850	6936.50	312.34N	773.88W	==>	-754.81	1403758.10	3163277.69
7800.00	90.00	89.850	6936.50	312.59N	673.88W	==>	-654.96	1403758.35	3163377.68
7900.00	90.00	89.850	6936.50	312.85N	573.88W	==>	-555.11	1403758.61	3163477.68
8000.00	90.00	89.850	6936.50	313.11N	473.88W	==>	-455.26	1403758.86	3163577.67
8100.00	90.00	89.850	6936.50	313.36N	373.88W	==>	-355.40	1403759.12	3163677.67
8200.00	90.00	89.850	6936.50	313.62N	273.88W	==>	-255.55	1403759.37	3163777.67
8300.00	90.00	89.850	6936.50	313.87N	173.88W	==>	-155.70	1403759.63	3163877.66
8400.00	90.00	89.850	6936.50	314.13N	73.88W	==>	-55.85	1403759.88	3163977.66
8500.00	90.00	89.850	6936.50	314.38N	26.12E	==>	44.00	1403760.14	3164077.65
8600.00	90.00	89.850	6936.50	314.64N	126.12E	==>	143.85	1403760.39	3164177.65
8700.00	90.00	89.850	6936.50	314.89N	226.12E	==>	243.70	1403760.65	3164277.64
8800.00	90.00	89.850	6936.50	315.15N	326.12E	==>	343.56	1403760.90	3164377.64
8900.00	90.00	89.850	6936.50	315.40N	426.12E	==>	443.41	1403761.16	3164477.64
9000.00	90.00	89.850	6936.50	315.66N	526.12E	==>	543.26	1403761.41	3164577.63
9100.00	90.00	89.850	6936.50	315.91N	626.11E	==>	643.11	1403761.67	3164677.63
9200.00	90.00	89.850	6936.50	316.17N	726.11E	==>	742.96	1403761.92	3164777.62

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Vertical Section is from 0.00N 0.00E on azimuth 86.730 degrees
Bottom hole distance is 5769.68 Feet on azimuth 86.73 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 21-May-2014



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Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
9300.00	90.00	89.850	6936.50	316.42N	826.11E	==>	842.81	1403762.18	3164877.62
9400.00	90.00	89.850	6936.50	316.68N	926.11E	==>	942.67	1403762.43	3164977.61
9500.00	90.00	89.850	6936.50	316.93N	1026.11E	==>	1042.52	1403762.69	3165077.61
9600.00	90.00	89.850	6936.50	317.19N	1126.11E	==>	1142.37	1403762.94	3165177.61
9700.00	90.00	89.850	6936.50	317.44N	1226.11E	==>	1242.22	1403763.20	3165277.60
9800.00	90.00	89.850	6936.50	317.70N	1326.11E	==>	1342.07	1403763.45	3165377.60
9900.00	90.00	89.850	6936.50	317.95N	1426.11E	==>	1441.92	1403763.71	3165477.59
10000.00	90.00	89.850	6936.50	318.21N	1526.11E	==>	1541.77	1403763.96	3165577.59
10100.00	90.00	89.850	6936.50	318.46N	1626.11E	==>	1641.63	1403764.22	3165677.58
10200.00	90.00	89.850	6936.50	318.72N	1726.11E	==>	1741.48	1403764.47	3165777.58
10300.00	90.00	89.850	6936.50	318.97N	1826.11E	==>	1841.33	1403764.73	3165877.58
10400.00	90.00	89.850	6936.50	319.23N	1926.11E	==>	1941.18	1403764.99	3165977.57
10500.00	90.00	89.850	6936.50	319.49N	2026.11E	==>	2041.03	1403765.24	3166077.57
10600.00	90.00	89.850	6936.50	319.74N	2126.11E	==>	2140.88	1403765.50	3166177.56
10700.00	90.00	89.850	6936.50	320.00N	2226.11E	==>	2240.74	1403765.75	3166277.56
10800.00	90.00	89.850	6936.50	320.25N	2326.11E	==>	2340.59	1403766.01	3166377.55
10900.00	90.00	89.850	6936.50	320.51N	2426.11E	==>	2440.44	1403766.26	3166477.55
11000.00	90.00	89.850	6936.50	320.76N	2526.11E	==>	2540.29	1403766.52	3166577.54
11100.00	90.00	89.850	6936.50	321.02N	2626.11E	==>	2640.14	1403766.77	3166677.54
11200.00	90.00	89.850	6936.50	321.27N	2726.11E	==>	2739.99	1403767.03	3166777.54
11300.00	90.00	89.850	6936.50	321.53N	2826.11E	==>	2839.84	1403767.28	3166877.53
11400.00	90.00	89.850	6936.50	321.78N	2926.11E	==>	2939.70	1403767.54	3166977.53
11500.00	90.00	89.850	6936.50	322.04N	3026.11E	==>	3039.55	1403767.79	3167077.52
11600.00	90.00	89.850	6936.50	322.29N	3126.11E	==>	3139.40	1403768.05	3167177.52
11700.00	90.00	89.850	6936.50	322.55N	3226.11E	==>	3239.25	1403768.30	3167277.51
11800.00	90.00	89.850	6936.50	322.80N	3326.11E	==>	3339.10	1403768.56	3167377.51
11900.00	90.00	89.850	6936.50	323.06N	3426.11E	==>	3438.95	1403768.81	3167477.51
12000.00	90.00	89.850	6936.50	323.31N	3526.11E	==>	3538.80	1403769.07	3167577.50
12100.00	90.00	89.850	6936.50	323.57N	3626.11E	==>	3638.66	1403769.32	3167677.50
12200.00	90.00	89.850	6936.50	323.82N	3726.10E	==>	3738.51	1403769.58	3167777.49
12300.00	90.00	89.850	6936.50	324.08N	3826.10E	==>	3838.36	1403769.83	3167877.49
12400.00	90.00	89.850	6936.50	324.33N	3926.10E	==>	3938.21	1403770.09	3167977.48
12500.00	90.00	89.850	6936.50	324.59N	4026.10E	==>	4038.06	1403770.34	3168077.48
12600.00	90.00	89.850	6936.50	324.84N	4126.10E	==>	4137.91	1403770.60	3168177.48
12700.00	90.00	89.850	6936.50	325.10N	4226.10E	==>	4237.77	1403770.85	3168277.47
12800.00	90.00	89.850	6936.50	325.36N	4326.10E	==>	4337.62	1403771.11	3168377.47
12900.00	90.00	89.850	6936.50	325.61N	4426.10E	==>	4437.47	1403771.37	3168477.46
13000.00	90.00	89.850	6936.50	325.87N	4526.10E	==>	4537.32	1403771.62	3168577.46
13100.00	90.00	89.850	6936.50	326.12N	4626.10E	==>	4637.17	1403771.88	3168677.45
13200.00	90.00	89.850	6936.50	326.38N	4726.10E	==>	4737.02	1403772.13	3168777.45
13300.00	90.00	89.850	6936.50	326.63N	4826.10E	==>	4836.87	1403772.39	3168877.45
13400.00	90.00	89.850	6936.50	326.89N	4926.10E	==>	4936.73	1403772.64	3168977.44
13500.00	90.00	89.850	6936.50	327.14N	5026.10E	==>	5036.58	1403772.90	3169077.44
13600.00	90.00	89.850	6936.50	327.40N	5126.10E	==>	5136.43	1403773.15	3169177.43
13700.00	90.00	89.850	6936.50	327.65N	5226.10E	==>	5236.28	1403773.41	3169277.43
13800.00	90.00	89.850	6936.50	327.91N	5326.10E	==>	5336.13	1403773.66	3169377.42
13900.00	90.00	89.850	6936.50	328.16N	5426.10E	==>	5435.98	1403773.92	3169477.42
14000.00	90.00	89.850	6936.50	328.42N	5526.10E	==>	5535.83	1403774.17	3169577.42
14100.00	90.00	89.850	6936.50	328.67N	5626.10E	==>	5635.69	1403774.43	3169677.41
14200.00	90.00	89.850	6936.50	328.93N	5726.10E	==>	5735.54	1403774.68	3169777.41
14234.20	90.00	89.850	6936.50	329.02N	5760.30E	==>	5769.68	1403774.77	3169811.60

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Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 4903.5ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 86.730 degrees
Bottom hole distance is 5769.68 Feet on azimuth 86.73 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 21-May-2014



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL
Well Design Combined Report
Wellbore: FRYE FARMS #7 (Rev)



Hole Sections								
Diameter [in]	Start MD[ft]	Start TVD[ft]	Start North[ft]	Start East[ft]	End MD[ft]	End TVD[ft]	End North[ft]	End East[ft]
12 1/4	22.50	22.50	0.00N	0.00E	850.00	850.00	0.00N	0.00E
8 3/4	850.00	850.00	0.00N	0.00E	7503.00	6936.50	311.84N	970.88W
6 1/8	7503.00	6936.50	311.84N	970.88W	14234.14	6936.50	329.02N	5760.24E

Casings								
Name	Top MD[ft]	Top TVD[ft]	Top North[ft]	Top East[ft]	Shoe MD[ft]	Shoe TVD[ft]	Shoe North[ft]	Shoe East[ft]
9 5/8in Surface Casing	22.50	22.50	0.00N	0.00E	850.00	850.00	0.00N	0.00E
7.0in Intermediate Casing	22.50	22.50	0.00N	0.00E	7503.00	6936.50	311.84N	970.88W
4 1/2in Production Liner	7303.00	6901.70	309.34N	1166.78W	14234.14	6936.50	329.02N	5760.24E

Targets								
Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting	Last Revised
FF7R - T1	250.84N	969.99W	6936.50	40.44007000	-104.91410000	1403696.60	3163081.58	16-Dec-2013
FF7R - T2	329.02N	5760.30E	6936.50	40.44016000	-104.88992000	1403774.77	3169811.60	16-Dec-2013

Survey Tool Program						
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model	
194989	Planned	14234.20	6936.50	WdW Rate Gyro	Standard	

Notes



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Closest Approach + Clearance Factor Summary Report
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Ellipse separations are reported ONLY if BOTH wells have uncertainty data
Only Depth and Magnetic Reference Field error terms are correlated across tie points
Proximities beyond 2000.00ft with expansion rate of 0.00ft/1000ft are not reported
Scan limit 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
FRYE FARMS #7 (Rev)	21-May-2014	21-May-2014

Well		
Name	Government ID	Last Revised
FRYE FARMS #7		16-May-2013

Slot						
Name	Grid Northing	Grid Easting	Latitude	Longitude	North	East
Slot #7	1403445.7679	3164051.5366	40.43936385	-104.91062135	71.73N	63.76W

Installation					
Name	Easting	Northing	Coord System Name	North Alignment	
Frye Farms	3164115.2936	1403374.0431	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 Wellbore	Offset Structure	Separation [ft]	MD[ft]	Diverging From[ft]	Ellipse Separation [ft]	Ellipse MD[ft]	Clearance Factor	Clearance MD[ft]
CENTER POINT #5	Center Point	5.03	9391.60	9391.60	-30.10	9405.70	0.20	9389.30
CENTER POINT #7	Center Point	5.22	9737.13	9737.13	-31.72	9750.19	0.20	9733.79
FRYE FARMS #8	Frye Farms	13.29	1174.66	9752.37	10.77	1174.66	3.19	14179.32
Frye Farms #13 (AWB)	Frye Farms Actuals	15.06	1443.27	13785.62	12.07	1443.27	5.03	1449.67
FRYE FARMS #8 (Rev 1)	Frye Farms	15.58	1122.98	8903.11	13.15	1122.98	3.20	14179.32
FRYE FARMS #6	Frye Farms	15.98	1000.00	14234.20	13.75	1006.75	3.20	14228.54
FRYE FARMS #6 (Rev 1)	Frye Farms	15.98	1000.00	14234.20	13.75	1006.75	3.20	14228.54
Frye Farms #6 (PWB)	Frye Farms Actuals	16.87	1000.00	14234.20	14.63	1006.75	3.20	14228.54
FRYE FARM 7-5-32 (AWB)	Frye Farms	23.69	691.76	6994.88	21.02	695.07	1.51	5977.22
W Frye Farms #9 (AWB)	Frye Farms Actuals	29.72	1446.19	13417.52	26.73	1446.19	6.24	14146.52
FRYE FARMS #12 (PWB)	Frye Farms	53.59	2042.18	14234.20	49.48	2056.62	6.35	14228.54
FRYE FARMS #9-5-32 (AWB)	Frye Farms	59.24	495.55	7152.44	57.25	495.55	25.24	777.09
FRYE FARMS #13	Frye Farms	61.39	1617.71	9340.09	58.04	1617.71	5.30	14162.92

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Offset Wellbore	Offset Structure	Separation [ft]	MD[ft]	Diverging From[ft]	Ellipse Separation [ft]	Ellipse MD[ft]	Clearance Factor	Clearance MD[ft]
Frye Farms #10 (AWB)	Frye Farms Actuals	63.36	1280.22	14015.28	60.68	1286.33	9.33	14113.71
FRYE FARMS #12	Frye Farms	76.44	1293.90	9159.64	73.73	1293.90	16.53	14228.54
FRYE FARMS #11	Frye Farms	76.47	1280.63	9196.56	73.79	1286.40	13.43	14162.92
FRYE FARMS #9-7-32 (AWB)	Frye Farms	77.99	253.80	8564.90	76.44	253.80	46.61	645.86
FRYE FARMS #12	Frye Farms	92.54	1312.19	9159.64	89.80	1312.19	16.52	14228.54
FRYE FARMS #1	Frye Farms	95.97	1000.00	9687.93	93.73	1006.75	36.04	6922.50
PAVISTMA #5	Pavistma	110.62	7470.01	7470.01	72.38	7470.01	2.45	9077.62
Pavistma South 2 #1-5-32-090-4-C H (PWB)	Pavistma South	236.61	7503.89	7503.89	209.04	9077.62	7.16	9077.62
Pavistma South 1 #1-5-32-090-4-N H (AWB)	Pavistma South	295.55	7486.41	7486.41	285.19	7470.01	27.59	7371.58
Pavistma South 1 #1-5-32-090-4-N H (PWB)	Pavistma South	300.20	7437.20	7437.20	261.90	7453.60	6.26	9044.81
Pavistma South 2 #1-5-32-090-4-C H (AWB)	Pavistma South	309.00	9072.96	9072.96	299.57	9072.96	32.68	9061.21
RANCHO WATER VALLEY #9	Rancho Water Valley	311.27	14234.20	14234.20	251.10	14234.20	5.17	14234.20
PAVISTMA #4	Pavistma	375.73	9200.58	9200.58	323.35	9208.85	7.13	9241.66
RANCHO WATER VALLEY #8	Rancho Water Valley	400.12	14234.20	14234.20	369.43	14234.20	13.02	14228.54
Pavistma South 3 #1-6-32-090-4-N H (PWB)	Pavistma South	432.90	9214.39	9214.39	380.08	9222.50	8.18	9241.66
Pavistma South 3 #1-6-32-090-4-N H (AWB)	Pavistma South	482.12	7740.48	9202.90	472.77	9202.90	43.43	7305.96
PAVISTMA #13	Pavistma	605.13	7486.41	7486.41	563.47	9750.19	10.29	9783.00
PAVISTMA 11-32 (AWB)	Pavistma (Anadarko)	803.00	6649.80	6649.80	764.67	6649.80	20.94	6633.39
PAVISTMA #6	Pavistma	930.95	7453.60	7453.60	892.73	7470.01	19.64	8979.19
PAVISTMA #6 (Rev 1)	Pavistma	937.89	7486.41	7486.41	895.35	9668.17	15.97	9766.59
Pavistma South 4 #1-7-32-090-4-C H (PWB)	Pavistma South	1054.12	9364.40	9364.40	999.61	9372.89	19.03	9504.13
Pavistma South 4 #1-7-32-090-4-C H (AWB)	Pavistma South	1100.18	9001.26	9001.26	913.27	9372.89	5.59	9405.70
PAVISTMA #7 (AWB)	Pavistma	1189.74	13395.26	13395.26	785.68	13982.47	2.90	13982.47
PAVISTMA #7	Pavistma	1218.52	13970.89	13970.89	1085.92	13982.47	9.15	14048.09

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Offset Wellbore	Offset Structure	Separation [ft]	MD[ft]	Diverging From[ft]	Ellipse Separation [ft]	Ellipse MD[ft]	Clearance Factor	Clearance MD[ft]
Pavistma South 5 #1-8-32-090-4-N H (PWB)	Pavistma South	1277.23	9426.65	9426.65	1220.78	9438.51	22.06	9651.77
Pavistma South 5 #1-8-32-090-4-N H (AWB)	Pavistma South	1286.28	9411.68	9411.68	1079.41	9438.51	6.20	9487.72
PAVISTMA 19-32 (AWB)	Pavistma (Anadarko)	1334.93	6600.58	6600.58	1305.30	6600.58	44.97	6649.80
PAVISTMA #8	Pavistma	1349.15	7486.41	7486.41	1307.44	8847.96	28.09	9077.62
PAVISTMA #8 (Rev-05-06-14)	Pavistma	1349.82	7486.41	7486.41	1235.47	13982.47	10.16	14080.90
PAVISTMA #9	Pavistma	1629.56	7322.50	7322.50	1591.76	7322.50	34.29	9241.66
PAVISTMA #9 (Rev 05-06-14)	Pavistma	1629.91	7322.50	7322.50	1563.45	13998.88	12.55	14146.52
PAVISTMA 5-3-32 (AWB)	Pavistma	1725.25	6633.39	6633.39	1688.74	6633.39	47.24	6616.99
PAVISTMA #10 (AWB)	Pavistma	1826.52	13253.40	13539.56	1409.45	13998.88	4.32	14015.28
PAVISTMA #10	Pavistma	1855.90	7486.41	7486.41	1741.81	13998.88	13.91	14179.32
PAVISTMA #11 (Rev 05-06-14)	Pavistma	2009.40	7486.41	7486.41	1895.13	13998.88	14.93	14212.13
PAVISTMA #11	Pavistma	2009.40	7486.41	7486.41	1967.66	8831.56	40.44	9192.45
Lind #13-32 (AWB)	Lind (Anadarko)	2017.69	6600.58	6600.58	1986.89	6600.58	65.45	6682.60