



INTEQ

ENCANA OIL & GAS (USA) INC

Location: COLORADO Slot: Slot #04 Federal 20-14BB (PN20) 1034'FSL & 2151'FWL
 Field: GARFIELD COUNTY (NEW) Well: Federal 20-14BB
 Facility: SEC.20-T7S-R95W Wellbore: Federal 20-14BB PWB

Plot reference wellpath is Federal 20-14BB PWB Rev-A.0		Grid System: NAD83 / Lambert Colorado State Planes, Central Zone (502), US feet
True vertical depths are referenced to Rig on Slot #04 Federal 20-14BB (PN20) 1034'FSL & 2151'FWL (RT)		North Reference: True north
Measured depths are referenced to Rig on Slot #04 Federal 20-14BB (PN20) 1034'FSL & 2151'FWL (RT)		Scale: True distance
Rig on Slot #04 Federal 20-14BB (PN20) 1034'FSL & 2151'FWL (RT) to Mean Sea Level: 5795 feet		Depths are in feet
Mean Sea Level to Mud line (Facility: SEC.20-T7S-R95W): 0 feet		Coordinates are in feet referenced to Slot
		Created by: thomsuzc on 9/16/2009

Location Information

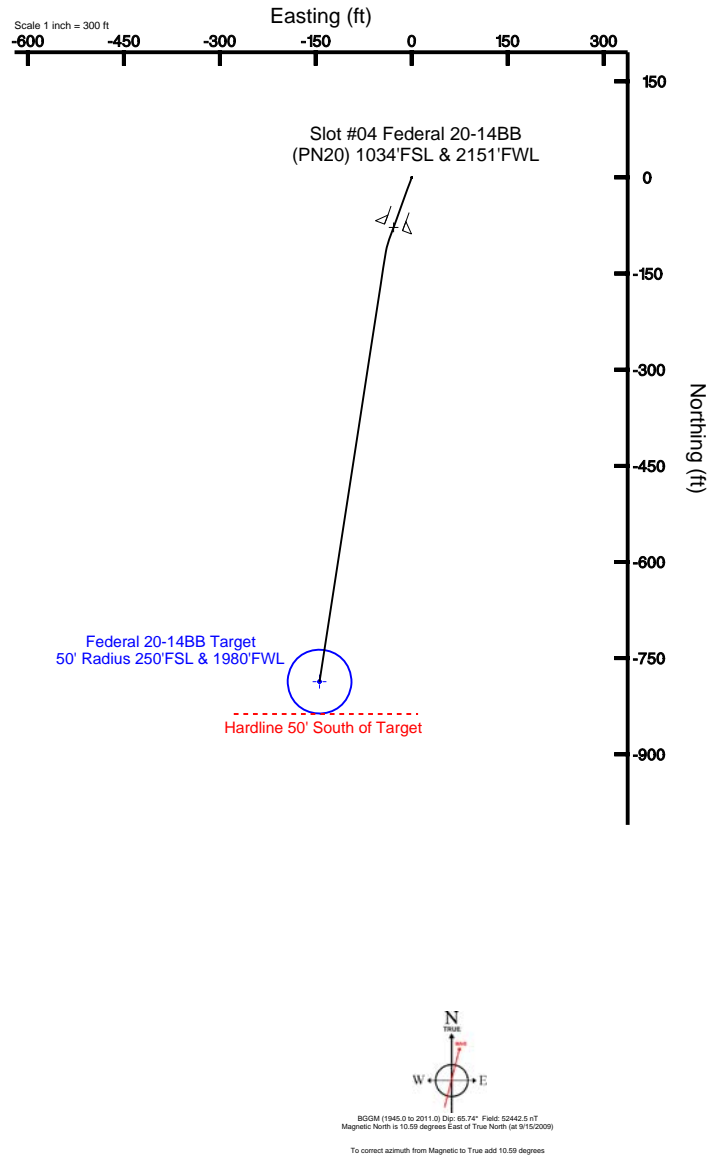
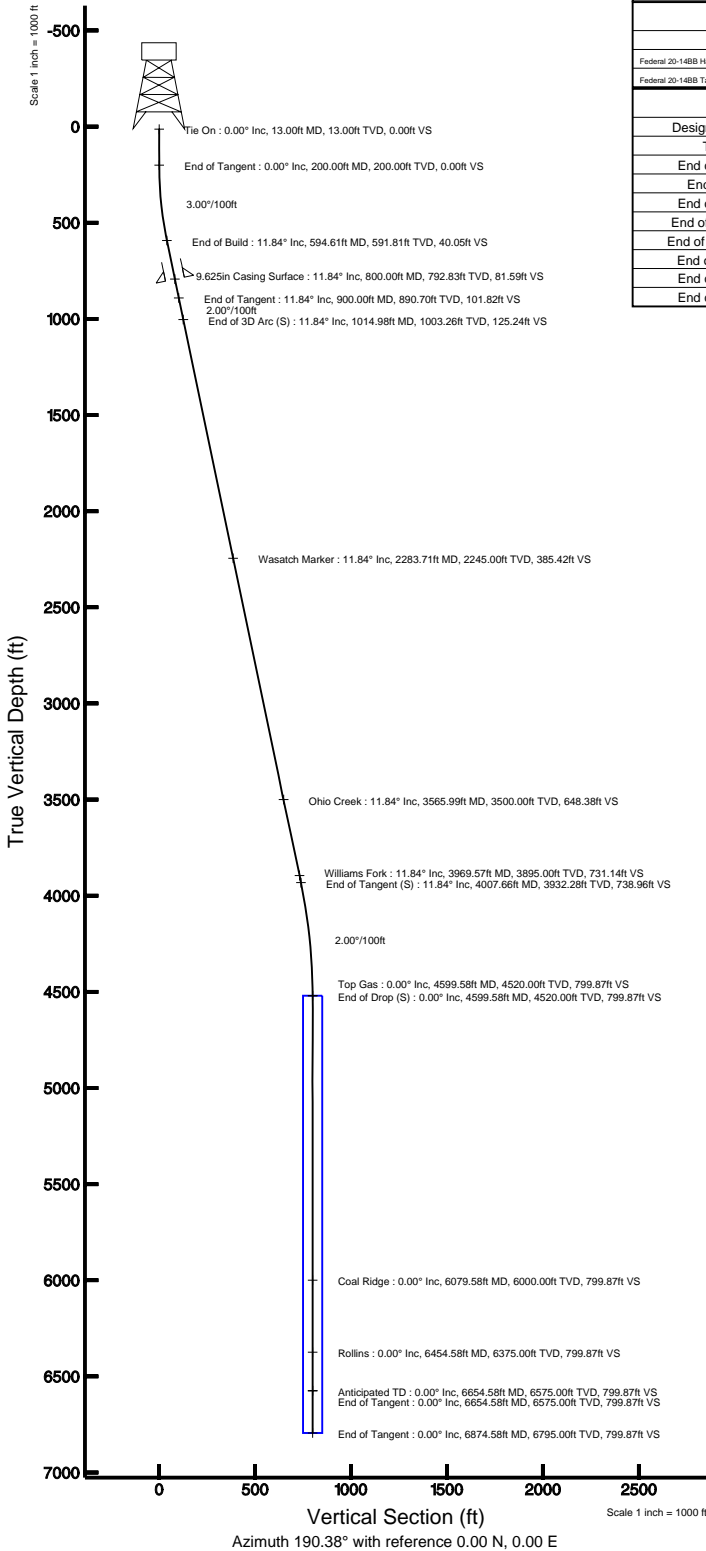
Facility Name		Grid East (USF)	Grid North (USF)	Latitude	Longitude	
SEC.20-T7S-R95W		2287520.922	1587271.857	39°25'07.212"N	108°01'20.208"W	
Slot	Local N (ft)	Local E (ft)	Grid East (USF)	Grid North (USF)	Latitude	Longitude
Slot #04 Federal 20-14BB (PN20) 1034'FSL & 2151'FWL	-51.00	-33.90	2287485.618	1587221.826	39°25'06.708"N	108°01'20.640"W
Rig on Slot #04 Federal 20-14BB (PN20) 1034'FSL & 2151'FWL (RT) to Mud line (Facility: SEC.20-T7S-R95W)						5795ft
Mean Sea Level to Mud line (Facility: SEC.20-T7S-R95W)						0ft
Rig on Slot #04 Federal 20-14BB (PN20) 1034'FSL & 2151'FWL (RT) to Mean Sea Level						5795ft

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (USF)	Grid North (USF)	Latitude	Longitude
Federal 20-14BB Hardline 50' South of Target		4520.00	-836.78	-144.09	2287318.36	1586389.41	39°24'58.438"N	108°01'22.476"W
Federal 20-14BB Target 50' Radius 250'FSL & 1980'FWL	4599.58	4520.00	-786.78	-144.09	2287319.75	1586439.39	39°24'58.932"N	108°01'22.476"W

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	13.00	0.000	200.000	13.00	0.00	0.00	0.00	0.00
End of Tangent	200.00	0.000	200.000	200.00	0.00	0.00	0.00	0.00
End of Tangent	594.61	11.838	200.000	591.81	-38.17	-13.89	3.00	40.05
End of Tangent	900.00	11.838	200.000	890.70	-97.05	-35.32	0.00	101.82
End of 3D Arc (S)	1014.98	11.838	188.773	1003.26	-119.79	-41.16	2.00	125.24
End of Tangent (S)	4007.66	11.838	188.773	3932.28	-726.56	-134.80	0.00	738.96
End of Drop (S)	4599.58	0.000	188.773	4520.00	-786.78	-144.09	2.00	799.87
End of Tangent	6654.58	0.000	188.773	6575.00	-786.78	-144.09	0.00	799.87
End of Tangent	6874.58	0.000	188.773	6795.00	-786.78	-144.09	0.00	799.87



BGCM (1945.0 to 2011.0) Dp: 65.74° Field: 52442.5 nT
 Magnetic North is 10.59 degrees East of True North (at 9/15/2009)
 To correct azimuth from Magnetic to True add 10.59 degrees



Planned Wellpath Report

Federal 20-14BB PWP Rev-A.0

Page 1 of 5



INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	ENCANA OIL & GAS (USA) INC	Slot	Slot #04 Federal 20-14BB (PN20) 1034'FSL & 2151'FWL
Area	COLORADO	Well	Federal 20-14BB
Field	GARFIELD COUNTY (NEW)	Wellbore	Federal 20-14BB PWB
Facility	SEC.20-T7S-R95W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado State Planes, Central Zone (502), US feet	Software System	WellArchitect® 2.0
North Reference	True	User	Thomsuzc
Scale	0.999951	Report Generated	9/16/2009 at 2:05:08 PM
Convergence at slot	1.59° West	Database/Source file	Denver/Federal_20-14BB_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	-51.00	-33.90	2287485.62	1587221.83	39°25'06.708"N	108°01'20.640"W
Facility Reference Pt			2287520.92	1587271.86	39°25'07.212"N	108°01'20.208"W
Field Reference Pt			3000000.01	4560984.48	47°34'21.070"N	105°30'00.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on Slot #04 Federal 20-14BB (PN20) 1034'FSL & 2151'FWL (RT) to Facility Vertical Datum	5795.00ft
Horizontal Reference Pt	Slot	Rig on Slot #04 Federal 20-14BB (PN20) 1034'FSL & 2151'FWL (RT) to Mean Sea Level	5795.00ft
Vertical Reference Pt	Rig on Slot #04 Federal 20-14BB (PN20) 1034'FSL & 2151'FWL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on Slot #04 Federal 20-14BB (PN20) 1034'FSL & 2151'FWL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	190.38°



Planned Wellpath Report

Federal 20-14BB PWP Rev-A.0

Page 2 of 5



INTEQ

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Field	GARFIELD COUNTY (NEW)	Wellbore	Federal 20-14BB PWB
Facility	SEC.20-T7S-R95W		

WELLPATH DATA (78 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]
0.00†	0.000	200.000	0.00	0.00	0.00	0.00	0.00
13.00	0.000	200.000	13.00	0.00	0.00	0.00	0.00
113.00†	0.000	200.000	113.00	0.00	0.00	0.00	0.00
200.00	0.000	200.000	200.00	0.00	0.00	0.00	0.00
213.00†	0.390	200.000	213.00	0.04	-0.04	-0.02	3.00
313.00†	3.390	200.000	312.93	3.29	-3.14	-1.14	3.00
413.00†	6.390	200.000	412.56	11.70	-11.15	-4.06	3.00
513.00†	9.390	200.000	511.60	25.23	-24.05	-8.75	3.00
594.61	11.838	200.000	591.81	40.05	-38.17	-13.89	3.00
613.00†	11.838	200.000	609.81	43.77	-41.72	-15.18	0.00
713.00†	11.838	200.000	707.68	64.00	-61.00	-22.20	0.00
813.00†	11.838	200.000	805.55	84.22	-80.27	-29.22	0.00
900.00	11.838	200.000	890.70	101.82	-97.05	-35.32	0.00
913.00†	11.816	198.736	903.43	104.45	-99.56	-36.21	2.00
1013.00†	11.835	188.966	1001.31	124.84	-119.39	-41.09	2.00
1014.98	11.838	188.773	1003.26	125.24	-119.79	-41.16	2.00
1113.00†	11.838	188.773	1099.19	145.34	-139.66	-44.22	0.00
1213.00†	11.838	188.773	1197.06	165.85	-159.94	-47.35	0.00
1313.00†	11.838	188.773	1294.93	186.36	-180.21	-50.48	0.00
1413.00†	11.838	188.773	1392.81	206.86	-200.49	-53.61	0.00
1513.00†	11.838	188.773	1490.68	227.37	-220.76	-56.74	0.00
1613.00†	11.838	188.773	1588.55	247.88	-241.04	-59.87	0.00
1713.00†	11.838	188.773	1686.43	268.39	-261.31	-63.00	0.00
1813.00†	11.838	188.773	1784.30	288.89	-281.59	-66.13	0.00
1913.00†	11.838	188.773	1882.17	309.40	-301.86	-69.25	0.00
2013.00†	11.838	188.773	1980.04	329.91	-322.14	-72.38	0.00
2113.00†	11.838	188.773	2077.92	350.41	-342.41	-75.51	0.00
2213.00†	11.838	188.773	2175.79	370.92	-362.69	-78.64	0.00
2313.00†	11.838	188.773	2273.66	391.43	-382.96	-81.77	0.00
2413.00†	11.838	188.773	2371.54	411.94	-403.24	-84.90	0.00
2513.00†	11.838	188.773	2469.41	432.44	-423.51	-88.03	0.00
2613.00†	11.838	188.773	2567.28	452.95	-443.79	-91.16	0.00
2713.00†	11.838	188.773	2665.16	473.46	-464.06	-94.29	0.00
2813.00†	11.838	188.773	2763.03	493.96	-484.34	-97.42	0.00
2913.00†	11.838	188.773	2860.90	514.47	-504.61	-100.55	0.00
3013.00†	11.838	188.773	2958.77	534.98	-524.89	-103.67	0.00
3113.00†	11.838	188.773	3056.65	555.49	-545.16	-106.80	0.00
3213.00†	11.838	188.773	3154.52	575.99	-565.44	-109.93	0.00
3313.00†	11.838	188.773	3252.39	596.50	-585.71	-113.06	0.00
3413.00†	11.838	188.773	3350.27	617.01	-605.99	-116.19	0.00
3513.00†	11.838	188.773	3448.14	637.51	-626.27	-119.32	0.00
3613.00†	11.838	188.773	3546.01	658.02	-646.54	-122.45	0.00
3713.00†	11.838	188.773	3643.89	678.53	-666.82	-125.58	0.00
3813.00†	11.838	188.773	3741.76	699.04	-687.09	-128.71	0.00
3913.00†	11.838	188.773	3839.63	719.54	-707.37	-131.84	0.00



Planned Wellpath Report

Federal 20-14BB PWP Rev-A.0

Page 3 of 5



INTEQ

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Area	COLORADO	Well	Federal 20-14BB
Field	GARFIELD COUNTY (NEW)	Wellbore	Federal 20-14BB PWB
Facility	SEC.20-T7S-R95W		

WELLPATH DATA (78 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]
4007.66	11.838	188.773	3932.28	738.96	-726.56	-134.80	0.00
4013.00†	11.732	188.773	3937.51	740.05	-727.64	-134.96	2.00
4113.00†	9.732	188.773	4035.75	758.66	-746.04	-137.80	2.00
4213.00†	7.732	188.773	4134.59	773.83	-761.04	-140.12	2.00
4313.00†	5.732	188.773	4233.89	785.55	-772.62	-141.91	2.00
4413.00†	3.732	188.773	4333.55	793.79	-780.78	-143.17	2.00
4513.00†	1.732	188.773	4433.43	798.56	-785.49	-143.89	2.00
4599.58	0.000	188.773	4520.00 ¹	799.87	-786.78	-144.09	2.00
4613.00†	0.000	188.773	4533.42	799.87	-786.78	-144.09	0.00
4713.00†	0.000	188.773	4633.42	799.87	-786.78	-144.09	0.00
4813.00†	0.000	188.773	4733.42	799.87	-786.78	-144.09	0.00
4913.00†	0.000	188.773	4833.42	799.87	-786.78	-144.09	0.00
5013.00†	0.000	188.773	4933.42	799.87	-786.78	-144.09	0.00
5113.00†	0.000	188.773	5033.42	799.87	-786.78	-144.09	0.00
5213.00†	0.000	188.773	5133.42	799.87	-786.78	-144.09	0.00
5313.00†	0.000	188.773	5233.42	799.87	-786.78	-144.09	0.00
5413.00†	0.000	188.773	5333.42	799.87	-786.78	-144.09	0.00
5513.00†	0.000	188.773	5433.42	799.87	-786.78	-144.09	0.00
5613.00†	0.000	188.773	5533.42	799.87	-786.78	-144.09	0.00
5713.00†	0.000	188.773	5633.42	799.87	-786.78	-144.09	0.00
5813.00†	0.000	188.773	5733.42	799.87	-786.78	-144.09	0.00
5913.00†	0.000	188.773	5833.42	799.87	-786.78	-144.09	0.00
6013.00†	0.000	188.773	5933.42	799.87	-786.78	-144.09	0.00
6113.00†	0.000	188.773	6033.42	799.87	-786.78	-144.09	0.00
6213.00†	0.000	188.773	6133.42	799.87	-786.78	-144.09	0.00
6313.00†	0.000	188.773	6233.42	799.87	-786.78	-144.09	0.00
6413.00†	0.000	188.773	6333.42	799.87	-786.78	-144.09	0.00
6513.00†	0.000	188.773	6433.42	799.87	-786.78	-144.09	0.00
6613.00†	0.000	188.773	6533.42	799.87	-786.78	-144.09	0.00
6654.58	0.000	188.773	6575.00	799.87	-786.78	-144.09	0.00
6713.00†	0.000	188.773	6633.42	799.87	-786.78	-144.09	0.00
6813.00†	0.000	188.773	6733.42	799.87	-786.78	-144.09	0.00
6874.58	0.000	188.773	6795.00	799.87	-786.78	-144.09	0.00

HOLE & CASING SECTIONS Ref Wellbore: Federal 20-14BB PWB Ref Wellpath: Federal 20-14BB PWP Rev-A.0

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
12.25in Open Hole	13.00	800.00	787.00	13.00	792.83	0.00	0.00	-77.77	-28.30
9.625in Casing Surface	13.00	800.00	787.00	13.00	792.83	0.00	0.00	-77.77	-28.30



Planned Wellpath Report

Federal 20-14BB PWP Rev-A.0

Page 4 of 5



INTEQ

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Operator	ENCANA OIL & GAS (USA) INC	Slot	Slot #04 Federal 20-14BB (PN20) 1034'FSL & 2151'FWL
Area	COLORADO	Well	Federal 20-14BB
Field	GARFIELD COUNTY (NEW)	Wellbore	Federal 20-14BB PWB
Facility	SEC.20-T7S-R95W		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
Federal 20-14BB Hardline 50' South of Target		4520.00	-836.78	-144.09	2287318.36	1586389.41	39°24'58.438"N	108°01'22.476"W	point
1) Federal 20-14BB Target 50' Radius 250'FSL & 1980'FWL	4599.58	4520.00	-786.78	-144.09	2287319.75	1586439.39	39°24'58.932"N	108°01'22.476"W	circle

SURVEY PROGRAM Ref Wellbore: Federal 20-14BB PWB Ref Wellpath: Federal 20-14BB PWP Rev-A.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
13.00	6874.58	MTC (Collar, post-2000) (Standard)		Federal 20-14BB PWB



Planned Wellpath Report

Federal 20-14BB PWP Rev-A.0

Page 5 of 5



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Area	COLORADO	Well	Federal 20-14BB
Field	GARFIELD COUNTY (NEW)	Wellbore	Federal 20-14BB PWB
Facility	SEC.20-T7S-R95W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
2283.71	11.838	188.773	2245.00	Wasatch Marker
3565.99	11.838	188.773	3500.00	Ohio Creek
3969.57	11.838	188.773	3895.00	Williams Fork
4599.58	0.000	188.773	4520.00	Top Gas
6079.58	0.000	188.773	6000.00	Coal Ridge
6454.58	0.000	188.773	6375.00	Rollins
6654.58	0.000	188.773	6575.00	Anticipated TD