

ENCANA OIL & GAS (USA) INC

Location: COLORADO Slot: Slot #03 Federal 20-11 (PN20) 1050'FSL & 2163'FWL
Field: GARFIELD COUNTY (NEW) Well: Federal 20-11
Facility: SEC.20-T7S-R95W Wellbore: Federal 20-11 PWB

True vertical depths are referenced to Rig on Slot #03 Federal 20-11 (PN20) 1050'FSL & 2163'FWL (RT)	Grid System: NAD83 / Lambert Colorado State Planes, Central Zone (502), US feet
Measured depths are referenced to Rig on Slot #03 Federal 20-11 (PN20) 1050'FSL & 2163'FWL (RT)	North Reference: True north
Rig on Slot #03 Federal 20-11 (PN20) 1050'FSL & 2163'FWL (RT) to Mean Sea Level: 5795 feet	Scale: True distance
Mean Sea Level to Mud line (Facility: SEC.20-T7S-R95W): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: thomsuz on 9/16/2009

Location Information

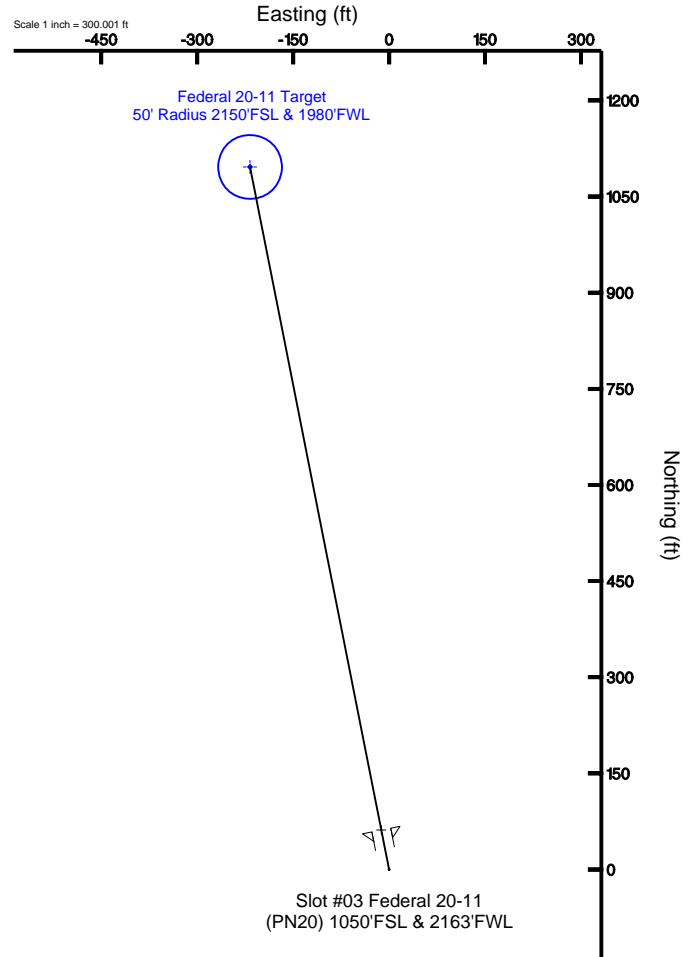
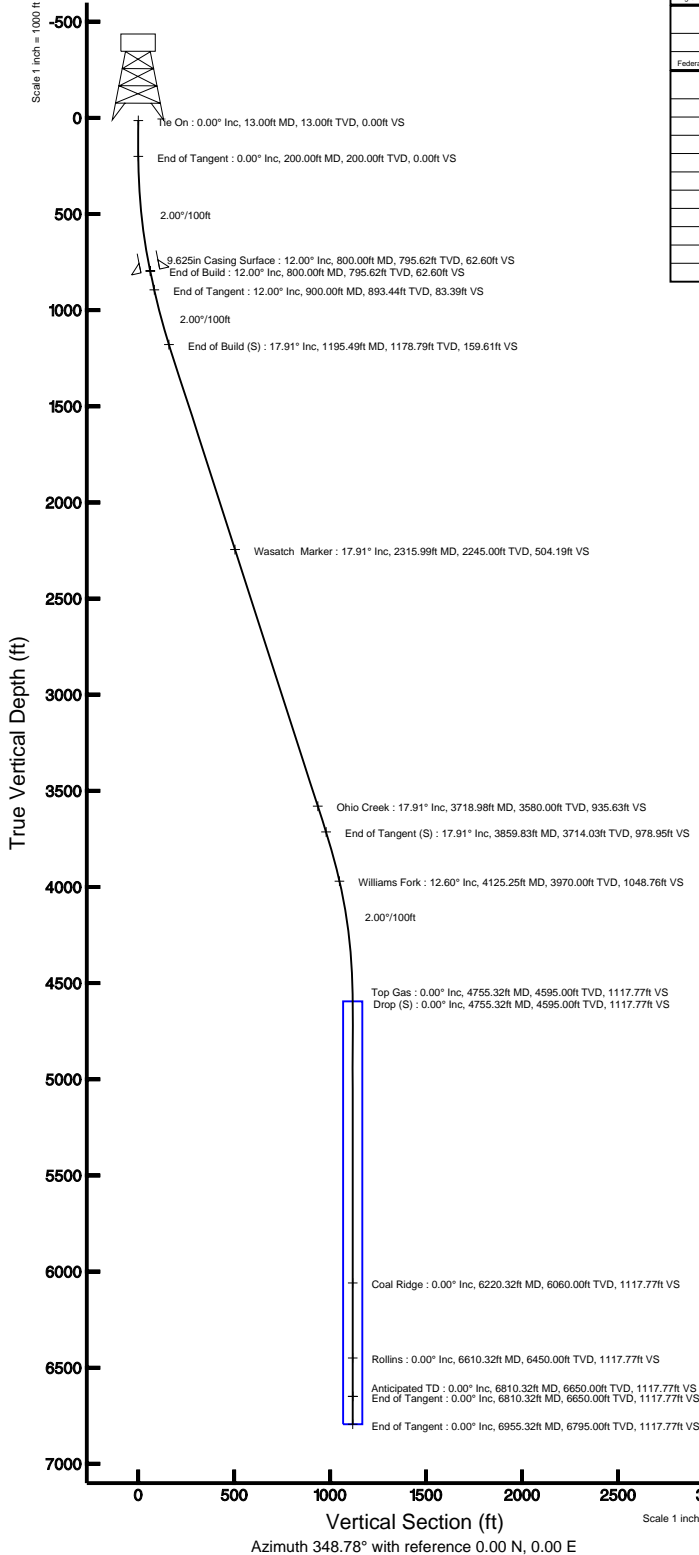
Facility Name			Grid East (USft)	Grid North (USft)	Latitude	Longitude
SEC.20-T7S-R95W			2287520.922	1587271.857	39°25'07.212"N	108°01'20.208"W
Slot	Local N (ft)	Local E (ft)	Grid East (USft)	Grid North (USft)	Latitude	Longitude
Slot #03 Federal 20-11 (PN20) 1050'FSL & 2163'FWL	-32.78	-22.60	2287487.420	1587238.717	39°25'06.888"N	108°01'20.496"W
Rig on Slot #03 Federal 20-11 (PN20) 1050'FSL & 2163'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 #03 Federal 20-11 (PN20) 1050'FSL & 2163'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 20-11 Target 50' Radius 2150'FSL & 1980'FWL	4755.32	4595.00	1096.39	-217.54	2287310.42	1588341.67	39°25'17.724"N	108°01'23.268"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	348.778	13.00	0.00	0.00	0.00	0.00
End of Tangent	200.00	0.000	348.778	200.00	0.00	0.00	0.00	0.00
End of Build	800.00	12.000	348.778	795.62	61.41	-12.18	2.00	62.60
End of Tangent	900.00	12.000	348.778	893.44	81.80	-16.23	0.00	83.39
End of Build (S)	1195.49	17.910	348.778	1178.79	156.56	-31.06	2.00	159.61
End of Tangent (S)	3859.83	17.910	348.778	3714.03	960.23	-190.52	0.00	978.95
Drop (S)	4755.32	0.000	348.778	4595.00	1096.39	-217.54	2.00	1117.77
End of Tangent	6810.32	0.000	348.778	6650.00	1096.39	-217.54	0.00	1117.77
End of Tangent	6955.32	0.000	348.778	6795.00	1096.39	-217.54	0.00	1117.77





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REFERENCE WELLPATH IDENTIFICATION

Operator	ENCANA OIL & GAS (USA) INC	Slot	Slot #03 Federal 20-11 (PN20) 1050'FSL & 2163'FWL
Area	COLORADO	Well	Federal 20-11
Field	GARFIELD COUNTY (NEW)	Wellbore	Federal 20-11 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 1:34:25 PM
Convergence at slot	1.59° West	Database/Source file	Denver/Federal_20-11_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	-32.78	-22.60	2287497.42	1587239.72	39°25'06.888"N	108°01'20.496"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 #03 Federal 20-11 (PN20) 1050'FSL & 2163'FWL (RT) to Facility Vertical Datum	5795.00ft
Horizontal Reference Pt	Slot	Rig on Slot #03 Federal 20-11 (PN20) 1050'FSL & 2163'FWL (RT) to Mean Sea Level	5795.00ft
Vertical Reference Pt	Rig on Slot #03 Federal 20-11 (PN20) 1050'FSL & 2163'FWL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on Slot #03 Federal 20-11 (PN20) 1050'FSL & 2163'FWL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	348.78°



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Field	GARFIELD COUNTY (NEW)	Wellbore	Federal 20-11 PWB
Facility	SEC.20-T7S-R95W		

WELLPATH DATA (79 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]
0.00†	0.000	348.778	0.00	0.00	0.00	0.00	0.00
13.00	0.000	348.778	13.00	0.00	0.00	0.00	0.00
113.00†	0.000	348.778	113.00	0.00	0.00	0.00	0.00
200.00	0.000	348.778	200.00	0.00	0.00	0.00	0.00
213.00†	0.260	348.778	213.00	0.03	0.03	-0.01	2.00
313.00†	2.260	348.778	312.97	2.23	2.19	-0.43	2.00
413.00†	4.260	348.778	412.80	7.91	7.76	-1.54	2.00
513.00†	6.260	348.778	512.38	17.08	16.76	-3.32	2.00
613.00†	8.260	348.778	611.57	29.72	29.15	-5.78	2.00
713.00†	10.260	348.778	710.26	45.81	44.93	-8.92	2.00
800.00	12.000	348.778	795.62	62.60	61.41	-12.18	2.00
813.00†	12.000	348.778	808.34	65.31	64.06	-12.71	0.00
900.00	12.000	348.778	893.44	83.39	81.80	-16.23	0.00
913.00†	12.260	348.778	906.15	86.13	84.48	-16.76	2.00
1013.00†	14.260	348.778	1003.48	109.06	106.98	-21.23	2.00
1113.00†	16.260	348.778	1099.95	135.38	132.79	-26.35	2.00
1195.49	17.910	348.778	1178.79	159.61	156.56	-31.06	2.00
1213.00†	17.910	348.778	1195.45	165.00	161.84	-32.11	0.00
1313.00†	17.910	348.778	1290.61	195.75	192.01	-38.10	0.00
1413.00†	17.910	348.778	1385.76	226.50	222.17	-44.08	0.00
1513.00†	17.910	348.778	1480.92	257.25	252.33	-50.07	0.00
1613.00†	17.910	348.778	1576.07	288.01	282.50	-56.05	0.00
1713.00†	17.910	348.778	1671.23	318.76	312.66	-62.04	0.00
1813.00†	17.910	348.778	1766.38	349.51	342.83	-68.02	0.00
1913.00†	17.910	348.778	1861.53	380.26	372.99	-74.00	0.00
2013.00†	17.910	348.778	1956.69	411.01	403.15	-79.99	0.00
2113.00†	17.910	348.778	2051.84	441.76	433.32	-85.97	0.00
2213.00†	17.910	348.778	2147.00	472.52	463.48	-91.96	0.00
2313.00†	17.910	348.778	2242.15	503.27	493.65	-97.94	0.00
2413.00†	17.910	348.778	2337.31	534.02	523.81	-103.93	0.00
2513.00†	17.910	348.778	2432.46	564.77	553.97	-109.91	0.00
2613.00†	17.910	348.778	2527.61	595.52	584.14	-115.90	0.00
2713.00†	17.910	348.778	2622.77	626.27	614.30	-121.88	0.00
2813.00†	17.910	348.778	2717.92	657.03	644.46	-127.87	0.00
2913.00†	17.910	348.778	2813.08	687.78	674.63	-133.85	0.00
3013.00†	17.910	348.778	2908.23	718.53	704.79	-139.84	0.00
3113.00†	17.910	348.778	3003.38	749.28	734.96	-145.82	0.00
3213.00†	17.910	348.778	3098.54	780.03	765.12	-151.81	0.00
3313.00†	17.910	348.778	3193.69	810.79	795.28	-157.79	0.00
3413.00†	17.910	348.778	3288.85	841.54	825.45	-163.78	0.00
3513.00†	17.910	348.778	3384.00	872.29	855.61	-169.76	0.00
3613.00†	17.910	348.778	3479.16	903.04	885.77	-175.75	0.00
3713.00†	17.910	348.778	3574.31	933.79	915.94	-181.73	0.00
3813.00†	17.910	348.778	3669.46	964.54	946.10	-187.72	0.00
3859.83	17.910	348.778	3714.03	978.95	960.23	-190.52	0.00



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Area	COLORADO	Well	Federal 20-11
Field	GARFIELD COUNTY (NEW)	Wellbore	Federal 20-11 PWB
Facility	SEC.20-T7S-R95W		

WELLPATH DATA (79 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	
3913.00†	16.846	348.778	3764.77	994.83	975.80	-193.61	2.00	
4013.00†	14.846	348.778	3860.96	1022.13	1002.59	-198.92	2.00	
4113.00†	12.846	348.778	3958.05	1046.06	1026.06	-203.58	2.00	
4213.00†	10.846	348.778	4055.92	1066.59	1046.19	-207.58	2.00	
4313.00†	8.846	348.778	4154.44	1083.69	1062.97	-210.90	2.00	
4413.00†	6.846	348.778	4253.50	1097.34	1076.36	-213.56	2.00	
4513.00†	4.846	348.778	4352.97	1107.52	1086.35	-215.54	2.00	
4613.00†	2.846	348.778	4452.74	1114.23	1092.93	-216.85	2.00	
4713.00†	0.846	348.778	4552.69	1117.45	1096.09	-217.47	2.00	
4755.32	0.000	348.778	4595.00 ¹	1117.77	1096.39	-217.54	2.00	
4813.00†	0.000	348.778	4652.68	1117.77	1096.39	-217.54	0.00	
4913.00†	0.000	348.778	4752.68	1117.77	1096.39	-217.54	0.00	
5013.00†	0.000	348.778	4852.68	1117.77	1096.39	-217.54	0.00	
5113.00†	0.000	348.778	4952.68	1117.77	1096.39	-217.54	0.00	
5213.00†	0.000	348.778	5052.68	1117.77	1096.39	-217.54	0.00	
5313.00†	0.000	348.778	5152.68	1117.77	1096.39	-217.54	0.00	
5413.00†	0.000	348.778	5252.68	1117.77	1096.39	-217.54	0.00	
5513.00†	0.000	348.778	5352.68	1117.77	1096.39	-217.54	0.00	
5613.00†	0.000	348.778	5452.68	1117.77	1096.39	-217.54	0.00	
5713.00†	0.000	348.778	5552.68	1117.77	1096.39	-217.54	0.00	
5813.00†	0.000	348.778	5652.68	1117.77	1096.39	-217.54	0.00	
5913.00†	0.000	348.778	5752.68	1117.77	1096.39	-217.54	0.00	
6013.00†	0.000	348.778	5852.68	1117.77	1096.39	-217.54	0.00	
6113.00†	0.000	348.778	5952.68	1117.77	1096.39	-217.54	0.00	
6213.00†	0.000	348.778	6052.68	1117.77	1096.39	-217.54	0.00	
6313.00†	0.000	348.778	6152.68	1117.77	1096.39	-217.54	0.00	
6413.00†	0.000	348.778	6252.68	1117.77	1096.39	-217.54	0.00	
6513.00†	0.000	348.778	6352.68	1117.77	1096.39	-217.54	0.00	
6613.00†	0.000	348.778	6452.68	1117.77	1096.39	-217.54	0.00	
6713.00†	0.000	348.778	6552.68	1117.77	1096.39	-217.54	0.00	
6810.32	0.000	348.778	6650.00	1117.77	1096.39	-217.54	0.00	
6813.00†	0.000	348.778	6652.68	1117.77	1096.39	-217.54	0.00	
6913.00†	0.000	348.778	6752.68	1117.77	1096.39	-217.54	0.00	
6955.32	0.000	348.778	6795.00	1117.77	1096.39	-217.54	0.00	



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Field	GARFIELD COUNTY (NEW)	Wellbore	Federal 20-11 PWB
Facility	SEC.20-T7S-R95W		

HOLE & CASING SECTIONS Ref Wellbore: Federal 20-11 PWB Ref Wellpath: Federal 20-11 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	795.62	0.00	0.00	61.41	-12.18
9.625in Casing Surface	13.00	800.00	787.00	13.00	795.62	0.00	0.00	61.41	-12.18

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) Federal 20-11 Target 50' Radius 2150'FSL & 1980'FWL	4755.32	4595.00	1096.39	-217.54	2287310.42	1588341.67	39°25'17.724"N	108°01'23.268"W	circle

SURVEY PROGRAM Ref Wellbore: Federal 20-11 PWB Ref Wellpath: Federal 20-11 PWP Rev-A.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
13.00	6955.32	MTC (Collar, post-2000) (Standard)		Federal 20-11 PWB



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Field	GARFIELD COUNTY (NEW)	Wellbore	Federal 20-11 PWB
Facility	SEC.20-T7S-R95W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
2315.99	17.910	348.778	2245.00	Wasatch Marker
3718.98	17.910	348.778	3580.00	Ohio Creek
4125.25	12.601	348.778	3970.00	Williams Fork
4755.32	0.000	348.778	4595.00	Top Gas
6220.32	0.000	348.778	6060.00	Coal Ridge
6610.32	0.000	348.778	6450.00	Rollins
6810.32	0.000	348.778	6650.00	Anticipated TD