

# ENCANA OIL & GAS (USA) INC

Location: COLORADO Slot: Slot #02 Federal Gardner 20-7BB (PN20) 1066'FSL & 2175'FWL

Field: GARFIELD COUNTY (NEW) Well: Federal Gardner 20-7BB

Facility: SEC.20-T7S-R95W Wellbore: Federal Gardner 20-7BB PWB

Plot reference wellpath is Federal Gardner 20-7BB PWB Rev-A.0

True vertical depths are referenced to Rig on Slot #02 Federal Gardner 20-7BB (PN20) 1066'FSL & 2175'FWL (RT)

Grid System: NAD83 / Lambert Colorado State Plane, Central Zone (502), US feet

Measured depths are referenced to Rig on Slot #02 Federal Gardner 20-7BB (PN20) 1066'FSL & 2175'FWL (RT)

North Reference: True north

Rig on Slot #02 Federal Gardner 20-7BB (PN20) 1066'FSL & 2175'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: thomson on 9/15/2009

## Location Information

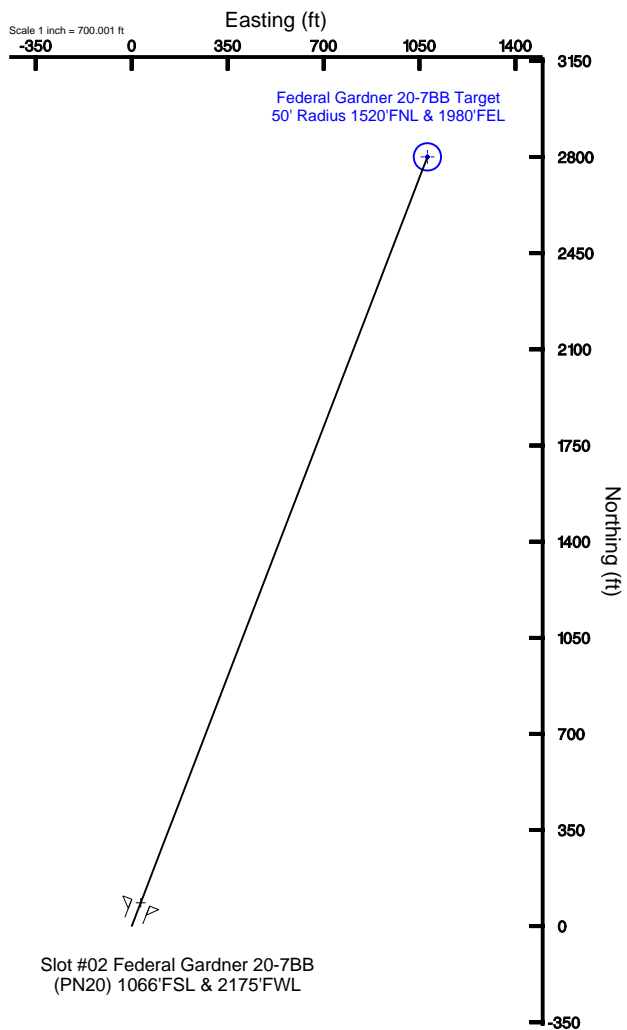
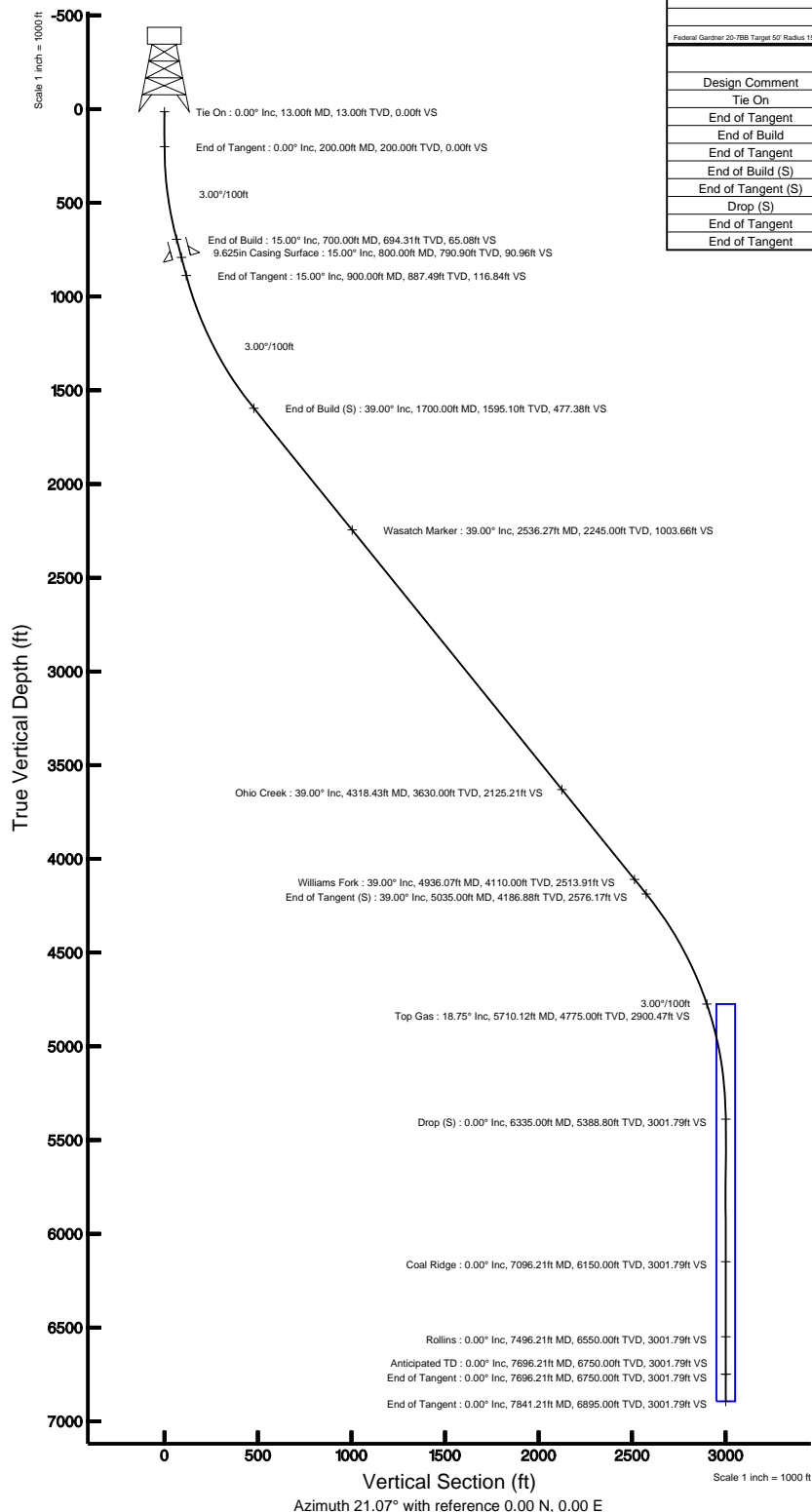
Facility Name				Grid East (USF)	Grid North (USF)	Latitude	Longitude
SEC.20-T7S-R95W				2287520.922	1587271.857	39°25'07.212"N	108°01'20.208"W
Slot	Local N (ft)	Local E (ft)	Grid East (USF)	Grid North (USF)	Latitude	Longitude	
Slot #02 Federal Gardner 20-7BB (PN20) 1066'FSL & 2175'FWL	-18.21	-11.30	2287508.121	1587253.967	39°25'07.032"N	108°01'20.362"W	
Rig on Slot #02 Federal Gardner 20-7BB (PN20) 1066'FSL & 2175'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 #02 Federal Gardner 20-7BB (PN20) 1066'FSL & 2175'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 Gardner 20-7BB Target 50' Radius 1520'FNL & 1980'FEL	4775.00	2801.11	1079.13	2288865.54	1590023.90	39°25'34.716"N	108°01'06.600"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	21.069	13.00	0.00	0.00	0.00	0.00
End of Tangent	200.00	0.000	21.069	200.00	0.00	0.00	0.00	0.00
End of Build	700.00	15.000	21.069	694.31	60.73	23.39	3.00	65.08
End of Tangent	900.00	15.000	21.069	887.49	109.03	42.00	0.00	116.84
End of Build (S)	1700.00	39.000	21.069	1595.10	445.47	171.62	3.00	477.38
End of Tangent (S)	5035.00	39.000	21.069	4186.88	2403.94	926.12	0.00	2576.17
Drop (S)	6335.00	0.000	21.069	5388.80	2801.11	1079.13	3.00	3001.79
End of Tangent	7696.21	0.000	21.069	6750.00	2801.11	1079.13	0.00	3001.79
End of Tangent	7841.21	0.000	21.069	6895.00	2801.11	1079.13	0.00	3001.79





# Planned Wellpath Report

Federal Gardner 20-7BB PWP Rev-A.0

Page 1 of 5



REFERENCE WELLPATH IDENTIFICATION			
Operator	ENCANA OIL & GAS (USA) INC	Slot	Slot #02 Federal Gardner 20-7BB (PN20) 1066'FSL & 2175'FWL
Area	COLORADO	Well	Federal Gardner 20-7BB
Field	GARFIELD COUNTY (NEW)	Wellbore	Federal Gardner 20-7BB 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 1:28:35 PM
Convergence at slot	1.59° West	Database/Source file	Denver/Federal_Gardner_20-7BB_PWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	-18.21	-11.30	2287509.12	1587253.97	39°25'07.032"N	108°01'20.352"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 #02 Federal Gardner 20-7BB (PN20) 1066'FSL & 2175'FWL (RT) to Facility Vertical Datum	5795.00ft
Horizontal Reference Pt	Slot	Rig on Slot #02 Federal Gardner 20-7BB (PN20) 1066'FSL & 2175'FWL (RT) to Mean Sea Level	5795.00ft
Vertical Reference Pt	Rig on Slot #02 Federal Gardner 20-7BB (PN20) 1066'FSL & 2175'FWL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on Slot #02 Federal Gardner 20-7BB (PN20) 1066'FSL & 2175'FWL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	21.07°



# Planned Wellpath Report

Federal Gardner 20-7BB PWP Rev-A.0

Page 2 of 5



## REFERENCE WELLPATH IDENTIFICATION

Operator	ENCANA OIL & GAS (USA) INC	Slot	Slot #02 Federal Gardner 20-7BB (PN20) 1066'FSL & 2175'FWL
Area	COLORADO	Well	Federal Gardner 20-7BB
Field	GARFIELD COUNTY (NEW)	Wellbore	Federal Gardner 20-7BB PWB
Facility	SEC.20-T7S-R95W		

## WELLPATH DATA (88 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]
0.00†	0.000	21.069	0.00	0.00	0.00	0.00	0.00
13.00	0.000	21.069	13.00	0.00	0.00	0.00	0.00
113.00†	0.000	21.069	113.00	0.00	0.00	0.00	0.00
200.00	0.000	21.069	200.00	0.00	0.00	0.00	0.00
213.00†	0.390	21.069	213.00	0.04	0.04	0.02	3.00
313.00†	3.390	21.069	312.93	3.34	3.12	1.20	3.00
413.00†	6.390	21.069	412.56	11.87	11.07	4.27	3.00
513.00†	9.390	21.069	511.60	25.59	23.88	9.20	3.00
613.00†	12.390	21.069	609.79	44.48	41.51	15.99	3.00
700.00	15.000	21.069	694.31	65.08	60.73	23.39	3.00
713.00†	15.000	21.069	706.87	68.44	63.87	24.60	0.00
813.00†	15.000	21.069	803.46	94.32	88.02	33.91	0.00
900.00	15.000	21.069	887.49	116.84	109.03	42.00	0.00
913.00†	15.390	21.069	900.04	120.25	112.21	43.23	3.00
1013.00†	18.390	21.069	995.71	149.30	139.32	53.67	3.00
1113.00†	21.390	21.069	1089.74	183.32	171.06	65.90	3.00
1213.00†	24.390	21.069	1181.85	222.21	207.35	79.88	3.00
1313.00†	27.390	21.069	1271.81	265.87	248.09	95.58	3.00
1413.00†	30.390	21.069	1359.35	314.17	293.17	112.94	3.00
1513.00†	33.390	21.069	1444.25	367.00	342.46	131.93	3.00
1613.00†	36.390	21.069	1526.26	424.19	395.83	152.49	3.00
1700.00	39.000	21.069	1595.10	477.38	445.47	171.62	3.00
1713.00†	39.000	21.069	1605.20	485.56	453.10	174.56	0.00
1813.00†	39.000	21.069	1682.92	548.50	511.83	197.18	0.00
1913.00†	39.000	21.069	1760.63	611.43	570.55	219.81	0.00
2013.00†	39.000	21.069	1838.35	674.36	629.28	242.43	0.00
2113.00†	39.000	21.069	1916.06	737.29	688.00	265.05	0.00
2213.00†	39.000	21.069	1993.77	800.23	746.73	287.68	0.00
2313.00†	39.000	21.069	2071.49	863.16	805.45	310.30	0.00
2413.00†	39.000	21.069	2149.20	926.09	864.18	332.92	0.00
2513.00†	39.000	21.069	2226.92	989.02	922.90	355.55	0.00
2613.00†	39.000	21.069	2304.63	1051.95	981.63	378.17	0.00
2713.00†	39.000	21.069	2382.35	1114.89	1040.35	400.80	0.00
2813.00†	39.000	21.069	2460.06	1177.82	1099.08	423.42	0.00
2913.00†	39.000	21.069	2537.78	1240.75	1157.80	446.04	0.00
3013.00†	39.000	21.069	2615.49	1303.68	1216.53	468.67	0.00
3113.00†	39.000	21.069	2693.21	1366.61	1275.25	491.29	0.00
3213.00†	39.000	21.069	2770.92	1429.55	1333.98	513.91	0.00
3313.00†	39.000	21.069	2848.64	1492.48	1392.70	536.54	0.00
3413.00†	39.000	21.069	2926.35	1555.41	1451.43	559.16	0.00
3513.00†	39.000	21.069	3004.06	1618.34	1510.15	581.79	0.00
3613.00†	39.000	21.069	3081.78	1681.27	1568.88	604.41	0.00
3713.00†	39.000	21.069	3159.49	1744.21	1627.60	627.03	0.00
3813.00†	39.000	21.069	3237.21	1807.14	1686.33	649.66	0.00
3913.00†	39.000	21.069	3314.92	1870.07	1745.05	672.28	0.00



# Planned Wellpath Report

Federal Gardner 20-7BB PWP Rev-A.0

Page 3 of 5



REFERENCE WELLPATH IDENTIFICATION			
Operator	ENCANA OIL & GAS (USA) INC	Slot	Slot #02 Federal Gardner 20-7BB (PN20) 1066'FSL & 2175'FWL
Area	COLORADO	Well	Federal Gardner 20-7BB
Field	GARFIELD COUNTY (NEW)	Wellbore	Federal Gardner 20-7BB PWB
Facility	SEC.20-T7S-R95W		

WELLPATH DATA (88 stations) † = interpolated/extrapolated station							
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]
4013.00†	39.000	21.069	3392.64	1933.00	1803.77	694.90	0.00
4113.00†	39.000	21.069	3470.35	1995.93	1862.50	717.53	0.00
4213.00†	39.000	21.069	3548.07	2058.87	1921.22	740.15	0.00
4313.00†	39.000	21.069	3625.78	2121.80	1979.95	762.78	0.00
4413.00†	39.000	21.069	3703.50	2184.73	2038.67	785.40	0.00
4513.00†	39.000	21.069	3781.21	2247.66	2097.40	808.02	0.00
4613.00†	39.000	21.069	3858.92	2310.59	2156.12	830.65	0.00
4713.00†	39.000	21.069	3936.64	2373.53	2214.85	853.27	0.00
4813.00†	39.000	21.069	4014.35	2436.46	2273.57	875.89	0.00
4913.00†	39.000	21.069	4092.07	2499.39	2332.30	898.52	0.00
5013.00†	39.000	21.069	4169.78	2562.32	2391.02	921.14	0.00
5035.00	39.000	21.069	4186.88	2576.17	2403.94	926.12	0.00
5113.00†	36.660	21.069	4248.48	2624.00	2448.58	943.32	3.00
5213.00†	33.660	21.069	4330.23	2681.58	2502.31	964.02	3.00
5313.00†	30.660	21.069	4414.88	2734.81	2551.98	983.15	3.00
5413.00†	27.660	21.069	4502.19	2783.52	2597.44	1000.66	3.00
5513.00†	24.660	21.069	4591.94	2827.61	2638.57	1016.51	3.00
5613.00†	21.660	21.069	4683.87	2866.93	2675.27	1030.65	3.00
5713.00†	18.660	21.069	4777.73	2901.39	2707.43	1043.04	3.00
5813.00†	15.660	21.069	4873.27	2930.89	2734.96	1053.64	3.00
5913.00†	12.660	21.069	4970.22	2955.36	2757.78	1062.44	3.00
6013.00†	9.660	21.069	5068.32	2974.71	2775.84	1069.39	3.00
6113.00†	6.660	21.069	5167.29	2988.90	2789.08	1074.49	3.00
6213.00†	3.660	21.069	5266.88	2997.89	2797.48	1077.73	3.00
6313.00†	0.660	21.069	5366.79	3001.66	2800.99	1079.08	3.00
6335.00	0.000	21.069	5388.80 <sup>1</sup>	3001.79	2801.11	1079.13	3.00
6413.00†	0.000	21.069	5466.79	3001.79	2801.11	1079.13	0.00
6513.00†	0.000	21.069	5566.79	3001.79	2801.11	1079.13	0.00
6613.00†	0.000	21.069	5666.79	3001.79	2801.11	1079.13	0.00
6713.00†	0.000	21.069	5766.79	3001.79	2801.11	1079.13	0.00
6813.00†	0.000	21.069	5866.79	3001.79	2801.11	1079.13	0.00
6913.00†	0.000	21.069	5966.79	3001.79	2801.11	1079.13	0.00
7013.00†	0.000	21.069	6066.79	3001.79	2801.11	1079.13	0.00
7113.00†	0.000	21.069	6166.79	3001.79	2801.11	1079.13	0.00
7213.00†	0.000	21.069	6266.79	3001.79	2801.11	1079.13	0.00
7313.00†	0.000	21.069	6366.79	3001.79	2801.11	1079.13	0.00
7413.00†	0.000	21.069	6466.79	3001.79	2801.11	1079.13	0.00
7513.00†	0.000	21.069	6566.79	3001.79	2801.11	1079.13	0.00
7613.00†	0.000	21.069	6666.79	3001.79	2801.11	1079.13	0.00
7696.21	0.000	21.069	6750.00	3001.79	2801.11	1079.13	0.00
7713.00†	0.000	21.069	6766.79	3001.79	2801.11	1079.13	0.00
7813.00†	0.000	21.069	6866.79	3001.79	2801.11	1079.13	0.00
7841.21	0.000	21.069	6895.00	3001.79	2801.11	1079.13	0.00



# Planned Wellpath Report

Federal Gardner 20-7BB PWP Rev-A.0

Page 4 of 5



REFERENCE WELLPATH IDENTIFICATION			
Operator	ENCANA OIL & GAS (USA) INC	Slot	Slot #02 Federal Gardner 20-7BB (PN20) 1066'FSL & 2175'FWL
Area	COLORADO	Well	Federal Gardner 20-7BB
Field	GARFIELD COUNTY (NEW)	Wellbore	Federal Gardner 20-7BB PWB
Facility	SEC.20-T7S-R95W		

HOLE & CASING SECTIONS    Ref Wellbore: Federal Gardner 20-7BB PWB    Ref Wellpath: Federal Gardner 20-7BB 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]
12.252in Open Hole	13.00	800.00	787.00	13.00	790.90	0.00	0.00	84.88	32.70
9.625in Casing Surface	13.00	800.00	787.00	13.00	790.90	0.00	0.00	84.88	32.70

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) Federal Gardner 20-7BB Target 50' Radius 1520'FNL & 1980'FEL		4775.00	2801.11	1079.13	2288665.54	1590023.90	39°25'34.716"N	108°01'06.600"W	circle

SURVEY PROGRAM    Ref Wellbore: Federal Gardner 20-7BB PWB    Ref Wellpath: Federal Gardner 20-7BB PWP Rev-A.0				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
13.00	7841.21	MTC (Collar, post-2000) (Standard)		Federal Gardner 20-7BB PWB



# Planned Wellpath Report

Federal Gardner 20-7BB PWP Rev-A.0

Page 5 of 5



REFERENCE WELLPATH IDENTIFICATION			
Operator	ENCANA OIL & GAS (USA) INC	Slot	Slot #02 Federal Gardner 20-7BB (PN20) 1066'FSL & 2175'FWL
Area	COLORADO	Well	Federal Gardner 20-7BB
Field	GARFIELD COUNTY (NEW)	Wellbore	Federal Gardner 20-7BB PWB
Facility	SEC.20-T7S-R95W		

WELLPATH COMMENTS					
MD [ft]	Inclination [°]		Azimuth [°]	TVD [ft]	Comment
2536.27	39.000		21.069	2245.00	Wasatch Marker
4318.43	39.000		21.069	3630.00	Ohio Creek
4936.07	39.000		21.069	4110.00	Williams Fork
5710.12	18.747		21.069	4775.00	Top Gas
7096.21	0.000		21.069	6150.00	Coal Ridge
7496.21	0.000		21.069	6550.00	Rollins
7696.21	0.000		21.069	6750.00	Anticipated TD