





# Planned Wellpath Report

Federal Gardner 20-7 PWP Rev-A.0

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INTEQ

## REFERENCE WELLPATH IDENTIFICATION

Operator	ENCANA OIL & GAS (USA) INC	Slot	Slot #01 Federal Gardner 20-7 (PN20) 1083'FSL & 2187'FWL
Area	COLORADO	Well	Federal Gardner 20-7
Field	GARFIELD COUNTY (NEW)	Wellbore	Federal Gardner 20-7 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 1:22:03 PM
Convergence at slot	1.59° West	Database/Source file	Denver/Federal_Gardner_20-7_PWB.xml

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	0.00	0.00	2287520.92	1587271.86	39°25'07.212"N	108°01'20.208"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 #01 Federal Gardner 20-7 (PN20) 1083'FSL & 2187'FWL (RT) to Facility Vertical Datum	5795.00ft
Horizontal Reference Pt	Slot	Rig on Slot #01 Federal Gardner 20-7 (PN20) 1083'FSL & 2187'FWL (RT) to Mean Sea Level	5795.00ft
Vertical Reference Pt	Rig on Slot #01 Federal Gardner 20-7 (PN20) 1083'FSL & 2187'FWL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on Slot #01 Federal Gardner 20-7 (PN20) 1083'FSL & 2187'FWL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	27.00°



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## WELLPATH DATA (84 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]
0.00†	0.000	26.999	0.00	0.00	0.00	0.00	0.00
13.00	0.000	26.999	13.00	0.00	0.00	0.00	0.00
113.00†	0.000	26.999	113.00	0.00	0.00	0.00	0.00
200.00	0.000	26.999	200.00	0.00	0.00	0.00	0.00
213.00†	0.390	26.999	213.00	0.04	0.04	0.02	3.00
313.00†	3.390	26.999	312.93	3.34	2.98	1.52	3.00
413.00†	6.390	26.999	412.56	11.87	10.57	5.39	3.00
513.00†	9.390	26.999	511.60	25.59	22.80	11.62	3.00
613.00†	12.390	26.999	609.79	44.48	39.63	20.19	3.00
700.00	15.000	26.999	694.31	65.08	57.98	29.54	3.00
713.00†	15.000	26.999	706.87	68.44	60.98	31.07	0.00
813.00†	15.000	26.999	803.46	94.32	84.04	42.82	0.00
900.00	15.000	26.999	887.49	116.84	104.11	53.04	0.00
913.00†	15.390	26.999	900.04	120.25	107.14	54.59	3.00
1013.00†	18.390	26.999	995.71	149.30	133.03	67.78	3.00
1113.00†	21.390	26.999	1089.74	183.32	163.34	83.22	3.00
1213.00†	24.390	26.999	1181.85	222.21	197.99	100.88	3.00
1313.00†	27.390	26.999	1271.81	265.87	236.89	120.70	3.00
1413.00†	30.390	26.999	1359.35	314.17	279.93	142.63	3.00
1433.33	31.000	26.999	1376.84	324.55	289.18	147.34	3.00
1513.00†	31.000	26.999	1445.12	365.59	325.74	165.97	0.00
1613.00†	31.000	26.999	1530.84	417.09	371.63	189.35	0.00
1713.00†	31.000	26.999	1616.56	468.59	417.52	212.73	0.00
1813.00†	31.000	26.999	1702.27	520.10	463.41	236.11	0.00
1913.00†	31.000	26.999	1787.99	571.60	509.30	259.49	0.00
2013.00†	31.000	26.999	1873.71	623.10	555.20	282.87	0.00
2113.00†	31.000	26.999	1959.42	674.61	601.09	306.25	0.00
2213.00†	31.000	26.999	2045.14	726.11	646.98	329.64	0.00
2313.00†	31.000	26.999	2130.86	777.62	692.87	353.02	0.00
2413.00†	31.000	26.999	2216.57	829.12	738.76	376.40	0.00
2513.00†	31.000	26.999	2302.29	880.62	784.65	399.78	0.00
2613.00†	31.000	26.999	2388.01	932.13	830.54	423.16	0.00
2713.00†	31.000	26.999	2473.72	983.63	876.43	446.54	0.00
2813.00†	31.000	26.999	2559.44	1035.14	922.32	469.92	0.00
2913.00†	31.000	26.999	2645.16	1086.64	968.21	493.31	0.00
3013.00†	31.000	26.999	2730.87	1138.14	1014.10	516.69	0.00
3113.00†	31.000	26.999	2816.59	1189.65	1059.99	540.07	0.00
3213.00†	31.000	26.999	2902.31	1241.15	1105.88	563.45	0.00
3313.00†	31.000	26.999	2988.02	1292.65	1151.77	586.83	0.00
3413.00†	31.000	26.999	3073.74	1344.16	1197.66	610.21	0.00
3513.00†	31.000	26.999	3159.46	1395.66	1243.56	633.59	0.00
3613.00†	31.000	26.999	3245.17	1447.17	1289.45	656.98	0.00
3713.00†	31.000	26.999	3330.89	1498.67	1335.34	680.36	0.00
3813.00†	31.000	26.999	3416.61	1550.17	1381.23	703.74	0.00
3913.00†	31.000	26.999	3502.32	1601.68	1427.12	727.12	0.00



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Field	GARFIELD COUNTY (NEW)	Wellbore	Federal Gardner 20-7 PWB
Facility	SEC.20-T7S-R95W		

## WELLPATH DATA (84 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]
4013.00†	31.000	26.999	3588.04	1653.18	1473.01	750.50	0.00
4113.00†	31.000	26.999	3673.76	1704.68	1518.90	773.88	0.00
4213.00†	31.000	26.999	3759.47	1756.19	1564.79	797.26	0.00
4313.00†	31.000	26.999	3845.19	1807.69	1610.68	820.65	0.00
4413.00†	31.000	26.999	3930.91	1859.20	1656.57	844.03	0.00
4513.00†	31.000	26.999	4016.62	1910.70	1702.46	867.41	0.00
4613.00†	31.000	26.999	4102.34	1962.20	1748.35	890.79	0.00
4713.00†	31.000	26.999	4188.06	2013.71	1794.24	914.17	0.00
4813.00†	31.000	26.999	4273.78	2065.21	1840.13	937.55	0.00
4901.06	31.000	26.999	4349.25	2110.56	1880.54	958.14	0.00
4913.00†	30.642	26.999	4359.51	2116.68	1886.00	960.92	3.00
5013.00†	27.642	26.999	4446.84	2165.37	1929.38	983.02	3.00
5113.00†	24.642	26.999	4536.60	2209.43	1968.63	1003.02	3.00
5213.00†	21.642	26.999	4628.55	2248.72	2003.65	1020.86	3.00
5313.00†	18.642	26.999	4722.42	2283.16	2034.33	1036.49	3.00
5413.00†	15.642	26.999	4817.97	2312.63	2060.58	1049.87	3.00
5513.00†	12.642	26.999	4914.93	2337.05	2082.35	1060.96	3.00
5613.00†	9.642	26.999	5013.03	2356.38	2099.57	1069.73	3.00
5713.00†	6.642	26.999	5112.01	2370.54	2112.18	1076.16	3.00
5813.00†	3.642	26.999	5211.60	2379.50	2120.17	1080.23	3.00
5913.00†	0.642	26.999	5311.52	2383.23	2123.50	1081.93	3.00
5934.39	0.000	26.999	5332.90 <sup>†</sup>	2383.35	2123.60	1081.98	3.00
6013.00†	0.000	26.999	5411.51	2383.35	2123.60	1081.98	0.00
6113.00†	0.000	26.999	5511.51	2383.35	2123.60	1081.98	0.00
6213.00†	0.000	26.999	5611.51	2383.35	2123.60	1081.98	0.00
6313.00†	0.000	26.999	5711.51	2383.35	2123.60	1081.98	0.00
6413.00†	0.000	26.999	5811.51	2383.35	2123.60	1081.98	0.00
6513.00†	0.000	26.999	5911.51	2383.35	2123.60	1081.98	0.00
6613.00†	0.000	26.999	6011.51	2383.35	2123.60	1081.98	0.00
6713.00†	0.000	26.999	6111.51	2383.35	2123.60	1081.98	0.00
6813.00†	0.000	26.999	6211.51	2383.35	2123.60	1081.98	0.00
6913.00†	0.000	26.999	6311.51	2383.35	2123.60	1081.98	0.00
7013.00†	0.000	26.999	6411.51	2383.35	2123.60	1081.98	0.00
7113.00†	0.000	26.999	6511.51	2383.35	2123.60	1081.98	0.00
7213.00†	0.000	26.999	6611.51	2383.35	2123.60	1081.98	0.00
7313.00†	0.000	26.999	6711.51	2383.35	2123.60	1081.98	0.00
7321.49	0.000	26.999	6720.00	2383.35	2123.60	1081.98	0.00
7413.00†	0.000	26.999	6811.51	2383.35	2123.60	1081.98	0.00
7496.49	0.000	26.999	6895.00	2383.35	2123.60	1081.98	0.00



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HOLE & CASING SECTIONS Ref Wellbore: Federal Gardner 20-7 PWB Ref Wellpath: Federal Gardner 20-7 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	790.90	0.00	0.00	81.05	41.29
9.625in Casing Surface	13.00	800.00	787.00	13.00	790.90	0.00	0.00	81.05	41.29

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) Federal Gardner 20-7 Target 50' Radius 2180'FNL & 1980'FEL		4715.00	2123.60	1081.98	2288661.38	1589364.50	39°25'28.200"N	108°01'06.420"W	circle

SURVEY PROGRAM Ref Wellbore: Federal Gardner 20-7 PWB Ref Wellpath: Federal Gardner 20-7 PWP Rev-A.0				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
13.00	7496.49	MTC (Collar, post-2000) (Standard)		Federal Gardner 20-7 PWB



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## WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
2446.16	31.000	26.999	2245.00	Wasatch Marker
4073.62	31.000	26.999	3640.00	Ohio Creek
4563.60	31.000	26.999	4060.00	Williams Fork
5305.16	18.877	26.999	4715.00	Top Gas
6731.49	0.000	26.999	6130.00	Coal ridge
7121.49	0.000	26.999	6520.00	Rollins
7321.49	0.000	26.999	6720.00	Anticipated TD