

# ENCANA OIL & GAS (USA) INC

Location: COLORADO Slot: Slot #08 Federal 20-14 (PN20) 1031'FSL & 2139'FWL  
Field: GARFIELD COUNTY (NEW) Well: Federal 20-14  
Facility: SEC.20-T7S-R95W Wellbore: Federal 20-14 PWB

Plot reference wellpath is Federal 20-14 PWP Rev-A.0		Grid System: NAD83 / Lambert Colorado State Planes, Central Zone (502), US feet	
True vertical depths are referenced to Rig on Slot #08 Federal 20-14 (PN20) 1031'FSL & 2139'FWL (RT)		North Reference: True north	
Measured depths are referenced to Rig on Slot #08 Federal 20-14 (PN20) 1031'FSL & 2139'FWL (RT)		Scale: True distance	
Rig on Slot #08 Federal 20-14 (PN20) 1031'FSL & 2139'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		Created by: thomsuoz on 9/16/2009	
Coordinates are in feet referenced to Slot			

## Location Information

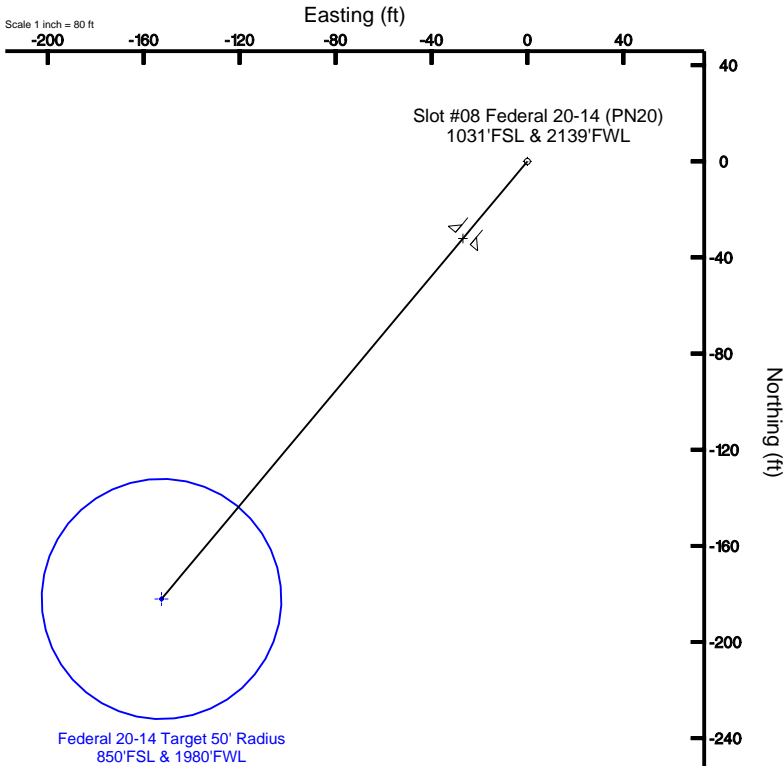
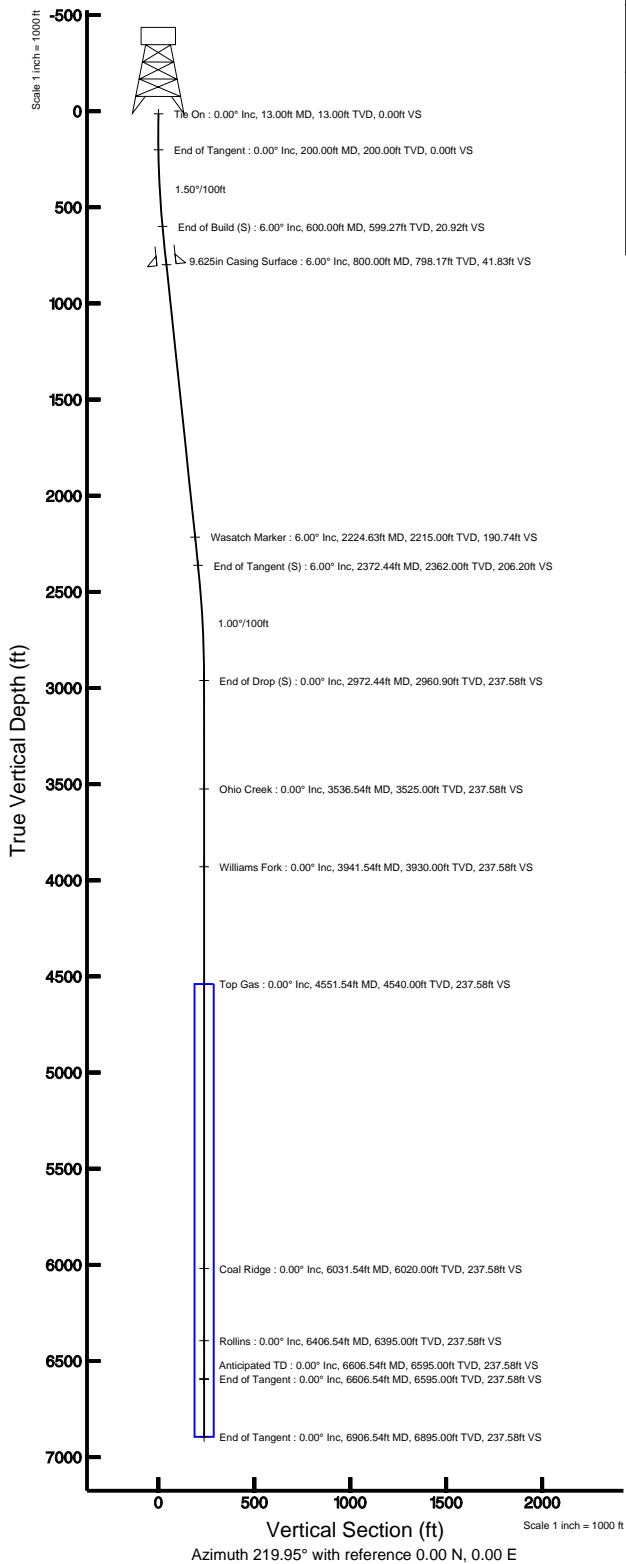
Facility Name			Grid East (USF)	Grid North (USF)	Latitude	Longitude
SEC.20-T7S-R95W			2287620.922	1587271.857	39°25'07.212"N	108°01'20.208"W
Slot	Local N (ft)	Local E (ft)	Grid East (USF)	Grid North (USF)	Latitude	Longitude
Slot #08 Federal 20-14 (PN20) 1031'FSL & 2139'FWL	-54.64	-45.20	2287474.221	1587218.499	39°25'06.672"N	108°01'20.794"W
Rig on Slot #08 Federal 20-14 (PN20) 1031'FSL & 2139'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 #08 Federal 20-14 (PN20) 1031'FSL & 2139'FWL (RT) to Mean Sea Level						5795ft

## Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (USft)	Grid North (USft)	Latitude	Longitude
Federal 20-14 Target 50' Radius 850'FSL & 1980'FWL		4540.00	-182.12	-152.56	2287316.67	1587040.69	39°25'04.872"N	108°01'22.728"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	219.953	13.00	0.00	0.00	0.00	0.00
End of Tangent	200.00	0.000	219.953	200.00	0.00	0.00	0.00	0.00
End of Build (S)	600.00	6.000	219.953	599.27	-16.04	-13.44	1.50	20.92
End of Tangent (S)	2372.44	6.000	219.953	2362.00	-158.06	-132.41	0.00	206.20
End of Drop (S)	2972.44	0.000	219.953	2960.90	-182.12	-152.56	1.00	237.58
End of Tangent	6606.54	0.000	219.953	6595.00	-182.12	-152.56	0.00	237.58
End of Tangent	6906.54	0.000	219.953	6895.00	-182.12	-152.56	0.00	237.58





# Planned Wellpath Report

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ENCANA OIL & GAS (USA) INC	Slot	Slot #08 Federal 20-14 (PN20) 1031'FSL & 2139'FWL
Area	COLORADO	Well	Federal 20-14
Field	GARFIELD COUNTY (NEW)	Wellbore	Federal 20-14 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 12:27:07 PM
Convergence at slot	1.59° West	Database/Source file	Denver/Federal_20-14_PWB.xml

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	-54.64	-45.20	2287474.22	1587218.50	39°25'06.672"N	108°01'20.784"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 #08 Federal 20-14 (PN20) 1031'FSL & 2139'FWL (RT) to Facility Vertical Datum	5795.00ft
Horizontal Reference Pt	Slot	Rig on Slot #08 Federal 20-14 (PN20) 1031'FSL & 2139'FWL (RT) to Mean Sea Level	5795.00ft
Vertical Reference Pt	Rig on Slot #08 Federal 20-14 (PN20) 1031'FSL & 2139'FWL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on Slot #08 Federal 20-14 (PN20) 1031'FSL & 2139'FWL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	219.95°



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

## WELLPATH DATA (76 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]
0.00†	0.000	219.953	0.00	0.00	0.00	0.00	0.00
13.00	0.000	219.953	13.00	0.00	0.00	0.00	0.00
113.00†	0.000	219.953	113.00	0.00	0.00	0.00	0.00
200.00	0.000	219.953	200.00	0.00	0.00	0.00	0.00
213.00†	0.195	219.953	213.00	0.02	-0.02	-0.01	1.50
313.00†	1.695	219.953	312.98	1.67	-1.28	-1.07	1.50
413.00†	3.195	219.953	412.89	5.94	-4.55	-3.81	1.50
513.00†	4.695	219.953	512.65	12.82	-9.83	-8.23	1.50
600.00	6.000	219.953	599.27	20.92	-16.04	-13.44	1.50
613.00†	6.000	219.953	612.20	22.28	-17.08	-14.31	0.00
713.00†	6.000	219.953	711.65	32.74	-25.09	-21.02	0.00
813.00†	6.000	219.953	811.10	43.19	-33.11	-27.73	0.00
913.00†	6.000	219.953	910.55	53.64	-41.12	-34.45	0.00
1013.00†	6.000	219.953	1010.01	64.10	-49.13	-41.16	0.00
1113.00†	6.000	219.953	1109.46	74.55	-57.15	-47.87	0.00
1213.00†	6.000	219.953	1208.91	85.00	-65.16	-54.58	0.00
1313.00†	6.000	219.953	1308.36	95.45	-73.17	-61.30	0.00
1413.00†	6.000	219.953	1407.82	105.91	-81.19	-68.01	0.00
1513.00†	6.000	219.953	1507.27	116.36	-89.20	-74.72	0.00
1613.00†	6.000	219.953	1606.72	126.81	-97.21	-81.43	0.00
1713.00†	6.000	219.953	1706.17	137.26	-105.22	-88.15	0.00
1813.00†	6.000	219.953	1805.62	147.72	-113.24	-94.86	0.00
1913.00†	6.000	219.953	1905.08	158.17	-121.25	-101.57	0.00
2013.00†	6.000	219.953	2004.53	168.62	-129.26	-108.28	0.00
2113.00†	6.000	219.953	2103.98	179.08	-137.28	-114.99	0.00
2213.00†	6.000	219.953	2203.43	189.53	-145.29	-121.71	0.00
2313.00†	6.000	219.953	2302.89	199.98	-153.30	-128.42	0.00
2372.44	6.000	219.953	2362.00	206.20	-158.06	-132.41	0.00
2413.00†	5.594	219.953	2402.35	210.29	-161.20	-135.04	1.00
2513.00†	4.594	219.953	2501.96	219.17	-168.01	-140.74	1.00
2613.00†	3.594	219.953	2601.70	226.31	-173.48	-145.33	1.00
2713.00†	2.594	219.953	2701.55	231.71	-177.62	-148.79	1.00
2813.00†	1.594	219.953	2801.48	235.36	-180.42	-151.14	1.00
2913.00†	0.594	219.953	2901.46	237.27	-181.89	-152.37	1.00
2972.44	0.000	219.953	2960.90 <sup>1</sup>	237.58	-182.12	-152.56	1.00
3013.00†	0.000	219.953	3001.46	237.58	-182.12	-152.56	0.00
3113.00†	0.000	219.953	3101.46	237.58	-182.12	-152.56	0.00
3213.00†	0.000	219.953	3201.46	237.58	-182.12	-152.56	0.00
3313.00†	0.000	219.953	3301.46	237.58	-182.12	-152.56	0.00
3413.00†	0.000	219.953	3401.46	237.58	-182.12	-152.56	0.00
3513.00†	0.000	219.953	3501.46	237.58	-182.12	-152.56	0.00
3613.00†	0.000	219.953	3601.46	237.58	-182.12	-152.56	0.00
3713.00†	0.000	219.953	3701.46	237.58	-182.12	-152.56	0.00
3813.00†	0.000	219.953	3801.46	237.58	-182.12	-152.56	0.00
3913.00†	0.000	219.953	3901.46	237.58	-182.12	-152.56	0.00



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## REFERENCE WELLPATH IDENTIFICATION

Operator	ENCANA OIL & GAS (USA) INC	Slot	Slot #08 Federal 20-14 (PN20) 1031'FSL & 2139'FWL
Area	COLORADO	Well	Federal 20-14
Field	GARFIELD COUNTY (NEW)	Wellbore	Federal 20-14 PWB
Facility	SEC.20-T7S-R95W		

## WELLPATH DATA (76 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]
4013.00†	0.000	219.953	4001.46	237.58	-182.12	-152.56	0.00
4113.00†	0.000	219.953	4101.46	237.58	-182.12	-152.56	0.00
4213.00†	0.000	219.953	4201.46	237.58	-182.12	-152.56	0.00
4313.00†	0.000	219.953	4301.46	237.58	-182.12	-152.56	0.00
4413.00†	0.000	219.953	4401.46	237.58	-182.12	-152.56	0.00
4513.00†	0.000	219.953	4501.46	237.58	-182.12	-152.56	0.00
4613.00†	0.000	219.953	4601.46	237.58	-182.12	-152.56	0.00
4713.00†	0.000	219.953	4701.46	237.58	-182.12	-152.56	0.00
4813.00†	0.000	219.953	4801.46	237.58	-182.12	-152.56	0.00
4913.00†	0.000	219.953	4901.46	237.58	-182.12	-152.56	0.00
5013.00†	0.000	219.953	5001.46	237.58	-182.12	-152.56	0.00
5113.00†	0.000	219.953	5101.46	237.58	-182.12	-152.56	0.00
5213.00†	0.000	219.953	5201.46	237.58	-182.12	-152.56	0.00
5313.00†	0.000	219.953	5301.46	237.58	-182.12	-152.56	0.00
5413.00†	0.000	219.953	5401.46	237.58	-182.12	-152.56	0.00
5513.00†	0.000	219.953	5501.46	237.58	-182.12	-152.56	0.00
5613.00†	0.000	219.953	5601.46	237.58	-182.12	-152.56	0.00
5713.00†	0.000	219.953	5701.46	237.58	-182.12	-152.56	0.00
5813.00†	0.000	219.953	5801.46	237.58	-182.12	-152.56	0.00
5913.00†	0.000	219.953	5901.46	237.58	-182.12	-152.56	0.00
6013.00†	0.000	219.953	6001.46	237.58	-182.12	-152.56	0.00
6113.00†	0.000	219.953	6101.46	237.58	-182.12	-152.56	0.00
6213.00†	0.000	219.953	6201.46	237.58	-182.12	-152.56	0.00
6313.00†	0.000	219.953	6301.46	237.58	-182.12	-152.56	0.00
6413.00†	0.000	219.953	6401.46	237.58	-182.12	-152.56	0.00
6513.00†	0.000	219.953	6501.46	237.58	-182.12	-152.56	0.00
6606.54	0.000	219.953	6595.00	237.58	-182.12	-152.56	0.00
6613.00†	0.000	219.953	6601.46	237.58	-182.12	-152.56	0.00
6713.00†	0.000	219.953	6701.46	237.58	-182.12	-152.56	0.00
6813.00†	0.000	219.953	6801.46	237.58	-182.12	-152.56	0.00
6906.54	0.000	219.953	6895.00	237.58	-182.12	-152.56	0.00

## HOLE & CASING SECTIONS Ref Wellbore: Federal 20-14 PWB Ref Wellpath: Federal 20-14 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	798.17	0.00	0.00	-32.07	-26.86
9.625in Casing Surface	13.00	800.00	787.00	13.00	798.17	0.00	0.00	-32.07	-26.86



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Area	COLORADO	Well	Federal 20-14
Field	GARFIELD COUNTY (NEW)	Wellbore	Federal 20-14 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
1) Federal 20-14 Target 50' Radius 850'FSL & 1980'FWL		4540.00	-182.12	-152.56	2287316.67	1587040.69	39°25'04.872"N	108°01'22.728"W	circle

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

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
13.00	6906.54	MTC (Collar, post-2000) (Standard)		Federal 20-14 PWB



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Facility	SEC.20-T7S-R95W		

## WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
2224.63	6.000	219.953	2215.00	Wasatch Marker
3536.54	0.000	219.953	3525.00	Ohio Creek
3941.54	0.000	219.953	3930.00	Williams Fork
4551.54	0.000	219.953	4540.00	Top Gas
6031.54	0.000	219.953	6020.00	Coal Ridge
6406.54	0.000	219.953	6395.00	Rollins
6606.54	0.000	219.953	6595.00	Anticipated TD