

Results of Directional Survey

API number:	30-025-40942		
OGRID:		Operator:	FASKEN OIL & RANCH LTD
		Property:	QUAIL 16 STATE # 7H

surface	ULSTR:	P	16	T	20S	R	34E
				200	FSL	225	FEL

BH Loc	ULSTR:	A	16	T	20S	R	34E
15535	MD	10933.5	TVD	346	FNL	438	FEL
				4936	FSL		

Top Perf/OH	ULSTR:	P	16	T	20S	R	34E
11667	MD	10988.5	TVD	1076	FSL	426	FEL

Bot Perf/OH	ULSTR:	A	16	T	20S	R	34E
15387	MD	10935.4	TVD	491	FNL	449	FEL
				4789	FSL		

	MD	N/S	E/W	VD
	11511	720.25	-198.12	10990.64
TOP PERFS/OH	11667	876.11	-200.92	10988.47
	11681	890.10	-201.17	10988.27
	15384	4585.84	-224.23	10935.41
BOT PERFS/OH	15387	4588.83	-224.04	10935.37
	15479	4680.63	-218.33	10934.20

NEXT TO LAST	15510	4711.49	-215.43	10933.79
LAST READING	15535	4736.37	-213.01	10933.47
TD	15535	4736.37	-213.01	10933.47

Surface Location	200	FS	225	FE
Projected BHL	4936	FS	438	FE
Location of				
Top Perfs/OH	1076	FS	426	FE
Bottom Perfs/OH	4789	FS	449	FE

SUMMARY of Subsurface Locations

Surface Location	P-16-20S-34E	200	FS	225	FE	Vert. Depth
Top Perfs/OH	P-16-20S-34E	1076	FS	426	FE	10988.47
Bottom Perfs/OH	A-16-20S-34E	4789	FS	449	FE	10935.37
Projected TD	A-16-20S-34E	4936	FS	438	FE	10933.47

APR 14 2014



Fasken Oil & Ranch

Location: Lea County, NM
Field: (Quail) Sec. 16, T20S-R34E
Facility: Quail 16 State No.7H

Slot: No.7H SHL
Well: No.7H
Wellbore: No.7H PWB

HOBBS OGD



FEB 24 2014

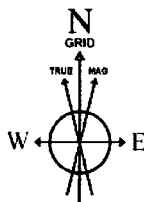
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Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	10307.00	2.120	265.490	10303.31	-22.77	111.40	0.00	-27.20
Est KOP	10388.50	2.120	265.490	10384.76	-23.01	108.39	0.00	-27.32
60°	10977.62	60.000	324.080	10869.91	202.99	-67.94	10.00	205.55
EOC	11432.50	90.000	0.000	10990.00	611.62	-189.97	10.00	618.72
TL	11467.28	90.696	0.002	10989.79	646.39	-189.97	2.00	653.47
No.7H PBHL	15568.74	90.696	0.002	10940.00	4747.55	-189.83	0.00	4751.34

Plot reference wellpath is Rev-C.0

True vertical depths are referenced to Rig on No.7H SHL (KB)	Grid System: NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No.7H SHL (KB)	North Reference: Grid north
Rig on No.7H SHL (KB) to Mean Sea Level: 3670 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: No.7H SHL): -3642 feet	Depths are in feet
Coordinates are in feet referenced to Facility Center	Created by: gentbry on 08/18/2013



BGGM (1945.0 to 2015.0) Dip: 60.45° Field: 48607.7 nT
Magnetic North is 7.46 degrees East of True North (at 07/12/2013)
Grid North is 0.42 degrees East of True North

To correct azimuth from True to Grid subtract 0.42 degrees
To correct azimuth from Magnetic to Grid add 7.04 degrees

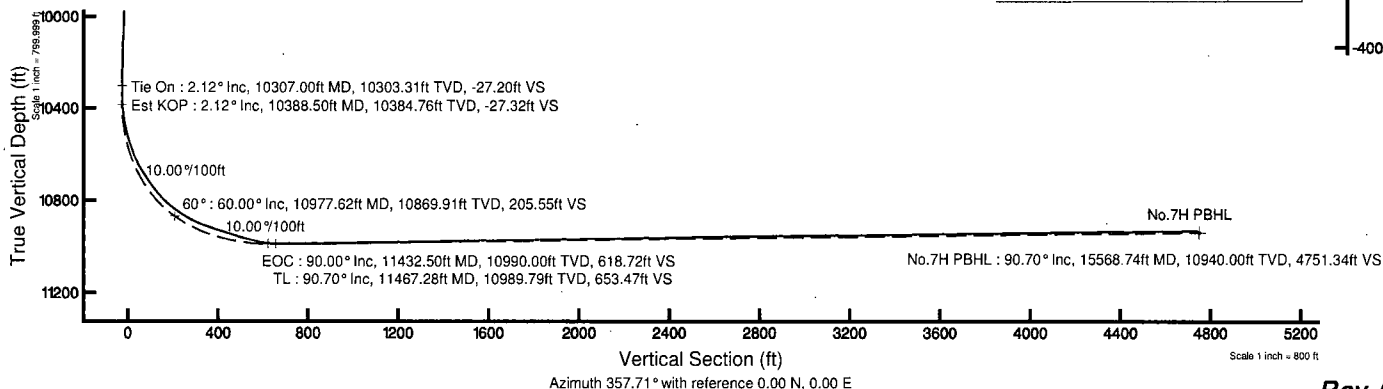
For example: if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.04 = 97.04

TL : 10989.79ft TVD, 646.39ft N, 189.97ft W
EOC : 10990.00ft TVD, 611.62ft N, 189.97ft W

60° : 10869.91ft TVD, 202.99ft N, 67.94ft W

Est KOP : 10384.76ft TVD, 23.01ft S, 108.39ft E
Tie On : 10303.31ft TVD, 22.77ft S, 111.40ft E

No.7H SHL



Rev-C.0



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Actual Wellpath Report

No.7H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	Fasken Oil & Ranch	Slot	No.7H SHL
Area	Lea County, NM	Well	No.7H
Field	(Quail) Sec. 16, T20S-R34E	Wellbore	No.7H AWB
Facility	Quail 16 State No.7H		

REPORT SETUP INFORMATION

Projection System	NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 3.0.0
North Reference	Grid	User	Gentbry
Scale	0.999975	Report Generated	08/26/2013 at 9:30:07 AM
Convergence at slot	0.42° East	Database/Source file	WA Midland/No.7H_AWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	780382.62	570662.08	32°33'59.077"N	103°33'26.613"W
Facility Reference Pt			780382.62	570662.08	32°33'59.077"N	103°33'26.613"W
Field Reference Pt			780382.62	570662.08	32°33'59.077"N	103°33'26.613"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No.7H SHL (KB) to Facility Vertical Datum	28.00ft
Horizontal Reference Pt	Facility Center	Rig on No.7H SHL (KB) to Mean Sea Level	3670.00ft
Vertical Reference Pt	Rig on No.7H SHL (KB)	Rig on No.7H SHL (KB) to Mud Line at Slot (No.7H SHL)	28.00ft
MD Reference Pt	Rig on No.7H SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	357.71°

Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
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Area	Lea County, NM	Well	No.7H
Field	(Quail) Sec. 16, T20S-R34E	Wellbore	No.7H AWB
Facility	Quail 16 State No.7H		

WELLPATH DATA (184 stations)												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	206.250	0.00	0.00	0.00	0.00	780382.62	570662.08	32°33'59.077"N	103°33'26.613"W	0.00	
100.00	0.560	206.250	100.00	-0.43	-0.44	-0.22	780382.40	570661.64	32°33'59.073"N	103°33'26.615"W	0.56	
200.00	0.280	163.650	200.00	-1.10	-1.11	-0.36	780382.26	570660.97	32°33'59.066"N	103°33'26.617"W	0.40	
300.00	0.370	252.000	299.99	-1.42	-1.45	-0.60	780382.02	570660.64	32°33'59.063"N	103°33'26.620"W	0.46	
400.00	0.700	242.520	399.99	-1.77	-1.83	-1.45	780381.17	570660.25	32°33'59.059"N	103°33'26.630"W	0.34	
500.00	0.910	223.380	499.98	-2.58	-2.69	-2.54	780380.08	570659.40	32°33'59.051"N	103°33'26.642"W	0.34	
600.00	0.770	197.040	599.97	-3.77	-3.91	-3.28	780379.34	570658.18	32°33'59.039"N	103°33'26.651"W	0.41	
700.00	0.630	192.400	699.96	-4.94	-5.08	-3.60	780379.02	570657.00	32°33'59.027"N	103°33'26.655"W	0.15	
800.00	0.320	177.720	799.96	-5.75	-5.90	-3.70	780378.92	570656.18	32°33'59.019"N	103°33'26.656"W	0.33	
900.00	0.430	240.320	899.96	-6.20	-6.37	-4.02	780378.60	570655.72	32°33'59.014"N	103°33'26.660"W	0.40	
1000.00	0.660	228.320	999.95	-6.74	-6.93	-4.77	780377.85	570655.15	32°33'59.009"N	103°33'26.669"W	0.26	
1100.00	0.630	176.900	1099.95	-7.65	-7.87	-5.17	780377.45	570654.21	32°33'59.000"N	103°33'26.674"W	0.56	
1200.00	0.360	230.130	1199.94	-8.39	-8.62	-5.39	780377.23	570653.46	32°33'58.992"N	103°33'26.676"W	0.50	
1300.00	0.510	170.320	1299.94	-9.03	-9.26	-5.55	780377.07	570652.82	32°33'58.986"N	103°33'26.678"W	0.45	
1400.00	0.360	236.630	1399.94	-9.63	-9.87	-5.74	780376.88	570652.21	32°33'58.980"N	103°33'26.680"W	0.49	
1500.00	0.200	62.960	1499.94	-9.72	-9.96	-5.85	780376.77	570652.12	32°33'58.979"N	103°33'26.682"W	0.56	
1600.00	0.630	129.140	1599.94	-10.01	-10.23	-5.26	780377.36	570651.85	32°33'58.976"N	103°33'26.675"W	0.58	
1700.00	0.070	158.640	1699.93	-10.43	-10.63	-4.82	780377.80	570651.45	32°33'58.972"N	103°33'26.670"W	0.57	
1800.00	1.170	100.850	1799.93	-10.72	-10.88	-3.79	780378.83	570651.20	32°33'58.970"N	103°33'26.658"W	1.13	
1900.00	1.060	90.500	1899.91	-11.00	-11.08	-1.86	780380.76	570651.00	32°33'58.968"N	103°33'26.635"W	0.23	
2000.00	0.510	66.200	1999.90	-10.88	-10.91	-0.53	780382.09	570651.17	32°33'58.969"N	103°33'26.620"W	0.63	
2100.00	0.600	101.780	2099.89	-10.85	-10.84	0.39	780383.01	570651.24	32°33'58.970"N	103°33'26.609"W	0.35	
2200.00	0.620	56.880	2199.89	-10.70	-10.65	1.35	780383.97	570651.43	32°33'58.972"N	103°33'26.598"W	0.47	
2300.00	0.990	91.850	2299.88	-10.48	-10.38	2.67	780385.29	570651.70	32°33'58.974"N	103°33'26.582"W	0.60	
2400.00	0.610	100.320	2399.87	-10.66	-10.51	4.06	780386.68	570651.58	32°33'58.973"N	103°33'26.566"W	0.40	
2500.00	0.940	72.370	2499.86	-10.56	-10.35	5.36	780387.98	570651.73	32°33'58.974"N	103°33'26.551"W	0.49	
2600.00	1.110	84.590	2599.84	-10.29	-10.01	7.11	780389.73	570652.07	32°33'58.978"N	103°33'26.530"W	0.28	
2700.00	2.100	85.510	2699.80	-10.17	-9.78	9.90	780392.52	570652.30	32°33'58.980"N	103°33'26.498"W	0.99	
2800.00	3.660	66.850	2799.68	-8.96	-8.38	14.66	780397.28	570653.70	32°33'58.993"N	103°33'26.442"W	1.80	
2900.00	4.120	69.360	2899.45	-6.69	-5.86	20.96	780403.58	570656.22	32°33'59.018"N	103°33'26.368"W	0.49	
3000.00	4.780	63.830	2999.14	-3.87	-2.75	28.06	780410.68	570659.33	32°33'59.048"N	103°33'26.285"W	0.79	
3100.00	4.550	57.950	3098.81	-0.22	1.19	35.16	780417.78	570663.27	32°33'59.086"N	103°33'26.202"W	0.53	
3200.00	4.540	62.840	3198.50	3.42	5.10	42.05	780424.66	570667.18	32°33'59.125"N	103°33'26.121"W	0.39	
3300.00	4.740	66.110	3298.17	6.60	8.58	49.34	780431.96	570670.66	32°33'59.159"N	103°33'26.035"W	0.33	
3400.00	4.190	73.710	3397.87	9.01	11.28	56.63	780439.25	570673.36	32°33'59.185"N	103°33'25.950"W	0.81	
3500.00	3.560	70.850	3497.64	10.79	13.32	63.07	780445.69	570675.40	32°33'59.204"N	103°33'25.875"W	0.66	
3600.00	3.290	72.450	3597.46	12.45	15.20	68.74	780451.35	570677.28	32°33'59.223"N	103°33'25.808"W	0.29	
3700.00	2.860	73.280	3697.32	13.82	16.79	73.86	780456.48	570678.87	32°33'59.238"N	103°33'25.748"W	0.43	
3800.00	2.370	81.660	3797.21	14.66	17.80	78.30	780460.92	570679.89	32°33'59.248"N	103°33'25.696"W	0.62	
3900.00	2.110	90.860	3897.14	14.78	18.08	82.18	780464.80	570680.16	32°33'59.250"N	103°33'25.651"W	0.44	
4000.00	1.960	104.430	3997.07	14.19	17.62	85.68	780468.30	570679.70	32°33'59.245"N	103°33'25.610"W	0.50	
4100.00	1.810	119.590	4097.02	12.86	16.42	88.71	780471.33	570678.50	32°33'59.233"N	103°33'25.575"W	0.52	
4200.00	1.500	122.750	4196.98	11.27	14.93	91.18	780473.80	570677.01	32°33'59.218"N	103°33'25.546"W	0.32	
4300.00	0.710	142.440	4296.96	10.02	13.73	92.66	780475.28	570675.81	32°33'59.206"N	103°33'25.529"W	0.87	
4400.00	0.850	149.640	4396.95	8.86	12.60	93.42	780476.03	570674.68	32°33'59.195"N	103°33'25.520"W	0.17	



Actual Wellpath Report

No.7H AWP
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REFERENCE WELLPATH IDENTIFICATION

Operator	Fasken Oil & Ranch	Slot	No.7H SHL
Area	Lea County, NM	Well	No.7H
Field	(Quail) Sec. 16, T20S-R34E	Wellbore	No.7H AWB
Facility	Quail 16 State No.7H		

WELLPATH DATA (184 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4500.00	0.760	92.750	4496.94	8.14	11.93	94.45	780477.07	570674.01	32°33'59.188"N	103°33'25.508"W	0.77	
4600.00	1.070	63.030	4596.93	8.48	12.32	95.95	780478.56	570674.40	32°33'59.192"N	103°33'25.490"W	0.56	
4700.00	0.490	69.050	4696.92	9.00	12.90	97.18	780479.80	570674.98	32°33'59.198"N	103°33'25.476"W	0.58	
4800.00	1.200	75.990	4796.91	9.35	13.30	98.59	780481.21	570675.38	32°33'59.202"N	103°33'25.459"W	0.72	
4900.00	1.000	88.840	4896.89	9.55	13.57	100.48	780483.10	570675.65	32°33'59.204"N	103°33'25.437"W	0.32	
5000.00	1.010	92.250	4996.88	9.46	13.56	102.24	780484.85	570675.64	32°33'59.204"N	103°33'25.417"W	0.06	
5100.00	0.820	46.000	5096.86	9.87	14.02	103.63	780486.25	570676.10	32°33'59.208"N	103°33'25.401"W	0.74	
5200.00	0.430	59.860	5196.86	10.52	14.70	104.47	780487.09	570676.78	32°33'59.215"N	103°33'25.391"W	0.42	
5300.00	0.630	54.950	5296.85	10.99	15.21	105.24	780487.86	570677.29	32°33'59.220"N	103°33'25.382"W	0.20	
5400.00	0.900	64.480	5396.84	11.60	15.86	106.40	780489.02	570677.94	32°33'59.226"N	103°33'25.368"W	0.30	
5500.00	0.380	83.720	5496.84	11.93	16.24	107.44	780490.06	570678.32	32°33'59.230"N	103°33'25.356"W	0.56	
5600.00	0.690	129.800	5596.83	11.55	15.89	108.23	780490.85	570677.97	32°33'59.227"N	103°33'25.347"W	0.51	
5700.00	0.500	87.500	5696.83	11.15	15.52	109.13	780491.75	570677.60	32°33'59.223"N	103°33'25.336"W	0.46	
5800.00	0.190	113.750	5796.83	11.08	15.47	109.72	780492.34	570677.55	32°33'59.222"N	103°33'25.329"W	0.34	
5900.00	0.650	123.590	5896.82	10.67	15.09	110.34	780492.96	570677.17	32°33'59.219"N	103°33'25.322"W	0.46	
6000.00	0.510	88.460	5996.82	10.33	14.79	111.26	780493.88	570676.87	32°33'59.216"N	103°33'25.311"W	0.37	
6100.00	0.550	74.940	6096.81	10.43	14.93	112.17	780494.79	570677.01	32°33'59.217"N	103°33'25.301"W	0.13	
6200.00	0.500	71.740	6196.81	10.66	15.19	113.05	780495.67	570677.27	32°33'59.219"N	103°33'25.290"W	0.06	
6300.00	0.430	122.540	6296.81	10.57	15.12	113.78	780496.40	570677.20	32°33'59.219"N	103°33'25.282"W	0.40	
6400.00	0.660	116.010	6396.80	10.08	14.67	114.61	780497.23	570676.75	32°33'59.214"N	103°33'25.272"W	0.24	
6500.00	0.460	151.370	6496.80	9.45	14.06	115.32	780497.94	570676.15	32°33'59.208"N	103°33'25.264"W	0.39	
6600.00	0.420	83.900	6596.80	9.11	13.75	115.88	780498.50	570675.83	32°33'59.205"N	103°33'25.257"W	0.49	
6700.00	0.620	168.550	6696.79	8.60	13.26	116.35	780498.97	570675.34	32°33'59.200"N	103°33'25.252"W	0.72	
6800.00	0.690	211.620	6796.79	7.57	12.22	116.14	780498.76	570674.30	32°33'59.190"N	103°33'25.255"W	0.49	
6900.00	0.470	233.940	6896.78	6.84	11.46	115.50	780498.11	570673.54	32°33'59.182"N	103°33'25.262"W	0.31	
7000.00	0.640	219.410	6996.78	6.19	10.79	114.81	780497.43	570672.87	32°33'59.176"N	103°33'25.270"W	0.22	
7100.00	1.000	239.490	7096.77	5.36	9.92	113.70	780496.32	570672.00	32°33'59.167"N	103°33'25.283"W	0.46	
7200.00	0.460	256.040	7196.76	4.87	9.38	112.56	780495.18	570671.46	32°33'59.162"N	103°33'25.297"W	0.57	
7300.00	0.670	241.320	7296.75	4.53	9.00	111.66	780494.28	570671.08	32°33'59.158"N	103°33'25.307"W	0.25	
7400.00	0.720	201.760	7396.75	3.70	8.13	110.91	780493.53	570670.21	32°33'59.150"N	103°33'25.316"W	0.47	
7500.00	0.310	150.250	7496.74	2.88	7.32	110.81	780493.43	570669.40	32°33'59.142"N	103°33'25.317"W	0.58	
7600.00	0.910	184.830	7596.74	1.85	6.29	110.88	780493.50	570668.37	32°33'59.131"N	103°33'25.316"W	0.68	
7700.00	0.290	179.540	7696.73	0.81	5.24	110.82	780493.43	570667.33	32°33'59.121"N	103°33'25.317"W	0.62	
7800.00	0.530	206.170	7796.73	0.15	4.58	110.62	780493.23	570666.66	32°33'59.114"N	103°33'25.320"W	0.30	
7900.00	1.160	187.000	7896.72	-1.25	3.16	110.29	780492.91	570665.24	32°33'59.100"N	103°33'25.324"W	0.68	
8000.00	0.730	169.910	7996.70	-2.88	1.53	110.28	780492.89	570663.61	32°33'59.084"N	103°33'25.324"W	0.51	
8100.00	0.900	191.850	8096.69	-4.27	0.13	110.23	780492.84	570662.21	32°33'59.071"N	103°33'25.325"W	0.35	
8200.00	1.000	167.970	8196.68	-5.90	-1.49	110.25	780492.86	570660.59	32°33'59.054"N	103°33'25.325"W	0.41	
8300.00	0.640	207.090	8296.67	-7.24	-2.84	110.17	780492.79	570659.24	32°33'59.041"N	103°33'25.326"W	0.65	
8400.00	0.540	209.710	8396.67	-8.13	-3.75	109.69	780492.30	570658.33	32°33'59.032"N	103°33'25.331"W	0.10	
8500.00	0.210	42.840	8496.66	-8.40	-4.02	109.58	780492.20	570658.06	32°33'59.029"N	103°33'25.333"W	0.75	
8600.00	0.540	101.720	8596.66	-8.38	-3.99	110.16	780492.78	570658.09	32°33'59.030"N	103°33'25.326"W	0.47	
8700.00	0.530	40.230	8696.66	-8.16	-3.73	110.92	780493.54	570658.35	32°33'59.032"N	103°33'25.317"W	0.55	
8800.00	0.480	44.070	8796.66	-7.53	-3.07	111.51	780494.13	570659.01	32°33'59.039"N	103°33'25.310"W	0.06	
8900.00	0.730	68.720	8896.65	-7.03	-2.54	112.40	780495.02	570659.54	32°33'59.044"N	103°33'25.300"W	0.36	

Actual Wellpath Report

No.7H AWP

Page 4 of 6

REFERENCE WELLPATH IDENTIFICATION

Operator	Fasken Oil & Ranch	Slot	No.7H SHL
Area	Lea County, NM	Well	No.7H
Field	(Quail) Sec. 16, T20S-R34E	Wellbore	No.7H AWB
Facility	Quail 16 State No.7H		

WELLPATH DATA (184 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
9000.00	1.060	71.390	8996.64	-6.56	-2.02	113.87	780496.49	570660.06	32°33'59.049"N	103°33'25.282"W	0.33	
9100.00	0.620	78.600	9096.63	-6.22	-1.61	115.28	780497.89	570660.47	32°33'59.053"N	103°33'25.266"W	0.45	
9200.00	0.630	111.070	9196.62	-6.35	-1.70	116.32	780498.94	570660.38	32°33'59.052"N	103°33'25.254"W	0.35	
9300.00	0.460	190.740	9296.62	-6.96	-2.30	116.76	780499.37	570659.78	32°33'59.046"N	103°33'25.249"W	0.71	
9400.00	0.960	189.630	9396.61	-8.17	-3.52	116.54	780499.16	570658.56	32°33'59.034"N	103°33'25.251"W	0.50	
9500.00	1.450	175.440	9496.59	-10.25	-5.60	116.50	780499.12	570656.48	32°33'59.013"N	103°33'25.252"W	0.57	
9600.00	1.330	148.460	9596.56	-12.53	-7.85	117.21	780499.83	570654.23	32°33'58.991"N	103°33'25.244"W	0.66	
9700.00	1.130	152.180	9696.54	-14.43	-9.72	118.28	780500.90	570652.37	32°33'58.973"N	103°33'25.231"W	0.22	
9800.00	1.230	196.550	9796.52	-16.34	-11.62	118.43	780501.05	570650.46	32°33'58.954"N	103°33'25.230"W	0.90	
9900.00	1.100	221.370	9896.50	-18.05	-13.37	117.49	780500.11	570648.72	32°33'58.936"N	103°33'25.241"W	0.52	
10000.00	1.770	198.570	9996.47	-20.19	-15.55	116.37	780498.98	570646.53	32°33'58.915"N	103°33'25.254"W	0.87	
10100.00	2.200	198.470	10096.41	-23.42	-18.83	115.27	780497.88	570643.25	32°33'58.883"N	103°33'25.267"W	0.43	
10200.00	1.350	211.800	10196.36	-26.20	-21.66	114.04	780496.65	570640.43	32°33'58.855"N	103°33'25.282"W	0.94	
10300.00	2.030	266.940	10296.32	-27.19	-22.75	111.65	780494.27	570639.33	32°33'58.844"N	103°33'25.310"W	1.68	
10307.00	2.120	265.490	10303.31	-27.20	-22.77	111.40	780494.01	570639.31	32°33'58.844"N	103°33'25.313"W	1.49	
10360.00	2.120	265.490	10356.28	-27.28	-22.92	109.44	780492.06	570639.16	32°33'58.842"N	103°33'25.336"W	0.00	
10372.00	2.760	292.780	10368.27	-27.16	-22.83	108.95	780491.57	570639.25	32°33'58.843"N	103°33'25.341"W	10.90	
10404.00	6.050	314.820	10400.17	-25.60	-21.34	107.05	780489.66	570640.74	32°33'58.858"N	103°33'25.364"W	11.38	
10435.00	10.500	322.450	10430.84	-22.10	-17.95	104.16	780486.78	570644.13	32°33'58.892"N	103°33'25.397"W	14.75	
10466.00	14.410	315.960	10461.11	-16.91	-12.93	99.76	780482.38	570649.15	32°33'58.942"N	103°33'25.448"W	13.38	
10498.00	18.240	310.910	10491.81	-10.51	-6.79	93.20	780475.82	570655.29	32°33'59.003"N	103°33'25.524"W	12.75	
10530.00	21.200	311.200	10521.93	-3.10	0.30	85.06	780467.68	570662.38	32°33'59.074"N	103°33'25.619"W	9.26	
10562.00	23.200	314.020	10551.56	5.44	8.49	76.18	780458.79	570670.58	32°33'59.156"N	103°33'25.722"W	7.08	
10593.00	25.750	317.780	10579.77	15.03	17.73	67.26	780449.88	570679.81	32°33'59.248"N	103°33'25.825"W	9.64	
10625.00	28.660	321.000	10608.23	26.51	28.84	57.76	780440.37	570690.92	32°33'59.358"N	103°33'25.935"W	10.19	
10656.00	32.150	323.070	10634.97	39.26	41.22	48.12	780430.74	570703.30	32°33'59.482"N	103°33'26.047"W	11.75	
10688.00	35.640	323.510	10661.52	53.98	55.52	37.46	780420.07	570717.60	32°33'59.624"N	103°33'26.170"W	10.93	
10719.00	37.730	324.080	10686.38	69.35	70.47	26.52	780409.14	570732.55	32°33'59.772"N	103°33'26.297"W	6.83	
10751.00	39.150	324.600	10711.45	85.97	86.63	14.92	780397.54	570748.71	32°33'59.933"N	103°33'26.431"W	4.55	
10783.00	41.330	325.070	10735.87	103.33	103.53	3.02	780385.64	570765.61	32°34'00.101"N	103°33'26.569"W	6.88	
10815.00	44.020	325.180	10759.40	121.60	121.32	-9.38	780373.24	570783.40	32°34'00.278"N	103°33'26.712"W	8.41	
10847.00	47.370	325.280	10781.74	140.92	140.13	-22.44	780360.18	570802.21	32°34'00.465"N	103°33'26.863"W	10.47	
10878.00	51.680	325.090	10801.86	160.79	159.49	-35.90	780346.72	570821.56	32°34'00.658"N	103°33'27.018"W	13.91	
10910.00	55.540	325.110	10820.84	182.49	180.61	-50.64	780331.99	570842.69	32°34'00.868"N	103°33'27.189"W	12.06	
10941.00	58.440	325.920	10837.73	204.49	202.04	-65.35	780317.27	570864.11	32°34'01.081"N	103°33'27.359"W	9.61	
10973.00	59.810	327.340	10854.15	228.01	224.97	-80.45	780302.17	570887.05	32°34'01.309"N	103°33'27.533"W	5.73	
11004.00	62.440	328.490	10869.12	251.57	247.97	-94.87	780287.75	570910.05	32°34'01.538"N	103°33'27.700"W	9.08	
11036.00	65.050	331.990	10883.28	277.03	272.88	-109.10	780273.52	570934.96	32°34'01.785"N	103°33'27.864"W	12.76	
11068.00	67.830	335.210	10896.07	303.80	299.15	-122.13	780260.49	570961.23	32°34'02.046"N	103°33'28.014"W	12.67	
11099.00	70.130	339.480	10907.19	330.92	325.85	-133.27	780249.36	570987.92	32°34'02.311"N	103°33'28.142"W	14.84	
11131.00	71.710	343.380	10917.66	359.94	354.51	-142.89	780239.73	571016.59	32°34'02.595"N	103°33'28.252"W	12.53	
11162.00	72.940	348.420	10927.07	388.84	383.15	-150.08	780232.55	571045.22	32°34'02.879"N	103°33'28.334"W	15.99	
11194.00	72.960	351.180	10936.46	419.14	413.26	-155.50	780227.13	571075.33	32°34'03.177"N	103°33'28.394"W	8.25	
11226.00	72.830	350.790	10945.87	449.51	443.46	-160.29	780222.34	571105.53	32°34'03.477"N	103°33'28.448"W	1.23	
11258.00	72.830	349.930	10955.32	479.84	473.61	-165.41	780217.22	571135.67	32°34'03.775"N	103°33'28.505"W	2.57	

REFERENCE WELLPATH IDENTIFICATION

Operator	Fasken Oil & Ranch	Slot	No.7H SHL
Area	Lea County, NM	Well	No.7H
Field	(Quail) Sec. 16, T20S-R34E	Wellbore	No.7H AWB
Facility	Quail 16 State No.7H		

WELLPATH DATA (184 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11289.00	73.540	349.110	10964.29	509.21	502.78	-170.81	780211.82	571164.85	32°34'04.064"N	103°33'28.566"W	3.41	
11321.00	75.370	348.800	10972.86	539.68	533.04	-176.71	780205.91	571195.11	32°34'04.364"N	103°33'28.632"W	5.79	
11351.00	78.580	350.660	10979.62	568.62	561.80	-181.92	780200.71	571223.86	32°34'04.649"N	103°33'28.690"W	12.29	
11384.00	82.160	353.610	10985.14	600.99	594.02	-186.37	780196.26	571256.08	32°34'04.968"N	103°33'28.740"W	13.98	
11416.00	86.520	354.410	10988.30	632.76	625.68	-189.69	780192.94	571287.74	32°34'05.282"N	103°33'28.776"W	13.85	
11511.00	90.650	355.400	10990.64	727.59	720.25	-198.12	780184.51	571382.32	32°34'06.218"N	103°33'28.866"W	4.47	
11681.00	90.950	2.540	10988.27	897.43	890.10	-201.17	780181.45	571552.16	32°34'07.899"N	103°33'28.887"W	4.20	
11776.00	91.050	5.350	10986.61	991.84	984.85	-194.64	780187.99	571646.90	32°34'08.836"N	103°33'28.803"W	2.96	
11871.00	90.890	7.770	10985.00	1085.69	1079.21	-183.79	780198.84	571741.26	32°34'09.768"N	103°33'28.668"W	2.55	
11966.00	90.920	2.710	10983.50	1179.83	1173.77	-175.12	780207.51	571835.82	32°34'10.703"N	103°33'28.559"W	5.33	
12061.00	90.920	0.840	10981.97	1274.57	1268.71	-172.17	780210.45	571930.75	32°34'11.643"N	103°33'28.516"W	1.97	
12156.00	91.420	0.310	10980.03	1369.43	1363.68	-171.22	780211.40	572025.72	32°34'12.582"N	103°33'28.497"W	0.77	
12252.00	91.570	358.280	10977.53	1465.36	1459.64	-172.40	780210.22	572121.68	32°34'13.532"N	103°33'28.503"W	2.12	
12347.00	90.800	355.820	10975.56	1560.32	1554.48	-177.29	780205.34	572216.52	32°34'14.471"N	103°33'28.552"W	2.71	
12443.00	90.830	353.440	10974.20	1656.17	1650.04	-186.27	780196.35	572312.08	32°34'15.417"N	103°33'28.649"W	2.48	
12536.00	90.830	353.540	10972.85	1748.91	1742.43	-196.81	780185.81	572404.47	32°34'16.332"N	103°33'28.764"W	0.11	
12631.00	90.800	354.520	10971.50	1843.70	1836.91	-206.69	780175.93	572498.94	32°34'17.267"N	103°33'28.871"W	1.03	
12726.00	90.830	357.380	10970.15	1938.64	1931.65	-213.40	780169.22	572593.68	32°34'18.205"N	103°33'28.942"W	3.01	
12821.00	90.860	358.560	10968.75	2033.62	2026.58	-216.77	780165.86	572688.61	32°34'19.144"N	103°33'28.973"W	1.24	
12916.00	90.800	358.040	10967.37	2128.61	2121.53	-219.58	780163.04	572783.55	32°34'20.084"N	103°33'28.998"W	0.55	
13011.00	90.830	0.900	10966.02	2223.54	2216.50	-220.46	780162.16	572878.53	32°34'21.024"N	103°33'29.000"W	3.01	
13106.00	90.830	0.040	10964.64	2318.42	2311.49	-219.68	780162.94	572973.51	32°34'21.964"N	103°33'28.983"W	0.91	
13200.00	91.110	0.640	10963.05	2412.31	2405.48	-219.13	780163.50	573067.49	32°34'22.894"N	103°33'28.968"W	0.70	
13296.00	91.570	3.440	10960.81	2508.00	2501.38	-215.71	780166.92	573163.39	32°34'23.842"N	103°33'28.920"W	2.95	
13391.00	90.490	3.020	10959.10	2602.54	2596.21	-210.36	780172.27	573258.22	32°34'24.780"N	103°33'28.850"W	1.22	
13486.00	90.520	4.390	10958.26	2697.02	2691.01	-204.22	780178.41	573353.01	32°34'25.718"N	103°33'28.770"W	1.44	
13581.00	90.460	5.760	10957.45	2791.23	2785.63	-195.82	780186.81	573447.63	32°34'26.653"N	103°33'28.663"W	1.44	
13676.00	90.710	5.140	10956.48	2885.36	2880.19	-186.79	780195.83	573542.19	32°34'27.588"N	103°33'28.550"W	0.70	
13771.00	90.710	3.130	10955.30	2979.75	2974.93	-179.95	780202.68	573636.93	32°34'28.525"N	103°33'28.462"W	2.12	
13865.00	90.680	1.370	10954.16	3073.44	3068.85	-176.26	780206.37	573730.85	32°34'29.454"N	103°33'28.411"W	1.87	
13960.00	90.680	1.270	10953.03	3168.25	3163.82	-174.07	780208.56	573825.81	32°34'30.394"N	103°33'28.377"W	0.11	
14055.00	90.770	360.000	10951.83	3263.11	3258.80	-173.01	780209.61	573920.79	32°34'31.333"N	103°33'28.357"W	1.34	
14150.00	90.740	0.890	10950.58	3358.00	3353.79	-172.28	780210.35	574015.78	32°34'32.273"N	103°33'28.340"W	0.94	
14245.00	90.800	358.690	10949.30	3452.92	3448.78	-172.62	780210.00	574110.76	32°34'33.213"N	103°33'28.336"W	2.32	
14340.00	90.800	359.740	10947.98	3547.88	3543.76	-173.93	780208.70	574205.74	32°34'34.153"N	103°33'28.343"W	1.11	
14436.00	90.680	357.770	10946.74	3643.85	3639.72	-176.01	780206.61	574301.70	32°34'35.103"N	103°33'28.359"W	2.06	
14530.00	90.680	357.080	10945.62	3737.84	3733.62	-180.23	780202.39	574395.60	32°34'36.032"N	103°33'28.401"W	0.73	
14625.00	90.770	357.080	10944.42	3832.83	3828.49	-185.07	780197.55	574490.46	32°34'36.971"N	103°33'28.449"W	0.09	
14721.00	90.680	355.420	10943.20	3928.78	3924.27	-191.35	780191.27	574586.24	32°34'37.919"N	103°33'28.514"W	1.73	
14816.00	90.800	355.530	10941.98	4023.70	4018.97	-198.85	780183.78	574680.94	32°34'38.857"N	103°33'28.594"W	0.17	
14911.00	90.770	355.660	10940.68	4118.63	4113.68	-206.14	780176.48	574775.65	32°34'39.794"N	103°33'28.671"W	0.14	
15006.00	90.680	355.380	10939.47	4213.55	4208.38	-213.56	780169.06	574870.35	32°34'40.732"N	103°33'28.750"W	0.31	
15100.00	90.800	355.570	10938.26	4307.47	4302.08	-220.98	780161.65	574964.04	32°34'41.659"N	103°33'28.828"W	0.24	
15195.00	90.180	357.810	10937.45	4402.45	4396.91	-226.46	780156.16	575058.87	32°34'42.598"N	103°33'28.884"W	2.45	
15298.00	90.830	1.650	10936.54	4505.36	4499.89	-226.95	780155.68	575161.84	32°34'43.617"N	103°33'28.881"W	3.78	



Actual Wellpath Report

No.7H AWP

Page 6 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	Fasken Oil & Ranch	Slot	No.7H SHL
Area	Lea County, NM	Well	No.7H
Field	(Quail) Sec. 16, T20S-R34E	Wellbore	No.7H AWB
Facility	Quail 16 State No.7H		

WELLPATH DATA (184 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
15384.00	90.680	1.970	10935.41	4591.13	4585.84	-224.23	780158.39	575247.79	32°34'44.467"N	103°33'28.842"W	0.41	
15479.00	90.770	5.160	10934.20	4685.62	4680.63	-218.33	780164.30	575342.58	32°34'45.405"N	103°33'28.765"W	3.36	
15510.00	90.740	5.560	10933.79	4716.34	4711.49	-215.43	780167.20	575373.44	32°34'45.710"N	103°33'28.729"W	1.29	
15535.00	90.740	5.560	10933.47	4741.10	4736.37	-213.01	780169.62	575398.32	32°34'45.956"N	103°33'28.698"W	0.00	Proj to Bit

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
No.7H PBHL		10940.00	4747.55	-189.83	780192.80	575409.50	32°34'46.065"N	103°33'28.426"W	point

WELLPATH COMPOSITION - Ref Wellbore: No.7H AWB Ref Wellpath: No.7H AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	10307.00	Generic gyro - northseeking (Standard)	VES Gyro <100-10307>	No.7H AWB
10307.00	15510.00	AT Curve (Short Spaced)	BHI MWD AT-Curve <10360-15510>	No.7H AWB
15510.00	15535.00	Blind Drilling (std)	Projection to bit	No.7H AWB



Company: Fasken Oil and Ranch

Lease/Well: Quail State 16 /#7H

Rig Name: Patterson 187

State/County: New Mexico /Lea

Latitude: 32.57, Longitude: -103.56

GRID North is 0.42 Degrees East of True North

VS-Azi: 0.00 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB = 28'

HOBBS OCD

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut

Minimum Curvature Method

Report Date/Time: 8/18/2013 / 18:47

FEB 24 2014

Vaughn Energy Services

Midland, Texas

432-563-5444

Tim Dillon

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Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.56	206.25	100.00	-0.44	-0.22	-0.44	0.49	206.25	0.56
200.00	0.28	163.65	200.00	-1.11	-0.37	-1.11	1.17	198.25	0.41
300.00	0.37	252.00	299.99	-1.45	-0.60	-1.45	1.57	202.68	0.45
400.00	0.70	242.52	399.99	-1.83	-1.45	-1.83	2.34	218.50	0.35
500.00	0.91	223.38	499.98	-2.69	-2.55	-2.69	3.70	223.43	0.34
600.00	0.77	197.04	599.97	-3.91	-3.29	-3.91	5.11	220.08	0.41
700.00	0.63	192.40	699.96	-5.09	-3.60	-5.09	6.23	215.31	0.15
800.00	0.32	177.72	799.96	-5.90	-3.71	-5.90	6.97	212.14	0.33
900.00	0.43	240.32	899.96	-6.37	-4.03	-6.37	7.54	212.30	0.40
1000.00	0.66	228.32	999.95	-6.94	-4.79	-6.94	8.43	214.59	0.25
1100.00	0.63	176.90	1099.95	-7.87	-5.19	-7.87	9.43	213.39	0.56
1200.00	0.36	230.13	1199.94	-8.62	-5.40	-8.62	10.17	212.07	0.50
1300.00	0.51	170.32	1299.94	-9.26	-5.57	-9.26	10.81	211.01	0.45
1400.00	0.36	236.63	1399.94	-9.87	-5.76	-9.87	11.43	210.24	0.49
1500.00	0.20	62.96	1499.94	-9.97	-5.86	-9.97	11.56	210.46	0.56
1600.00	0.63	129.14	1599.94	-10.23	-5.28	-10.23	11.51	207.28	0.58
1700.00	0.07	158.64	1699.93	-10.64	-4.83	-10.64	11.68	204.41	0.57
1800.00	1.17	100.85	1799.93	-10.88	-3.80	-10.88	11.53	199.26	1.13
1900.00	1.06	90.50	1899.91	-11.08	-1.88	-11.08	11.24	189.63	0.23
2000.00	0.51	66.20	1999.90	-10.91	-0.55	-10.91	10.92	182.88	0.63
2100.00	0.60	101.78	2099.89	-10.84	0.37	-10.84	10.84	178.04	0.35
2200.00	0.62	56.88	2199.89	-10.64	1.34	-10.64	10.73	172.85	0.47
2300.00	0.99	91.85	2299.88	-10.37	2.66	-10.37	10.71	165.63	0.60
2400.00	0.61	100.32	2399.87	-10.50	4.05	-10.50	11.25	158.91	0.40
2500.00	0.94	72.37	2499.86	-10.34	5.36	-10.34	11.65	152.62	0.50
2600.00	1.11	84.59	2599.84	-10.00	7.11	-10.00	12.27	144.61	0.27
2700.00	2.10	85.51	2699.80	-9.77	9.90	-9.77	13.91	134.61	1.00
2800.00	3.66	66.85	2799.68	-8.37	14.67	-8.37	16.89	119.70	1.80
2900.00	4.12	69.36	2899.44	-5.84	20.97	-5.84	21.77	105.57	0.49
3000.00	4.78	63.83	2999.14	-2.74	28.07	-2.74	28.21	95.58	0.78
3100.00	4.55	57.95	3098.81	1.20	35.17	1.20	35.19	88.05	0.53
3200.00	4.54	62.84	3198.50	5.11	42.05	5.11	42.35	83.07	0.39
3300.00	4.74	66.11	3298.17	8.59	49.34	8.59	50.08	80.13	0.33
3400.00	4.19	73.71	3397.87	11.28	56.63	11.28	57.74	78.73	0.81

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
3500.00	3.56	70.85	3497.64	13.33	63.06	13.33	64.46	78.07	0.66
3600.00	3.29	72.45	3597.46	15.21	68.73	15.21	70.40	77.52	0.28
3700.00	2.86	73.28	3697.32	16.79	73.86	16.79	75.74	77.19	0.44
3800.00	2.37	81.66	3797.21	17.81	78.29	17.81	80.29	77.18	0.61
3900.00	2.11	90.86	3897.14	18.08	82.18	18.08	84.14	77.59	0.45
4000.00	1.96	104.43	3997.07	17.63	85.67	17.63	87.47	78.37	0.50
4100.00	1.81	119.59	4097.02	16.42	88.70	16.42	90.21	79.51	0.52
4200.00	1.50	122.75	4196.98	14.94	91.17	14.94	92.39	80.70	0.33
4300.00	0.71	142.44	4296.96	13.74	92.65	13.74	93.66	81.57	0.86
4400.00	0.85	149.64	4396.95	12.61	93.40	12.61	94.25	82.31	0.17
4500.00	0.76	92.75	4496.94	11.94	94.44	11.94	95.19	82.80	0.77
4600.00	1.07	63.03	4596.93	12.33	95.93	12.33	96.72	82.67	0.56
4700.00	0.49	69.05	4696.92	12.91	97.17	12.91	98.02	82.43	0.59
4800.00	1.20	75.99	4796.91	13.32	98.59	13.32	99.48	82.31	0.71
4900.00	1.00	88.84	4896.89	13.59	100.48	13.59	101.39	82.30	0.31
5000.00	1.01	92.25	4996.88	13.57	102.23	13.57	103.13	82.44	0.06
5100.00	0.82	46.00	5096.86	14.04	103.63	14.04	104.58	82.29	0.74
5200.00	0.43	59.86	5196.86	14.73	104.48	14.73	105.51	81.98	0.42
5300.00	0.63	54.95	5296.85	15.23	105.25	15.23	106.35	81.76	0.20
5400.00	0.90	64.48	5396.84	15.89	106.41	15.89	107.59	81.51	0.30
5500.00	0.38	83.72	5496.84	16.26	107.45	16.26	108.67	81.39	0.56
5600.00	0.69	129.80	5596.83	15.91	108.24	15.91	109.40	81.64	0.50
5700.00	0.50	87.50	5696.83	15.55	109.14	15.55	110.24	81.89	0.46
5800.00	0.19	113.75	5796.83	15.50	109.73	15.50	110.82	81.96	0.34
5900.00	0.65	123.59	5896.82	15.12	110.35	15.12	111.38	82.20	0.46
6000.00	0.51	88.46	5996.82	14.82	111.27	14.82	112.25	82.41	0.37
6100.00	0.55	74.94	6096.82	14.96	112.18	14.96	113.17	82.41	0.13
6200.00	0.50	71.74	6196.81	15.22	113.05	15.22	114.07	82.33	0.06
6300.00	0.43	122.54	6296.81	15.15	113.78	15.15	114.79	82.42	0.40
6400.00	0.66	116.01	6396.80	14.70	114.62	14.70	115.56	82.69	0.24
6500.00	0.46	151.37	6496.80	14.09	115.33	14.09	116.19	83.03	0.39
6600.00	0.42	83.90	6596.80	13.78	115.88	13.78	116.70	83.22	0.49
6700.00	0.62	168.55	6696.79	13.29	116.35	13.29	117.11	83.49	0.71
6800.00	0.69	211.62	6796.79	12.24	116.14	12.24	116.79	83.98	0.49
6900.00	0.47	233.94	6896.78	11.48	115.49	11.48	116.06	84.32	0.31
7000.00	0.64	219.41	6996.78	10.81	114.81	10.81	115.31	84.62	0.22
7100.00	1.00	239.49	7096.77	9.93	113.70	9.93	114.13	85.01	0.45
7200.00	0.46	256.04	7196.76	9.39	112.55	9.39	112.94	85.23	0.57
7300.00	0.67	241.32	7296.75	9.01	111.65	9.01	112.01	85.39	0.25
7400.00	0.72	201.76	7396.75	8.15	110.91	8.15	111.21	85.80	0.47
7500.00	0.31	150.25	7496.74	7.34	110.81	7.34	111.05	86.21	0.58
7600.00	0.91	184.83	7596.74	6.31	110.88	6.31	111.06	86.74	0.68
7700.00	0.29	179.54	7696.73	5.27	110.81	5.27	110.94	87.28	0.63
7800.00	0.53	206.17	7796.73	4.60	110.61	4.60	110.71	87.62	0.30
7900.00	1.16	187.00	7896.72	3.18	110.28	3.18	110.33	88.35	0.69
8000.00	0.73	169.91	7996.70	1.54	110.27	1.54	110.28	89.20	0.51
8100.00	0.90	191.85	8096.69	0.14	110.22	0.14	110.22	89.92	0.35
8200.00	1.00	167.97	8196.68	-1.47	110.24	-1.47	110.25	90.77	0.40
8300.00	0.64	207.09	8296.67	-2.82	110.17	-2.82	110.20	91.47	0.64
8400.00	0.54	209.71	8396.67	-3.73	109.68	-3.73	109.74	91.95	0.10
8500.00	0.21	42.84	8496.66	-4.01	109.57	-4.01	109.64	92.10	0.74
8600.00	0.54	101.72	8596.66	-3.97	110.16	-3.97	110.23	92.07	0.47
8700.00	0.53	40.23	8696.66	-3.72	110.92	-3.72	110.98	91.92	0.55
8800.00	0.48	44.07	8796.66	-3.07	111.51	-3.07	111.55	91.58	0.06
8900.00	0.73	68.72	8896.65	-2.54	112.39	-2.54	112.42	91.29	0.36

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
9000.00	1.06	71.39	8996.64	-2.01	113.86	-2.01	113.88	91.01	0.33
9100.00	0.62	78.60	9096.63	-1.61	115.27	-1.61	115.29	90.80	0.45
9200.00	0.63	111.07	9196.62	-1.70	116.31	-1.70	116.33	90.84	0.35
9300.00	0.46	190.74	9296.62	-2.29	116.75	-2.29	116.77	91.12	0.71
9400.00	0.96	189.63	9396.61	-3.52	116.53	-3.52	116.59	91.73	0.50
9500.00	1.45	175.44	9496.59	-5.60	116.49	-5.60	116.63	92.75	0.57
9600.00	1.33	148.46	9596.56	-7.85	117.20	-7.85	117.47	93.83	0.66
9700.00	1.13	152.18	9696.54	-9.72	118.27	-9.72	118.67	94.70	0.21
9800.00	1.23	196.55	9796.52	-11.62	118.43	-11.62	119.00	95.60	0.89
9900.00	1.10	221.37	9896.50	-13.36	117.49	-13.36	118.25	96.49	0.51
10000.00	1.77	198.57	9996.47	-15.55	116.36	-15.55	117.40	97.61	0.86
10100.00	2.20	198.47	10096.41	-18.83	115.26	-18.83	116.79	99.28	0.44
10200.00	1.35	211.80	10196.36	-21.66	114.03	-21.66	116.07	100.75	0.94
10300.00	2.03	266.94	10296.32	-22.76	111.64	-22.76	113.93	101.52	1.68
10307.00	2.12	265.49	10303.31	-22.77	111.38	-22.77	113.69	101.55	1.41

HORIZONTAL DISPLACEMENT IS
113.69 FEET AT 101.55 DEGREES