

December 18, 2014

Fasken Oil & Gas
6101 Holiday Hill Road
Midland, TX 79707

Attn: Drilling Department

Re: Paloma 21 Federal Com 003H

Please find enclosed a copy of the survey from 0.00' to 10213.00' ran on the above referenced well.

If I can be of any further service, please do not hesitate to call me at 800-606-4976.

Sincerely,

Keith Havelka
Operations

VES Survey International
P.O. Box 261021 Corpus Christi, TX 78426
T (361) 767-0602 F (361) 767-0612
www.vessurvey.com

APR 27 2015

jm



Company: Fasken Oil and Ranch
 Lease/Well: Paloma 21 Federal Com /3H
 Location: S21 - T20/S - R34/E
 Rig Name: Nomac #54
 State/County: New Mexico/Lea
 Latitude: 32.56, Longitude: -103.55
 GRID North is 0.42 Degrees East of True North
 VS-Azi: 0.00 Degrees



Depth Reference : RKB = 21 FT

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: ves gyro survey.ut
 Minimum Curvature Method
 Report Date/Time: 12/18/2014 / 13:21

VES Survey International
 West Texas
 (432) 563-5444

Surveyor: Cody Johnson
 Paloma 21 Federal Com 3H / API 30-025-41995

HOBBSOCD

APR 20 2015

RECEIVED

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	0.27	258.63	100.00	-0.05	-0.23	-0.05	0.24	258.63	0.27
200.00	0.01	207.26	200.00	-0.10	-0.47	-0.10	0.48	257.95	0.27
300.00	0.54	279.18	300.00	-0.03	-0.94	-0.03	0.94	268.09	0.54
400.00	0.44	180.38	400.00	-0.34	-1.41	-0.34	1.45	256.39	0.75
500.00	0.89	234.27	499.99	-1.18	-2.04	-1.18	2.36	239.97	0.73
600.00	1.01	251.61	599.98	-1.91	-3.51	-1.91	4.00	241.41	0.31
700.00	0.68	259.78	699.96	-2.30	-4.94	-2.30	5.45	245.03	0.35
800.00	0.22	220.08	799.96	-2.55	-5.65	-2.55	6.20	245.70	0.53
900.00	0.78	214.79	899.96	-3.26	-6.16	-3.26	6.97	242.13	0.57
1000.00	0.78	222.57	999.95	-4.32	-7.01	-4.32	8.23	238.36	0.11
1100.00	1.13	239.62	1099.93	-5.31	-8.31	-5.31	9.86	237.42	0.45
1200.00	0.77	207.92	1199.92	-6.40	-9.47	-6.40	11.44	235.94	0.62
1300.00	0.23	200.22	1299.92	-7.19	-9.86	-7.19	12.20	233.91	0.55
1400.00	0.93	257.29	1399.91	-7.55	-10.72	-7.55	13.11	234.82	0.82
1500.00	0.35	224.42	1499.91	-7.95	-11.72	-7.95	14.16	235.85	0.66
1600.00	0.85	204.56	1599.90	-8.84	-12.24	-8.84	15.10	234.16	0.54
1700.00	0.72	178.86	1699.89	-10.14	-12.53	-10.14	16.12	231.02	0.37
1800.00	1.25	55.18	1799.88	-10.15	-11.63	-10.15	15.43	228.88	1.76

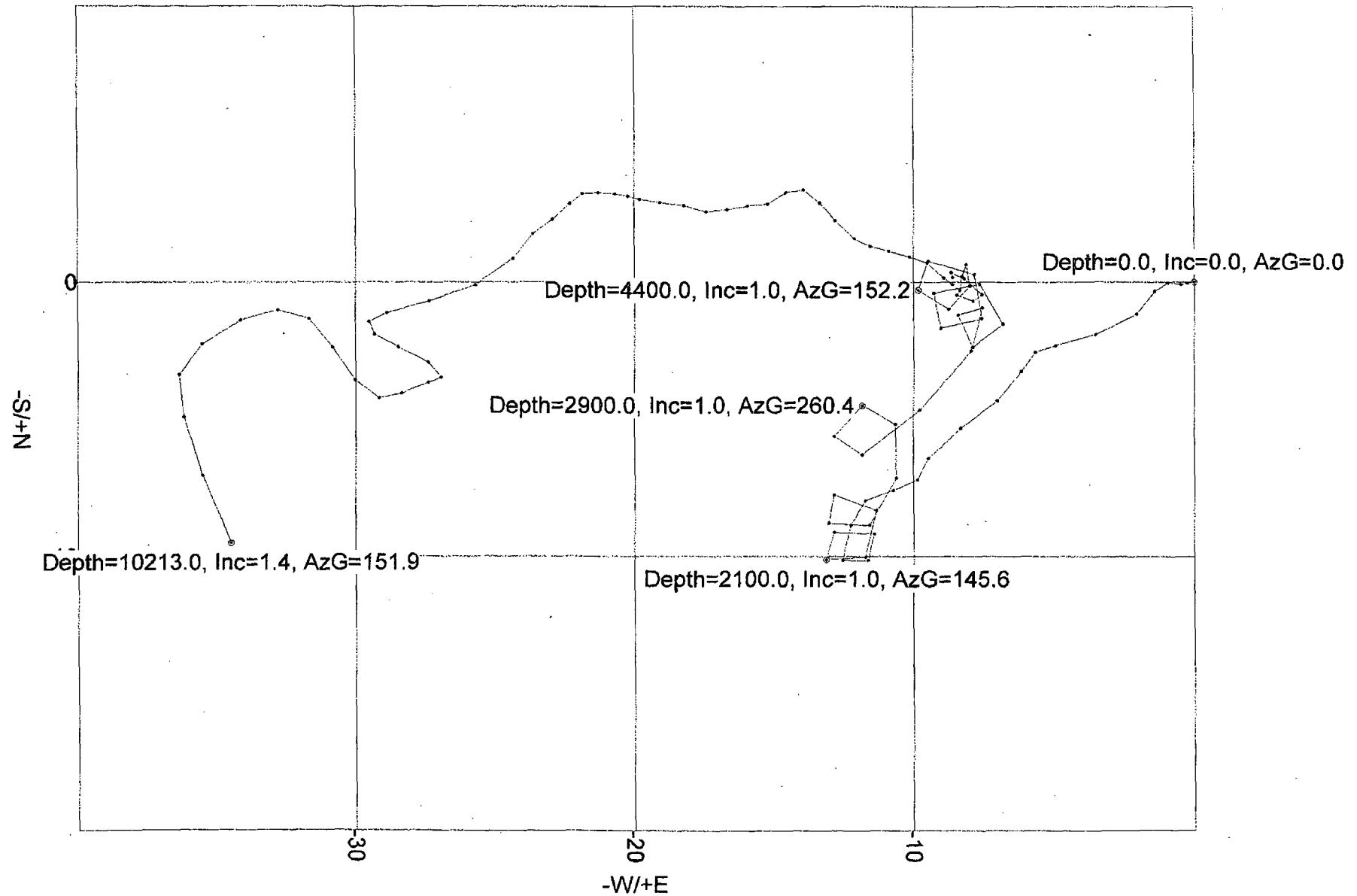
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	0.86	298.18	1899.87	-9.17	-11.39	-9.17	14.63	231.17	1.81
2000.00	0.94	249.02	1999.86	-9.11	-12.83	-9.11	15.73	234.61	0.75
2100.00	0.97	145.57	2099.85	-10.11	-13.11	-10.11	16.56	232.38	1.51
2200.00	1.38	49.36	2199.84	-10.02	-11.72	-10.02	15.42	229.46	1.77
2300.00	1.22	330.77	2299.82	-8.31	-11.32	-8.31	14.04	233.73	1.65
2400.00	1.19	250.16	2399.81	-7.73	-12.82	-7.73	14.97	238.90	1.56
2500.00	1.19	131.95	2499.79	-8.78	-13.03	-8.78	15.71	236.01	2.05
2600.00	1.06	47.64	2599.78	-8.85	-11.57	-8.85	14.57	232.57	1.51
2700.00	1.33	13.92	2699.76	-7.11	-10.61	-7.11	12.77	236.18	0.74
2800.00	1.00	340.04	2799.74	-5.16	-10.63	-5.16	11.81	244.11	0.75
2900.00	1.04	260.39	2899.73	-4.49	-11.83	-4.49	12.65	249.22	1.31
3000.00	1.11	185.04	2999.72	-5.61	-12.81	-5.61	13.98	246.36	1.32
3100.00	1.27	74.05	3099.70	-6.27	-11.83	-6.27	13.38	242.09	1.97
3200.00	1.86	37.15	3199.67	-4.67	-9.78	-4.67	10.83	244.49	1.14
3300.00	1.40	44.92	3299.63	-2.51	-7.93	-2.51	8.32	252.47	0.51
3400.00	0.96	325.82	3399.61	-0.94	-7.54	-0.94	7.60	262.87	1.54
3500.00	1.19	201.75	3499.60	-1.22	-8.40	-1.22	8.49	261.77	1.91
3600.00	1.05	101.96	3599.59	-2.37	-7.89	-2.37	8.24	253.27	1.72
3700.00	1.19	10.81	3699.58	-1.54	-6.80	-1.54	6.98	257.26	1.60
3800.00	1.28	292.99	3799.56	-0.08	-7.64	-0.08	7.64	269.41	1.55
3900.00	1.12	219.03	3899.54	-0.40	-9.28	-0.40	9.29	267.51	1.45
4000.00	1.15	120.93	3999.53	-1.68	-9.03	-1.68	9.19	259.45	1.72
4100.00	1.20	35.70	4099.52	-1.35	-7.55	-1.35	7.67	259.88	1.60
4200.00	1.34	311.23	4199.50	0.28	-7.82	0.28	7.83	272.03	1.71
4300.00	0.94	249.83	4299.48	0.77	-9.47	0.77	9.50	274.63	1.22
4400.00	1.01	152.15	4399.47	-0.29	-9.83	-0.29	9.84	268.29	1.47
4500.00	0.78	82.69	4499.46	-0.99	-8.74	-0.99	8.80	263.56	1.04
4600.00	0.88	6.29	4599.46	-0.14	-7.98	-0.14	7.99	269.02	1.03
4700.00	0.24	274.83	4699.45	0.64	-8.11	0.64	8.13	274.54	0.92
4800.00	0.54	173.04	4799.45	0.19	-8.26	0.19	8.26	271.35	0.63
4900.00	0.17	256.73	4899.45	-0.31	-8.35	-0.31	8.36	267.90	0.55
5000.00	0.17	161.24	4999.45	-0.48	-8.45	-0.48	8.46	266.72	0.26
5100.00	0.62	97.37	5099.45	-0.69	-7.87	-0.69	7.90	264.96	0.56
5200.00	0.42	324.93	5199.45	-0.46	-7.55	-0.46	7.56	266.50	0.95
5300.00	0.58	303.62	5299.44	0.12	-8.18	0.12	8.18	270.85	0.24
5400.00	0.09	215.88	5399.44	0.34	-8.65	0.34	8.66	272.25	0.58
5500.00	0.17	139.01	5499.44	0.17	-8.60	0.17	8.60	271.13	0.17
5600.00	0.22	216.93	5599.44	-0.09	-8.62	-0.09	8.62	269.39	0.24
5700.00	0.49	334.93	5699.44	0.15	-8.92	0.15	8.92	270.93	0.63

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
5800.00	0.51	291.27	5799.43	0.70	-9.52	0.70	9.54	274.19	0.37
5900.00	0.25	282.49	5899.43	0.91	-10.15	0.91	10.19	275.11	0.27
6000.00	0.62	289.80	5999.43	1.14	-10.87	1.14	10.93	275.97	0.37
6100.00	0.19	264.84	6099.43	1.30	-11.55	1.30	11.62	276.45	0.46
6200.00	0.55	308.28	6199.42	1.59	-12.09	1.59	12.19	277.48	0.43
6300.00	0.55	317.38	6299.42	2.24	-12.79	2.24	12.99	279.93	0.09
6400.00	0.42	325.15	6399.42	2.90	-13.33	2.90	13.64	282.25	0.14
6500.00	0.47	292.95	6499.41	3.36	-13.91	3.36	14.31	283.56	0.25
6600.00	0.43	225.03	6599.41	3.25	-14.55	3.25	14.91	282.60	0.50
6700.00	0.46	248.14	6699.41	2.84	-15.19	2.84	15.46	280.58	0.18
6800.00	0.43	281.97	6799.40	2.77	-15.93	2.77	16.17	279.85	0.26
6900.00	0.49	241.39	6899.40	2.64	-16.68	2.64	16.88	278.98	0.33
7000.00	0.46	288.92	6999.40	2.56	-17.44	2.56	17.62	278.35	0.39
7100.00	0.46	282.79	7099.40	2.78	-18.21	2.78	18.42	278.68	0.05
7200.00	0.54	272.67	7199.39	2.89	-19.07	2.89	19.29	278.62	0.12
7300.00	0.31	289.14	7299.39	3.00	-19.80	3.00	20.03	278.62	0.25
7400.00	0.19	282.76	7399.39	3.13	-20.22	3.13	20.46	278.80	0.13
7500.00	0.36	278.44	7499.39	3.21	-20.69	3.21	20.94	278.82	0.17
7600.00	0.32	269.10	7599.38	3.25	-21.28	3.25	21.53	278.69	0.06
7700.00	0.34	261.50	7699.38	3.20	-21.85	3.20	22.09	278.34	0.05
7800.00	0.40	204.19	7799.38	2.84	-22.29	2.84	22.47	277.27	0.36
7900.00	0.64	241.92	7899.38	2.27	-22.92	2.27	23.03	275.65	0.41
8000.00	0.36	217.46	7999.37	1.75	-23.60	1.75	23.67	274.25	0.35
8100.00	0.97	219.76	8099.37	0.86	-24.33	0.86	24.35	272.02	0.61
8200.00	0.98	248.48	8199.35	-0.11	-25.67	-0.11	25.67	269.76	0.48
8300.00	1.05	252.41	8299.34	-0.70	-27.35	-0.70	27.36	268.54	0.10
8400.00	0.77	257.11	8399.32	-1.13	-28.88	-1.13	28.90	267.77	0.29
8500.00	0.21	175.80	8499.32	-1.46	-29.52	-1.46	29.56	267.17	0.77
8600.00	0.36	147.07	8599.32	-1.91	-29.33	-1.91	29.40	266.28	0.21
8700.00	0.83	105.42	8699.31	-2.36	-28.47	-2.36	28.57	265.25	0.60
8800.00	0.60	134.40	8799.31	-2.92	-27.40	-2.92	27.55	263.91	0.42
8900.00	0.23	148.42	8899.30	-3.46	-26.92	-3.46	27.14	262.68	0.38
9000.00	0.66	266.70	8999.30	-3.66	-27.39	-3.66	27.63	262.38	0.79
9100.00	0.60	228.25	9099.30	-4.04	-28.35	-4.04	28.64	261.88	0.42
9200.00	0.52	292.47	9199.29	-4.22	-29.16	-4.22	29.46	261.76	0.60
9300.00	0.76	318.39	9299.29	-3.55	-30.02	-3.55	30.23	263.25	0.37
9400.00	0.89	330.70	9399.28	-2.38	-30.84	-2.38	30.93	265.58	0.22
9500.00	0.69	308.06	9499.27	-1.34	-31.69	-1.34	31.72	267.59	0.37
9600.00	0.75	265.33	9599.26	-1.02	-32.81	-1.02	32.83	268.22	0.53

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
9700.00	0.88	245.04	9699.25	-1.39	-34.15	-1.39	34.18	267.66	0.31
9800.00	1.01	232.51	9799.24	-2.25	-35.55	-2.25	35.62	266.37	0.25
9900.00	0.68	193.39	9899.23	-3.37	-36.39	-3.37	36.54	264.70	0.65
10000.00	1.15	161.09	9999.21	-4.90	-36.20	-4.90	36.53	262.29	0.68
10100.00	1.37	163.38	10099.19	-7.00	-35.53	-7.00	36.22	258.86	0.23
10213.00	1.37	151.93	10212.16	-9.48	-34.51	-9.48	35.79	254.64	0.24



VES Survey International
West Texas
(432) 563-5444
Surveyor: Cody Johnson
Paloma 21 Federal Com 3H / API 30-025-41995



VES Survey Date: 11/29/2014



Fasken Oil & Ranch

Location: Lea County, NM
Field: (Paloma) Sec 21, T20S, R34E
Facility: Paloma 21 Federal No.3H

Slot: No. 3H
Well: No. 3H
Wellbore: No. 3H PWB

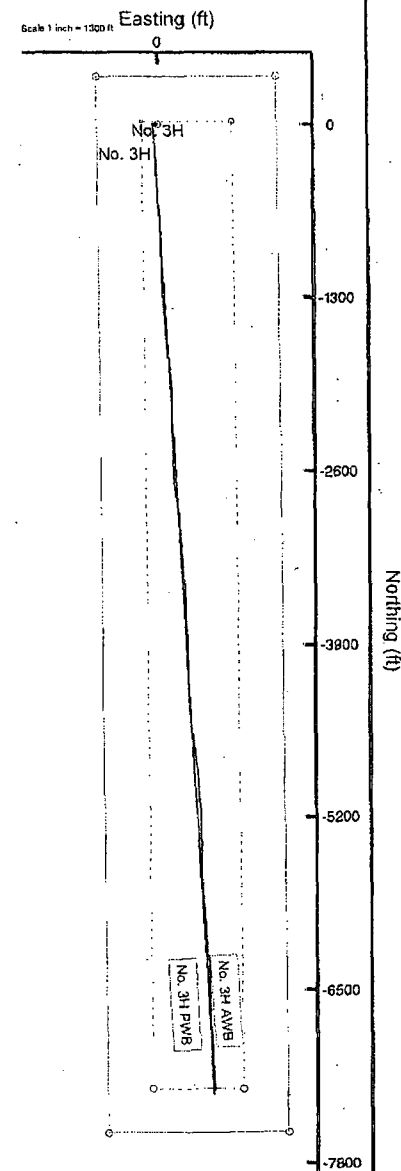
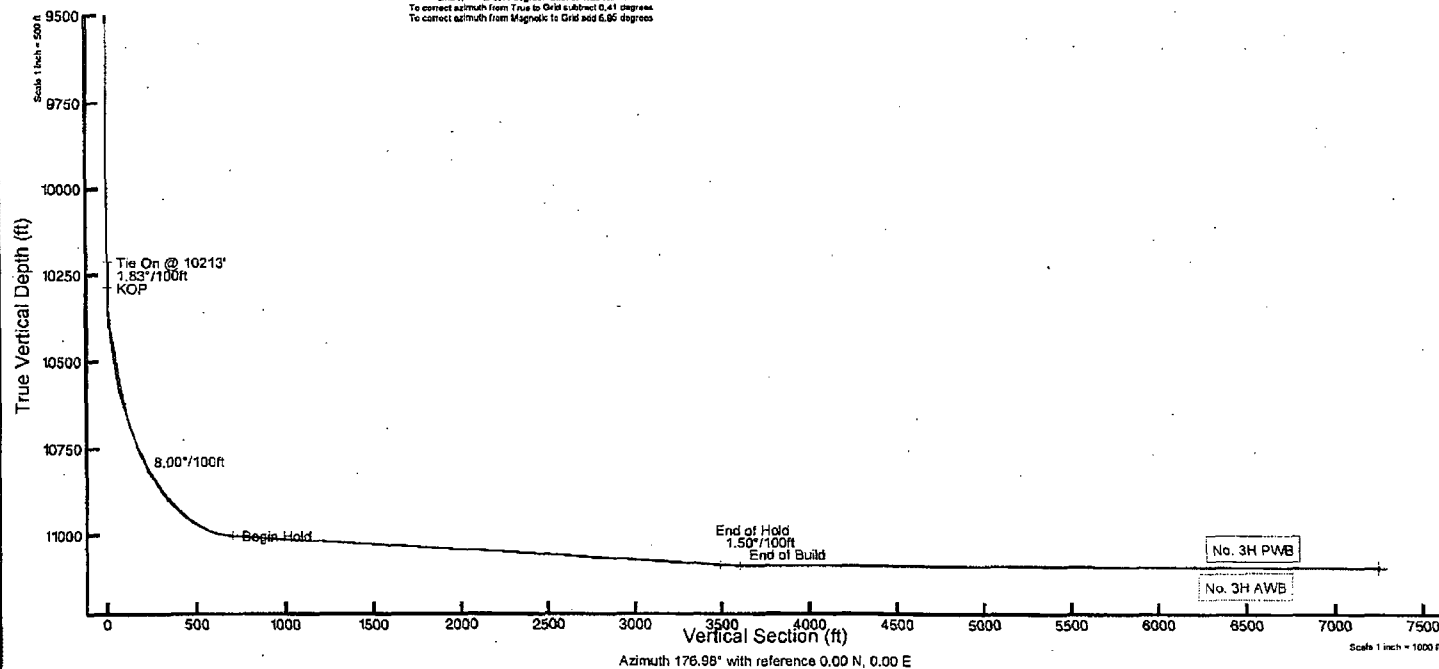


The reference wellbore is R34E 20S	
The vertical depths are referenced to Slot	Grid System: NAD83 / TM New Mexico SP, Eastern Zone (100 ft), US feet
Measured depths are referenced to Slot	North Reference: Grid north
Slot to Mean Sea Level: 3683 feet	Scale: True distance
Mean Sea Level to Mud Line (All Slot No. 3H): 3644.5 feet	Depth in feet
Coordinates are in feet referenced to Facility Center	Copyright: 2014 by 12/11/2014

Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Paloma 21 Federal No. 3H	727230.900	970042.400	32°32'53.262"N	103°33'47.922"W	
Slot	Local M (ft)	Local E (ft)	Grid East (US ft)	Latitude	
No. 3H	0.00	0.00	727230.900	32°32'53.262"N	
Slot to Mud Line (At Slot No. 3H)				21.5 ft	
Mean Sea Level to Mud Line (At Slot No. 3H)				-3644.5 ft	
Slot to Mean Sea Level				3683.0	



BGGM (1945.0 to 2016.0) Dip: 60.41° Field: 48437.9 nT
Magnetic North is 7.30 degrees East of True North (at 10/1/2014)
Grid North is 0.41 degrees East of True North
To correct azimuth from True to Grid subtract 0.41 degrees
To correct azimuth from Magnetic to Grid add 6.06 degrees





Actual Wellpath Report

No. 3H AWB

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REFERENCE WELLPATH IDENTIFICATION

Operator	Fasken Oil & Ranch	Slot	No. 3H
Area	Lea County, NM	Well	No. 3H
Field	(Paloma) Sec 21, T20S, R34E	Wellbore	No. 3H AWB
Facility	Paloma 21 Federal No.3H		

REPORT SETUP INFORMATION

Projection System	NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 4.0.0
North Reference	Grid	User	Abraall
Scale	0.999974	Report Generated	12/11/2014 at 8:59:47 AM
Convergence at slot	0.41° East	Database/Source file	WA_Midland/No. 3H 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	737230.90	570042.40	32°33'53.262"N	103°33'47.922"W
Facility Reference Pt			737230.90	570042.40	32°33'53.262"N	103°33'47.922"W
Field Reference Pt			152400.30	0.00	30°59'42.846"N	105°26'33.659"W

WELLPATH DATUM

Calculation method	Minimum curvature	Slot to Facility Vertical Datum	21.50ft
Horizontal Reference Pt	Facility Center	Slot to Mean Sea Level	3663.00ft
Vertical Reference Pt	Slot	Slot to Mud Line at Slot (No. 3H)	21.50ft
MD Reference Pt	Slot	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	176.98°



Actual Wellpath Report

No. 3H AWB
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REFERENCE WELLPATH IDENTIFICATION

Operator	Fasken Oil & Ranch	Slot	No. 3H
Area	Lea County, NM	Well	No. 3H
Field	(Paloma) Sec 21, T20S, R34E	Wellbore	No. 3H AWB
Facility	Paloma 21 Federal No.3H		

WELLPATH DATA (210 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	258.630	0.00	0.00	0.00	0.00	737230.90	570042.40	32°33'53.262"N	103°33'47.922"W	0.00	
100.00	0.270	258.630	100.00	0.03	-0.05	-0.23	737230.67	570042.35	32°33'53.261"N	103°33'47.925"W	0.27	
200.00	0.010	207.260	200.00	0.08	-0.10	-0.47	737230.43	570042.30	32°33'53.261"N	103°33'47.928"W	0.26	
300.00	0.540	279.180	300.00	-0.02	-0.03	-0.94	737229.96	570042.37	32°33'53.261"N	103°33'47.933"W	0.54	
400.00	0.440	180.380	400.00	-0.27	-0.34	-1.40	737229.50	570042.06	32°33'53.258"N	103°33'47.938"W	0.75	
500.00	0.890	234.270	499.99	1.07	-1.18	-2.04	737228.86	570041.22	32°33'53.250"N	103°33'47.946"W	0.72	
600.00	1.010	251.610	599.98	1.72	-1.91	-3.50	737227.40	570040.49	32°33'53.243"N	103°33'47.963"W	0.31	
700.00	0.680	259.780	699.96	2.03	-2.29	-4.92	737225.98	570040.11	32°33'53.239"N	103°33'47.980"W	0.35	
800.00	0.220	220.080	799.96	2.25	-2.55	-5.63	737225.27	570039.85	32°33'53.237"N	103°33'47.988"W	0.53	
900.00	0.780	224.700	899.96	3.92	-3.25	-6.14	737224.76	570039.15	32°33'53.230"N	103°33'47.994"W	0.56	
1000.00	0.780	222.570	999.95	3.94	-4.31	-6.99	737223.91	570038.09	32°33'53.220"N	103°33'48.004"W	0.11	
1100.00	1.130	239.620	1099.93	4.87	-5.31	-8.30	737222.60	570037.09	32°33'53.210"N	103°33'48.020"W	0.45	
1200.00	0.770	207.920	1199.92	5.90	-6.41	-9.47	737221.43	570036.00	32°33'53.199"N	103°33'48.033"W	0.62	
1300.00	0.230	200.220	1299.92	6.66	-7.19	-9.85	737221.05	570035.21	32°33'53.191"N	103°33'48.038"W	0.54	
1400.00	0.930	237.290	1399.91	6.98	-7.55	-10.71	737220.19	570034.85	32°33'53.188"N	103°33'48.043"W	0.85	
1500.00	0.350	224.420	1499.91	7.32	-7.95	-11.72	737219.18	570034.45	32°33'53.184"N	103°33'48.060"W	0.66	
1600.00	0.850	204.560	1599.90	8.19	-8.84	-12.24	737218.66	570033.56	32°33'53.175"N	103°33'48.066"W	0.53	
1700.00	0.720	178.860	1699.89	9.47	-10.15	-12.54	737218.36	570032.25	32°33'53.162"N	103°33'48.069"W	0.37	
1800.00	1.250	55.180	1799.88	9.53	-10.15	-11.63	737219.27	570032.25	32°33'53.162"N	103°33'48.059"W	1.75	
1900.00	0.850	298.180	1899.87	8.56	-9.17	-11.59	737219.58	570033.23	32°33'53.172"N	103°33'48.056"W	1.83	
2000.00	0.940	249.020	1999.86	8.43	-9.11	-12.82	737218.08	570033.29	32°33'53.172"N	103°33'48.073"W	0.75	
2100.00	0.970	145.570	2099.85	9.40	-10.11	-13.11	737217.79	570032.29	32°33'53.163"N	103°33'48.076"W	1.50	
2200.00	1.380	49.360	2199.84	9.39	-10.02	-11.72	737219.18	570032.38	32°33'53.163"N	103°33'48.060"W	1.77	
2300.00	1.220	330.770	2299.82	7.70	-8.31	-11.32	737219.58	570034.09	32°33'53.180"N	103°33'48.055"W	1.65	
2400.00	1.100	130.100	2399.81	7.02	-7.73	-12.82	737218.08	570034.67	32°33'53.180"N	103°33'48.072"W	1.56	
2500.00	1.190	131.950	2499.79	8.08	-8.78	-13.02	737217.88	570033.62	32°33'53.176"N	103°33'48.075"W	2.04	
2600.00	1.060	47.640	2599.78	8.23	-8.85	-11.57	737219.33	570033.55	32°33'53.175"N	103°33'48.058"W	1.51	
2700.00	1.330	13.920	2699.76	6.53	-7.10	-10.61	737220.29	570035.30	32°33'53.192"N	103°33'48.047"W	0.74	
2800.00	1.000	340.040	2799.74	4.58	-5.15	-10.62	737220.28	570037.25	32°33'53.211"N	103°33'48.047"W	0.75	
2900.00	1.000	240.000	2899.73	3.85	-4.48	-11.82	737219.08	570037.97	32°33'53.213"N	103°33'48.060"W	1.71	
3000.00	1.110	185.040	2999.72	4.92	-5.60	-12.80	737218.10	570036.80	32°33'53.207"N	103°33'48.072"W	1.32	
3100.00	1.270	74.050	3099.70	5.63	-6.26	-11.82	737219.08	570036.14	32°33'53.201"N	103°33'48.061"W	1.96	
3200.00	1.860	37.150	3199.67	4.14	-4.66	-9.77	737221.13	570037.74	32°33'53.216"N	103°33'48.037"W	1.14	
3300.00	1.400	44.920	3299.63	2.08	-2.50	-7.93	737222.97	570039.90	32°33'53.237"N	103°33'48.015"W	0.51	
3400.00	0.960	125.820	3399.61	0.55	-0.94	-7.54	737223.56	570041.46	32°33'53.259"N	103°33'48.010"W	1.54	
3500.00	1.190	201.750	3499.60	0.77	-1.22	-8.39	737222.51	570041.18	32°33'53.250"N	103°33'48.020"W	1.90	
3600.00	1.050	101.960	3599.59	1.95	-2.37	-7.88	737223.02	570040.03	32°33'53.239"N	103°33'48.014"W	1.72	
3700.00	1.190	10.810	3699.58	1.18	-1.54	-6.79	737224.11	570040.86	32°33'53.247"N	103°33'48.002"W	1.60	
3800.00	1.280	292.990	3799.56	-0.32	-0.08	-7.62	737223.28	570042.32	32°33'53.261"N	103°33'48.011"W	1.55	
3900.00	1.120	210.000	3899.53	0.08	-0.41	-9.27	737221.62	570043.99	32°33'53.258"N	103°33'48.014"W	1.75	
4000.00	1.150	120.930	3999.53	1.20	-1.68	-9.02	737221.88	570040.72	32°33'53.246"N	103°33'48.028"W	1.71	
4100.00	1.200	35.700	4099.52	0.95	-1.35	-7.55	737223.35	570041.05	32°33'53.249"N	103°33'48.010"W	1.59	
4200.00	1.340	311.230	4199.50	-0.69	0.27	-7.82	737223.08	570042.67	32°33'53.265"N	103°33'48.013"W	1.71	
4300.00	0.940	249.830	4299.48	-1.26	0.76	-9.47	737221.43	570043.16	32°33'53.270"N	103°33'48.033"W	1.21	
4400.00	1.010	152.150	4399.48	-0.72	-0.20	-9.32	737221.08	570042.10	32°33'53.259"N	103°33'48.032"W	1.74	



Actual Wellpath Report

No. 3H AWB
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REFERENCE WELLPATH IDENTIFICATION

Operator	Fasken Oil & Ranch	Slot	No. 3H
Area	Lea County, NM	Well	No. 3H
Field	(Paloma) Sec 21, T20S, R34E	Wellbore	No. 3H AWB
Facility	Paloma 21 Federal No.3H		

WELLPATH DATA (210 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	0.780	82.690	4499.47	0.53	-0.99	-8.74	737222.16	570041.41	32°33'53.252"N	103°33'48.024"W	1.04	
4600.00	0.880	6.290	4599.46	-0.28	-0.14	-7.98	737222.92	570042.26	32°33'53.261"N	103°33'48.015"W	1.03	
4700.00	0.240	274.830	4699.45	-1.06	0.64	-8.10	737222.80	570043.04	32°33'53.269"N	103°33'48.017"W	0.92	
4800.00	0.540	173.040	4799.45	-0.62	0.19	-8.25	737222.65	570042.59	32°33'53.264"N	103°33'48.018"W	0.63	
4900.00	0.170	256.730	4899.45	0.13	-0.51	-8.31	737222.56	570042.09	32°33'53.249"N	103°33'48.020"W	0.55	
5000.00	0.170	161.240	4999.45	0.04	-0.49	-8.44	737222.46	570041.91	32°33'53.257"N	103°33'48.021"W	0.25	
5100.00	0.620	97.370	5099.45	0.28	-0.70	-7.85	737223.05	570041.70	32°33'53.255"N	103°33'48.014"W	0.57	
5200.00	0.420	324.930	5199.45	0.07	-0.47	-7.53	737223.37	570041.93	32°33'53.258"N	103°33'48.010"W	0.96	
5300.00	0.580	303.620	5299.44	-0.54	0.11	-8.16	737222.74	570042.51	32°33'53.263"N	103°33'48.017"W	0.24	
5400.00	0.090	215.880	5399.44	0.78	0.53	-8.63	737222.23	570042.73	32°33'53.266"N	103°33'48.021"W	0.58	
5500.00	0.170	139.010	5499.44	-0.60	0.15	-8.58	737222.32	570042.55	32°33'53.264"N	103°33'48.022"W	0.17	
5600.00	0.220	216.930	5599.44	-0.34	-0.11	-8.59	737222.31	570042.29	32°33'53.261"N	103°33'48.022"W	0.25	
5700.00	0.490	334.930	5699.44	-0.59	0.12	-8.89	737222.01	570042.52	32°33'53.264"N	103°33'48.026"W	0.62	
5800.00	0.510	291.270	5799.44	-1.17	0.67	-9.49	737221.41	570043.07	32°33'53.269"N	103°33'48.033"W	0.37	
5900.00	0.250	282.190	5899.44	-1.11	0.83	-10.11	737220.79	570043.28	32°33'53.271"N	103°33'48.040"W	0.27	
6000.00	0.620	289.800	5999.43	-1.68	1.11	-10.84	737220.06	570043.51	32°33'53.273"N	103°33'48.049"W	0.37	
6100.00	0.190	264.840	6099.43	-1.88	1.28	-11.51	737219.39	570043.68	32°33'53.275"N	103°33'48.056"W	0.45	
6200.00	0.550	308.280	6199.43	-2.19	1.56	-12.05	737218.85	570043.96	32°33'53.278"N	103°33'48.063"W	0.43	
6300.00	0.550	317.380	6299.42	-2.88	2.21	-12.75	737218.15	570044.61	32°33'53.284"N	103°33'48.071"W	0.09	
6400.00	0.420	233.130	6399.42	-2.56	2.86	-13.39	737217.61	570045.20	32°33'53.291"N	103°33'48.077"W	0.15	
6500.00	0.470	292.950	6499.41	-4.05	3.33	-13.88	737217.02	570045.73	32°33'53.296"N	103°33'48.084"W	0.25	
6600.00	0.430	225.030	6599.41	-3.98	3.22	-14.52	737216.38	570045.62	32°33'53.295"N	103°33'48.091"W	0.50	
6700.00	0.460	248.140	6699.41	-3.60	2.81	-15.16	737215.74	570045.21	32°33'53.291"N	103°33'48.099"W	0.18	
6800.00	0.430	281.970	6799.41	-3.57	2.73	-15.90	737215.00	570045.13	32°33'53.290"N	103°33'48.108"W	0.26	
6900.00	0.490	241.390	6899.40	-3.43	2.61	-16.44	737214.32	570045.01	32°33'53.289"N	103°33'48.116"W	0.52	
7000.00	0.460	288.920	6999.40	-3.45	2.53	-17.39	737213.51	570044.93	32°33'53.288"N	103°33'48.125"W	0.38	
7100.00	0.460	282.790	7099.40	-3.70	2.75	-18.17	737212.73	570045.15	32°33'53.290"N	103°33'48.134"W	0.05	
7200.00	0.540	272.670	7199.39	-3.86	2.86	-19.03	737211.87	570045.26	32°33'53.291"N	103°33'48.144"W	0.12	
7300.00	0.310	289.140	7299.39	-4.01	2.97	-19.75	737211.15	570045.37	32°33'53.293"N	103°33'48.153"W	0.26	
7400.00	0.190	282.780	7399.39	-4.16	3.10	-20.47	737210.74	570045.50	32°33'53.294"N	103°33'48.161"W	0.12	
7500.00	0.360	278.440	7499.39	-4.26	3.18	-20.64	737210.26	570045.58	32°33'53.295"N	103°33'48.163"W	0.17	
7600.00	0.320	269.100	7599.39	-4.34	3.22	-21.23	737209.67	570045.62	32°33'53.295"N	103°33'48.170"W	0.07	
7700.00	0.340	261.500	7699.38	-4.32	3.17	-21.81	737209.09	570045.57	32°33'53.295"N	103°33'48.177"W	0.05	
7800.00	0.400	204.190	7799.38	-3.98	2.81	-22.24	737208.66	570045.21	32°33'53.291"N	103°33'48.182"W	0.36	
7900.00	0.640	241.920	7899.38	-3.43	2.32	-22.58	737208.02	570044.69	32°33'53.285"N	103°33'48.189"W	0.41	
8000.00	0.360	217.460	7999.37	-2.96	1.72	-23.56	737207.34	570044.12	32°33'53.280"N	103°33'48.197"W	0.35	
8100.00	0.970	219.760	8099.37	-2.10	0.82	-24.30	737206.61	570043.22	32°33'53.272"N	103°33'48.206"W	0.61	
8200.00	0.980	248.480	8199.35	-1.20	-0.15	-25.63	737205.27	570042.25	32°33'53.262"N	103°33'48.222"W	0.48	
8300.00	1.050	252.410	8299.34	-0.70	-0.74	-27.30	737203.60	570041.66	32°33'53.256"N	103°33'48.241"W	0.10	
8400.00	0.170	257.110	8399.33	-0.36	-1.10	-28.83	737202.92	570041.34	32°33'53.252"N	103°33'48.259"W	0.20	
8500.00	0.210	175.800	8499.32	-0.06	-1.50	-29.47	737201.43	570040.90	32°33'53.249"N	103°33'48.267"W	0.77	
8600.00	0.360	147.070	8599.32	0.40	-1.94	-29.29	737201.61	570040.46	32°33'53.245"N	103°33'48.264"W	0.20	
8700.00	0.830	105.420	8699.32	0.90	-2.40	-28.42	737202.48	570040.00	32°33'53.240"N	103°33'48.254"W	0.61	
8800.00	0.600	134.400	8799.31	1.51	-2.96	-27.35	737203.56	570039.44	32°33'53.234"N	103°33'48.242"W	0.42	
8900.00	0.230	128.220	8899.31	2.08	-3.49	-26.57	737204.93	570038.91	32°33'53.229"N	103°33'48.236"W	0.58	



Actual Wellpath Report

No. 3H AWB

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REFERENCE WELLPATH IDENTIFICATION

Operator	Fasken Oil & Ranch	Slot	No. 3H
Area	Lea County, NM	Well	No. 3H
Field	(Paloma) Sec 21, T20S, R34E	Wellbore	No. 3H AWB
Facility	Paloma 21 Federal No.3H		

WELLPATH DATA (210 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	0.660	266.700	8999.30	2.25	-3.70	-27.34	737203.56	570038.70	32°33'53.227"N	103°33'48.242"W	0.80	
9100.00	0.600	228.250	9099.30	2.58	-4.08	-28.30	737202.60	570038.32	32°33'53.223"N	103°33'48.253"W	0.42	
9200.00	0.520	292.470	9199.29	2.72	-4.26	-29.11	737201.79	570038.14	32°33'53.222"N	103°33'48.263"W	0.60	
9300.00	0.760	318.390	9299.29	2.00	-3.59	-29.97	737200.93	570038.81	32°33'53.228"N	103°33'48.273"W	0.37	
9400.00	0.890	330.760	9399.28	0.79	-2.41	-30.79	737200.11	570039.99	32°33'53.240"N	103°33'48.282"W	0.22	
9500.00	0.690	308.060	9499.27	-0.30	-1.36	-31.65	737199.25	570041.04	32°33'53.250"N	103°33'48.292"W	0.37	
9600.00	0.750	265.330	9599.26	-0.68	-1.05	-32.77	737198.13	570041.35	32°33'53.254"N	103°33'48.305"W	0.53	
9700.00	0.880	245.040	9699.25	-0.37	-1.42	-34.12	737196.78	570040.98	32°33'53.250"N	103°33'48.321"W	0.31	
9800.00	1.010	232.510	9799.24	0.41	-2.28	-35.52	737195.38	570040.12	32°33'53.242"N	103°33'48.337"W	0.24	
9900.00	0.680	193.390	9899.23	1.42	-3.40	-36.35	737194.55	570039.00	32°33'53.231"N	103°33'48.347"W	0.65	
10000.00	1.150	161.090	9999.21	3.01	-4.93	-36.17	737194.74	570037.48	32°33'53.216"N	103°33'48.345"W	0.68	
10100.00	1.370	163.380	10099.19	5.14	-7.02	-35.50	737195.40	570035.38	32°33'53.195"N	103°33'48.337"W	0.23	
10213.00	1.370	151.930	10212.16	7.68	-9.51	-34.48	737196.42	570032.89	32°33'53.170"N	103°33'48.326"W	0.24	
10275.00	1.050	154.870	10274.14	8.88	-10.67	-33.89	737197.01	570031.73	32°33'53.158"N	103°33'48.319"W	0.53	
10322.00	0.530	172.080	10321.10	10.92	-12.50	-33.50	737197.40	570029.90	32°33'53.140"N	103°33'48.315"W	5.42	
10356.00	7.330	176.040	10354.94	13.93	-15.70	-33.21	737197.69	570026.70	32°33'53.109"N	103°33'48.311"W	11.22	
10386.00	10.820	178.940	10384.57	18.66	-20.43	-33.02	737197.88	570021.98	32°33'53.062"N	103°33'48.310"W	11.73	
10418.00	14.420	179.880	10415.79	25.64	-27.42	-32.96	737197.94	570014.99	32°33'52.993"N	103°33'48.309"W	11.27	
10449.00	17.880	179.830	10445.56	34.25	-36.04	-32.94	737197.96	570006.36	32°33'52.907"N	103°33'48.310"W	11.16	
10480.00	19.420	179.780	10474.95	44.16	-45.95	-32.90	737198.00	569996.45	32°33'52.809"N	103°33'48.310"W	5.03	
10512.00	19.620	178.630	10505.09	54.85	-56.65	-32.76	737198.15	569985.75	32°33'52.703"N	103°33'48.310"W	1.33	
10544.00	19.520	176.480	10535.24	65.56	-67.36	-32.30	737198.60	569975.04	32°33'52.598"N	103°33'48.305"W	2.27	
10576.00	20.340	175.360	10565.32	76.47	-78.24	-31.52	737199.38	569964.16	32°33'52.490"N	103°33'48.297"W	2.83	
10608.00	20.910	175.250	10595.27	87.74	-89.47	-30.60	737200.30	569952.93	32°33'52.379"N	103°33'48.287"W	1.79	
10639.00	22.240	177.010	10624.02	99.21	-101.02	-29.83	737201.07	569941.58	32°33'52.264"N	103°33'48.279"W	6.92	
10671.00	25.400	178.860	10653.22	112.41	-114.11	-29.38	737201.52	569928.29	32°33'52.135"N	103°33'48.275"W	8.01	
10702.00	29.120	178.510	10680.77	126.60	-128.30	-29.05	737201.85	569914.10	32°33'51.994"N	103°33'48.272"W	12.01	
10734.00	33.070	177.220	10708.17	143.12	-144.81	-28.43	737202.47	569897.59	32°33'51.831"N	103°33'48.266"W	12.52	
10766.00	36.670	176.430	10734.42	161.41	-163.08	-27.41	737203.49	569879.33	32°33'51.650"N	103°33'48.256"W	11.34	
10797.00	39.050	174.960	10758.89	180.13	-182.06	-26.17	737204.76	569860.34	32°33'51.462"N	103°33'48.249"W	7.74	
10829.00	41.630	175.580	10783.28	201.14	-202.72	-24.61	737206.29	569839.69	32°33'51.258"N	103°33'48.227"W	8.10	
10860.00	44.850	176.080	10805.86	222.37	-223.89	-23.07	737207.83	569818.51	32°33'51.048"N	103°33'48.211"W	10.45	
10891.00	48.080	176.820	10827.21	244.84	-246.32	-21.69	737209.21	569796.09	32°33'50.826"N	103°33'48.196"W	10.56	
10923.00	50.940	176.950	10847.99	269.17	-270.62	-20.36	737210.54	569771.79	32°33'50.585"N	103°33'48.183"W	8.94	
10954.00	53.590	177.000	10866.26	293.69	-295.10	-19.07	737211.83	569747.51	32°33'50.344"N	103°33'48.170"W	8.55	
10986.00	56.390	176.710	10885.32	319.89	-321.27	-17.63	737213.27	569721.14	32°33'50.084"N	103°33'48.155"W	8.78	
11017.00	59.260	176.690	10901.82	346.13	-347.46	-16.12	737214.78	569694.95	32°33'49.825"N	103°33'48.140"W	9.26	
11049.00	62.050	176.410	10917.50	374.02	-375.30	-14.44	737216.46	569667.11	32°33'49.549"N	103°33'48.123"W	8.75	
11081.00	64.600	176.200	10931.87	402.61	-403.83	-12.60	737218.30	569638.58	32°33'49.267"N	103°33'48.103"W	7.99	
11112.00	67.000	175.980	10944.57	430.88	-432.01	-10.69	737220.22	569609.77	32°33'48.988"N	103°33'48.083"W	7.72	
11144.00	69.260	175.740	10956.49	460.57	-461.66	-8.52	737222.38	569580.76	32°33'48.694"N	103°33'48.061"W	7.09	
11176.00	71.580	175.650	10967.22	490.71	-491.72	-6.25	737224.65	569550.69	32°33'48.397"N	103°33'48.037"W	7.25	
11207.00	73.930	175.600	10976.41	520.30	-521.24	-3.99	737226.91	569521.18	32°33'48.104"N	103°33'48.013"W	7.58	
11239.00	76.630	175.620	10984.54	551.24	-552.09	-1.63	737229.27	569490.32	32°33'47.799"N	103°33'47.988"W	8.44	
11270.00	79.410	175.690	10990.27	581.56	-582.35	0.67	737231.59	569460.09	32°33'47.501"N	103°33'47.963"W	8.92	



Actual Wellpath Report

No. 3H AWB

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REFERENCE WELLPATH IDENTIFICATION

Operator	Fasken Oil & Ranch	Slot	No. 3H
Area	Lea County, NM	Well	No. 3H
Field	(Paloma) Sec 21, T20S, R34E	Wellbore	No. 3H AWB
Facility	Paloma 21 Federal No.3H		

WELLPATH DATA (210 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
11302.00	82.120	175.750	10996.11	613.13	-613.82	3.03	737233.93	569428.59	32°33'47.188"N	103°33'47.939"W	8.47	
11334.00	84.600	175.960	10999.81	644.91	-645.52	5.33	737236.23	569396.90	32°33'46.874"N	103°33'47.914"W	7.78	
11365.00	87.260	175.930	11002.01	675.82	-676.36	7.51	737238.41	569366.05	32°33'46.569"N	103°33'47.891"W	8.58	
11397.00	88.270	176.420	11003.25	707.79	-708.27	9.65	737240.54	569334.15	32°33'46.253"N	103°33'47.869"W	3.51	
11460.00	88.120	177.430	11005.24	770.76	-771.13	13.02	737243.92	569271.28	32°33'45.631"N	103°33'47.835"W	1.62	
11555.00	88.150	178.280	11008.33	865.70	-866.03	16.58	737247.48	569176.40	32°33'44.691"N	103°33'47.802"W	0.89	
11650.00	88.120	178.570	11011.42	960.62	-960.94	19.19	737250.09	569081.49	32°33'43.752"N	103°33'47.779"W	0.31	
11745.00	88.270	178.910	11014.41	1055.53	-1055.87	21.27	737252.17	568986.56	32°33'42.813"N	103°33'47.763"W	0.39	
11839.00	88.270	181.500	11017.25	1149.33	-1149.82	20.94	737251.84	568892.61	32°33'41.883"N	103°33'47.775"W	2.75	
11934.00	88.270	176.710	11020.12	1244.19	-1244.74	22.42	737253.32	568797.70	32°33'40.914"N	103°33'47.765"W	5.07	
12029.00	88.210	174.680	11023.04	1339.12	-1339.42	29.55	737260.45	568703.02	32°33'40.006"N	103°33'47.690"W	2.14	
12124.00	88.210	174.850	11026.01	1434.00	-1433.98	38.21	737269.11	568608.46	32°33'39.070"N	103°33'47.597"W	0.18	
12218.00	88.150	175.310	11028.99	1527.90	-1527.58	46.27	737277.17	568514.86	32°33'38.143"N	103°33'47.511"W	0.49	
12312.00	88.180	176.850	11032.00	1621.84	-1621.31	52.69	737283.59	568421.13	32°33'37.216"N	103°33'47.443"W	1.64	
12406.00	88.090	173.860	11035.06	1715.74	-1714.94	60.50	737289.12	568327.51	32°33'36.249"N	103°33'47.362"W	3.13	
12500.00	88.150	172.550	11038.15	1809.48	-1808.23	71.42	737302.31	568234.22	32°33'35.365"N	103°33'47.241"W	1.39	
12595.00	88.120	174.090	11041.24	1904.24	-1902.53	82.46	737313.36	568139.92	32°33'34.431"N	103°33'47.119"W	1.62	
12690.00	88.430	176.480	11044.10	1999.14	-1997.16	90.26	737321.16	568045.30	32°33'33.494"N	103°33'47.036"W	2.54	
12785.00	88.310	182.460	11046.80	2093.97	-2092.08	91.14	737322.04	567950.38	32°33'32.555"N	103°33'47.034"W	6.29	
12879.00	88.310	180.310	11049.54	2187.82	-2185.99	88.46	737319.56	567856.47	32°33'31.626"N	103°33'47.073"W	1.45	
12974.00	88.340	178.160	11052.35	2282.48	-2280.94	89.32	737320.21	567761.52	32°33'30.686"N	103°33'47.071"W	2.79	
13069.00	88.370	176.590	11055.08	2377.43	-2375.80	93.66	737324.56	567666.67	32°33'29.747"N	103°33'47.029"W	1.65	
13164.00	88.370	179.520	11057.78	2472.37	-2470.70	96.89	737327.78	567571.77	32°33'28.808"N	103°33'46.999"W	3.08	
13258.00	88.340	178.580	11060.48	2566.27	-2564.64	98.45	737329.34	567477.83	32°33'27.878"N	103°33'46.989"W	1.00	
13353.00	88.210	176.840	11063.34	2661.21	-2659.54	102.24	737330.13	567382.96	32°33'26.929"N	103°33'46.952"W	1.84	
13448.00	88.210	171.250	11066.31	2756.01	-2753.92	112.09	737342.98	567288.55	32°33'26.004"N	103°33'46.845"W	5.88	
13543.00	88.240	170.670	11069.25	2850.44	-2847.70	127.01	737357.90	567194.78	32°33'25.076"N	103°33'46.679"W	0.61	
13638.00	88.340	175.330	11072.09	2945.14	-2941.92	138.58	737369.47	567100.56	32°33'24.142"N	103°33'46.552"W	4.90	
13733.00	88.370	175.760	11074.82	3040.07	-3036.60	145.95	737376.85	567005.89	32°33'23.205"N	103°33'46.474"W	0.45	
13828.00	88.190	174.990	11077.62	3134.99	-3131.74	153.60	737384.34	566911.25	32°33'22.268"N	103°33'46.391"W	0.92	
13923.00	88.250	175.810	11080.32	3229.91	-3225.89	161.39	737392.28	566816.61	32°33'21.331"N	103°33'46.309"W	0.98	
14018.00	88.340	177.090	11083.15	3324.86	-3320.66	167.27	737398.16	566721.83	32°33'20.393"N	103°33'46.249"W	1.35	
14113.00	88.270	177.350	11085.96	3419.82	-3415.51	171.87	737402.77	566626.99	32°33'19.454"N	103°33'46.203"W	0.28	
14208.00	88.210	176.810	11088.88	3514.77	-3510.34	176.71	737407.61	566532.16	32°33'18.515"N	103°33'46.154"W	0.57	
14303.00	89.720	177.370	11090.69	3609.75	-3605.20	181.59	737412.45	566437.18	32°33'17.576"N	103°33'46.108"W	1.70	
14396.00	89.850	176.800	11090.94	3702.75	-3698.08	186.26	737417.16	566344.43	32°33'16.657"N	103°33'46.059"W	0.63	
14491.00	89.880	176.380	11091.17	3797.75	-3792.91	191.91	737422.81	566249.60	32°33'15.718"N	103°33'46.001"W	0.44	
14585.00	89.850	177.970	11091.39	3891.75	-3886.79	196.55	737427.44	566155.72	32°33'14.789"N	103°33'45.954"W	1.69	
14680.00	89.880	178.890	11091.61	3986.71	-3981.75	199.15	737430.04	566060.76	32°33'13.849"N	103°33'45.932"W	0.97	
14775.00	89.880	178.920	11091.31	4082.66	-4077.72	200.98	737435.18	565965.73	32°33'12.920"N	103°33'45.912"W	0.93	
14871.00	89.780	178.240	11092.09	4177.62	-4172.70	203.34	737434.23	565869.81	32°33'11.960"N	103°33'45.899"W	0.72	
14965.00	89.880	177.190	11092.37	4271.61	-4266.63	207.09	737437.98	565775.89	32°33'11.030"N	103°33'45.863"W	1.12	
15061.00	89.880	175.840	11092.57	4367.61	-4362.45	212.92	737443.81	565680.08	32°33'10.081"N	103°33'45.803"W	1.41	
15155.00	89.850	174.450	11092.80	4461.56	-4456.11	220.88	737451.77	565586.42	32°33'09.154"N	103°33'45.718"W	1.48	
15250.00	89.820	173.420	11093.07	4556.42	-4550.97	230.01	737460.51	565491.55	32°33'08.219"N	103°33'45.609"W	1.08	



Actual Wellpath Report

No. 3H AWB
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Fasken Oil & Ranch	Slot	No. 3H
Area	Lea County, NM	Well	No. 3H
Field	(Paloma) Sec 21, T20S, R34E	Wellbore	No. 3H AWB
Facility	Paloma 21 Federal No.3H		

WELLPATH DATA (210 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
15345.00	89.750	172.900	11093.43	4651.21	-4644.90	242.23	737473.12	565397.63	32°33'07.285"N	103°33'45.485"W	0.55	
15440.00	89.880	173.020	11093.73	4745.97	-4739.18	253.87	737484.76	565303.35	32°33'06.351"N	103°33'45.357"W	0.19	
15535.00	89.970	173.560	11093.86	4840.78	-4833.53	264.97	737495.86	565209.01	32°33'05.417"N	103°33'45.235"W	0.58	
15630.00	89.880	174.830	11093.98	4935.66	-4928.04	274.58	737505.47	565114.50	32°33'04.481"N	103°33'45.131"W	1.34	
15725.00	89.880	177.250	11094.18	5030.64	-5022.81	284.14	737516.03	565019.74	32°33'03.543"N	103°33'45.062"W	2.55	
15820.00	90.000	177.800	11094.28	5125.64	-5117.72	285.24	737516.13	564924.83	32°33'02.603"N	103°33'45.022"W	0.59	
15915.00	89.850	178.380	11094.40	5220.62	-5212.66	288.41	737519.30	564829.88	32°33'01.663"N	103°33'44.993"W	0.63	
16010.00	89.880	179.470	11094.63	5315.56	-5307.65	290.19	737521.08	564734.91	32°33'00.723"N	103°33'44.981"W	1.15	
16105.00	89.940	179.470	11094.78	5410.47	-5402.64	291.07	737521.96	564639.91	32°32'59.783"N	103°33'44.978"W	0.06	
16199.00	89.970	178.700	11094.85	5505.41	-5496.68	292.57	737525.46	564545.95	32°32'58.855"N	103°33'44.969"W	0.82	
16294.00	89.940	177.620	11094.93	5599.39	-5591.58	295.62	737526.51	564450.98	32°32'57.914"N	103°33'44.941"W	1.14	
16389.00	89.970	177.300	11095.00	5694.38	-5686.48	299.83	737530.72	564356.08	32°32'56.974"N	103°33'44.900"W	0.34	
16484.00	89.970	176.430	11095.05	5789.38	-5781.34	305.03	737535.92	564261.22	32°32'56.035"N	103°33'44.847"W	0.92	
16580.00	89.970	176.260	11095.10	5885.38	-5877.15	311.15	737542.04	564165.42	32°32'55.087"N	103°33'44.784"W	0.18	
16674.00	90.000	176.280	11095.05	5979.27	-5970.95	319.26	737548.15	564071.62	32°32'54.158"N	103°33'44.720"W	0.13	
16769.00	89.970	175.410	11095.00	6074.35	-6065.70	324.14	737555.03	563976.88	32°32'53.220"N	103°33'44.648"W	0.92	
16864.00	90.060	174.390	11094.98	6169.29	-6160.32	332.59	737563.48	563882.26	32°32'52.284"N	103°33'44.557"W	1.08	
16959.00	90.120	174.760	11094.83	6264.20	-6254.89	341.57	737572.46	563787.68	32°32'51.347"N	103°33'44.460"W	0.39	
17054.00	89.750	178.430	11094.93	6359.18	-6349.71	347.21	737578.10	563692.87	32°32'50.409"N	103°33'44.403"W	3.88	
17149.00	89.780	178.610	11095.12	6454.15	-6444.68	349.67	737580.56	563597.91	32°32'49.469"N	103°33'44.382"W	0.19	
17244.00	89.690	178.690	11095.76	6549.11	-6539.65	351.90	737582.79	563502.94	32°32'48.529"N	103°33'44.364"W	0.13	
17338.00	89.710	178.830	11096.26	6643.06	-6633.63	353.94	737584.83	563408.96	32°32'47.599"N	103°33'44.348"W	0.15	
17435.00	89.780	179.420	11096.69	6739.99	-6730.61	355.42	737586.31	563311.98	32°32'46.639"N	103°33'44.339"W	0.61	
17527.00	89.850	179.260	11096.98	6831.91	-6822.61	356.48	737587.37	563219.99	32°32'45.729"N	103°33'44.334"W	0.19	
17622.00	89.430	178.910	11097.29	6926.55	-6917.59	357.98	737588.87	563125.00	32°32'44.789"N	103°33'44.325"W	0.16	
17717.00	90.180	178.150	11097.32	7021.81	-7012.56	360.40	737591.29	563030.04	32°32'43.849"N	103°33'44.305"W	0.92	
17812.00	90.150	176.780	11097.05	7116.80	-7107.47	364.60	737595.49	562935.14	32°32'42.909"N	103°33'44.263"W	1.44	
17906.00	90.060	176.200	11096.88	7210.80	-7201.29	370.36	737601.25	562841.32	32°32'41.981"N	103°33'44.204"W	0.62	
17965.00	90.180	176.760	11096.76	7269.80	-7260.18	373.98	737604.87	562782.43	32°32'41.398"N	103°33'44.167"W	0.97	
18060.00	90.140	176.760	11096.68	7324.80	-7315.74	375.30	737606.28	562757.47	32°32'41.311"N	103°33'44.162"W	0.00	Production to BIP



Actual Wellpath Report

No. 3H AWB
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REFERENCE WELLPATH IDENTIFICATION

Operator	Fasken Oil & Ranch	Slot	No. 3H
Area	Lea County, NM	Well	No. 3H
Field	(Paloma) Sec 21, T20S, R34E	Wellbore	No. 3H AWB
Facility	Paloma 21 Federal No.3H		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
No. 3H PBHL Rev-2		11096.00	-7236.71	381.61	737612.50	562805.90	32°32'41.629"N	103°33'44.076"W	point
No. 3H PBHL		11100.45	-7236.71	381.61	737612.50	562805.90	32°32'41.629"N	103°33'44.076"W	point

WELLPATH COMPOSITION - Ref Wellbore: No. 3H AWB Ref Wellpath: No. 3H AWB

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	10213.00	Generic gyro - northseeking (Standard)	VES Gyro Svys <100'-10213'>	No. 3H AWB
10213.00	17965.00	AT Curve (Short Spaced)	BHI Navitrak <10275'-17965'>	No. 3H AWB
17965.00	17990.00	Blind Drilling (std)	Projection to bit	No. 3H AWB