

ADVANTAGE Field Survey Listing

Rec 10/26/15
70-025-41994



INTEQ

Operator Fasken Oil & Ranch Fields (Paloma) Sec 21, T20S, R34E API No
Well Paloma 21 Federal No. 2H Wellbore Paloma 21 Federal No. 2H Orig Hole Rig Nomac 54 Job 6945954

Well Origin

Latitude	32.57 deg	Longitude	-103.57 deg
North Reference	Grid	Drill Depth Zero	Rig Floor
Vertical Datum is	Mean Sea Level	Vertical Datum to DDZ	3660.30 ft
Vertical Section North	0.00 ft	Vertical Section East	0.00 ft
Vertical Section Azimuth	177.86 deg	Vertical Section Depth	0.00 ft
Grid Convergence	-0.41 deg	Magnetic Declination	7.35 deg
Total Correction	6.94 deg	TVD Calculation Method	Minimum Curvature
D-Row Calculation	None	Local Magnetic Field	48428 nT
Local Magnetic Dip Angle	60.41 deg	Local Gravity Field	9.794 m/s^2

Tie In	MD ft	Incl deg	Azim deg	North ft	East ft	TVD ft	VS ft	Temperature degF	CRS LEN ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft
	100.00	0.14	318.50	0.09	-0.08	100.00	-0.09		100.00	0.14	0.14	-41.50
	200.00	0.27	95.34	0.16	-0.07	200.00	-0.16		100.00	0.38	0.13	136.84
	300.00	0.14	173.10	0.02	0.32	300.00	-0.01		100.00	0.28	-0.13	77.76
	400.00	0.44	230.53	-0.35	0.04	400.00	0.35		100.00	0.38	0.30	57.43
	500.00	0.57	252.26	-0.74	-0.73	499.99	0.72		100.00	0.23	0.13	21.73
	600.00	0.22	232.73	-1.01	-1.36	599.99	0.96		100.00	0.37	-0.35	-19.53
	700.00	0.33	184.82	-1.41	-1.53	699.99	1.36		100.00	0.24	0.11	-47.91
	800.00	0.30	268.97	-1.71	-1.82	799.99	1.64		100.00	0.42	-0.03	84.15
	900.00	0.06	105.45	-1.72	-2.03	899.99	1.65		100.00	0.36	-0.24	-163.52
	1000.00	0.42	225.83	-1.99	-2.24	999.99	1.91		100.00	0.45	0.36	120.38
	1100.00	0.01	140.69	-2.26	-2.50	1099.99	2.16		100.00	0.42	-0.41	-85.14
	1200.00	0.47	227.65	-2.54	-2.80	1199.99	2.43		100.00	0.47	0.46	86.96
	1300.00	0.13	162.69	-2.92	-3.07	1299.98	2.81		100.00	0.43	-0.34	-64.96
	1400.00	0.21	231.72	-3.15	-3.18	1399.98	3.02		100.00	0.20	0.08	69.03
	1500.00	0.39	166.18	-3.59	-3.24	1499.98	3.47		100.00	0.36	0.18	-65.54
	1600.00	0.25	184.57	-4.14	-3.18	1599.98	4.02		100.00	0.17	-0.14	18.39
	1700.00	0.51	193.09	-4.79	-3.29	1699.98	4.66		100.00	0.27	0.26	8.52
	1800.00	0.49	163.86	-5.63	-3.28	1799.98	5.51		100.00	0.25	-0.02	-29.23
	1900.00	0.37	222.88	-6.28	-3.38	1899.97	6.15		100.00	0.44	-0.12	59.02
	2000.00	0.51	190.79	-6.95	-3.68	1999.97	6.81		100.00	0.28	0.14	-32.09
	2100.00	0.50	211.40	-7.76	-3.99	2099.97	7.61		100.00	0.18	-0.01	20.61
	2200.00	0.65	181.07	-8.70	-4.23	2199.96	8.54		100.00	0.33	0.15	-30.33
	2300.00	0.34	194.87	-9.56	-4.32	2299.96	9.39		100.00	0.33	-0.31	13.80
	2400.00	0.73	171.57	-10.47	-4.30	2399.95	10.31		100.00	0.44	0.39	-23.30
	2500.00	0.96	191.57	-11.92	-4.37	2499.94	11.75		100.00	0.37	0.23	20.00
	2600.00	0.76	195.79	-13.38	-4.72	2599.93	13.20		100.00	0.21	-0.20	4.22
	2700.00	0.52	162.68	-14.45	-4.77	2699.93	14.27		100.00	0.43	-0.24	-33.11
	2800.00	0.92	127.52	-15.38	-3.99	2799.92	15.22		100.00	0.58	0.40	-35.16
	2900.00	0.92	88.75	-15.85	-2.56	2899.91	15.74		100.00	0.61	0.00	-38.77
	3000.00	1.18	95.31	-15.93	-0.73	2999.89	15.89		100.00	0.29	0.26	6.56
	3100.00	1.72	74.46	-15.62	1.74	3099.86	15.67		100.00	0.75	0.54	-20.85
	3200.00	2.15	81.41	-14.94	5.04	3199.80	15.12		100.00	0.49	0.43	6.95
	3300.00	2.12	71.81	-14.08	8.66	3299.73	14.39		100.00	0.36	-0.03	-9.60
	3400.00	2.31	79.70	-13.14	12.40	3399.66	13.60		100.00	0.36	0.19	7.89
	3500.00	1.85	93.82	-12.89	15.99	3499.59	13.48		100.00	0.69	-0.46	14.12
	3600.00	2.15	84.46	-12.82	19.47	3599.53	13.53		100.00	0.44	0.30	-9.36
	3700.00	2.28	87.41	-12.54	23.32	3699.46	13.41		100.00	0.17	0.13	2.95
	3800.00	1.96	88.40	-12.41	27.02	3799.39	13.41		100.00	0.32	-0.32	0.99
	3900.00	1.66	96.26	-12.52	30.17	3899.34	13.63		100.00	0.39	-0.30	7.86
	4000.00	1.96	103.10	-13.06	33.27	3999.29	14.30		100.00	0.37	0.30	6.84
	4100.00	1.54	102.64	-13.74	36.25	4099.24	15.09		100.00	0.42	-0.42	-0.46
	4200.00	1.45	101.79	-14.30	38.80	4199.21	15.74		100.00	0.09	-0.09	-0.85
	4300.00	1.47	108.93	-14.97	41.25	4299.17	16.50		100.00	0.18	0.02	7.14
	4400.00	1.69	132.39	-16.38	43.55	4399.14	18.00		100.00	0.68	0.22	23.46
	4500.00	1.62	125.84	-18.20	45.79	4499.10	19.90		100.00	0.20	-0.07	-6.55
	4600.00	1.05	133.72	-19.66	47.60	4599.07	21.43		100.00	0.60	-0.57	7.88
	4700.00	1.41	123.75	-20.98	49.28	4699.04	22.81		100.00	0.42	0.36	-9.97
	4800.00	1.08	102.53	-21.87	51.22	4799.02	23.77		100.00	0.56	-0.33	-21.22
	4900.00	0.76	109.83	-22.30	52.77	4899.01	24.25		100.00	0.34	-0.32	7.30
	5000.00	1.06	111.26	-22.86	54.25	4999.00	24.87		100.00	0.30	0.30	1.43

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Operator Fasken Oil & Ranch				Fields (Paloma) Sec 21, T20S, R34E				API No				
Well Paloma 21 Federal No. 2H				Wellbore Paloma 21 Federal No. 2H Orig Hole				Rig Nomac 54		Job 6945954		
Tie In	MD ft	Incl deg	Azim deg	North ft	East ft	TVD ft	VS ft	Temperature degF	CRS LEN ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft
	5100.00	0.96	129.28	-23.72	55.76	5098.98	25.79		100.00	0.33	-0.10	18.02
	5164.00	1.38	126.94	-24.53	56.80	5162.97	26.63		64.00	0.66	0.66	-3.66
	5340.00	1.41	148.65	-27.64	59.61	5338.92	29.85	98.7	176.00	0.30	0.01	12.33
	5435.00	1.55	149.22	-29.74	60.87	5433.88	31.99	104.1	95.00	0.15	0.15	0.60
	5530.00	2.23	101.51	-31.21	63.34	5528.84	33.55	106.8	95.00	1.74	0.72	-50.22
	5624.00	3.16	97.15	-31.90	67.71	5622.73	34.40	109.5	94.00	1.01	0.99	-4.64
	5719.00	2.96	97.11	-32.53	72.74	5717.60	35.22	112.2	95.00	0.21	-0.21	-0.04
	5814.00	2.81	96.68	-33.10	77.49	5812.48	35.97	117.6	95.00	0.16	-0.16	-0.46
	5908.00	2.75	98.51	-33.70	82.01	5906.37	36.74	117.6	94.00	0.12	-0.07	1.94
	6003.00	2.77	99.67	-34.43	86.53	6001.26	37.63	120.3	95.00	0.06	0.03	1.22
	6098.00	2.71	99.70	-35.19	91.01	6096.15	38.56	117.6	95.00	0.06	-0.06	0.03
	6193.00	2.82	98.88	-35.93	95.53	6191.04	39.47	120.3	95.00	0.12	0.11	-0.86
	6288.00	3.12	83.11	-35.98	100.41	6285.91	39.70	120.3	95.00	0.91	0.32	-16.61
	6383.00	2.78	83.90	-35.42	105.27	6380.78	39.33	120.3	95.00	0.36	-0.36	0.83
	6477.00	2.66	84.47	-34.97	109.71	6474.68	39.04	120.3	94.00	0.13	-0.13	0.61
	6573.00	2.87	90.63	-34.78	114.33	6570.57	39.03	123.0	96.00	0.38	0.22	6.42
	6668.00	2.62	69.95	-34.07	118.74	6665.46	38.48	123.0	95.00	1.07	-0.27	-21.77
	6763.00	2.57	77.58	-32.86	122.86	6760.36	37.43	123.0	95.00	0.37	-0.04	8.03
	6858.00	2.42	83.58	-32.18	126.94	6855.27	36.90	123.0	95.00	0.32	-0.17	6.32
	6953.00	2.40	78.39	-31.56	130.87	6950.19	36.42	123.0	95.00	0.23	-0.01	-5.46
	7047.00	2.26	85.85	-31.03	134.66	7044.11	36.03	123.0	94.00	0.35	-0.15	7.93
	7142.00	2.67	72.36	-30.22	138.64	7139.02	35.38	123.0	95.00	0.74	0.43	-14.20
	7237.00	2.35	73.00	-28.98	142.62	7233.93	34.28	123.0	95.00	0.34	-0.33	0.67
	7331.00	2.12	77.33	-28.03	146.16	7327.86	33.47	123.0	94.00	0.31	-0.25	4.61
	7425.00	2.08	82.18	-27.42	149.54	7421.80	32.98	128.4	94.00	0.19	-0.04	5.16
	7520.00	2.64	70.55	-26.46	153.30	7516.72	32.16	128.4	95.00	0.77	0.59	-12.25
	7614.00	2.50	70.81	-25.06	157.28	7610.62	30.92	128.4	94.00	0.15	-0.15	0.28
	7709.00	2.43	72.57	-23.78	161.15	7705.54	29.78	128.4	95.00	0.11	-0.07	1.85
	7804.00	2.38	71.89	-22.57	164.94	7800.45	28.71	128.4	95.00	0.06	-0.06	-0.72
	7899.00	2.33	83.26	-21.73	168.73	7895.37	28.01	128.4	95.00	0.49	-0.04	11.97
	7993.00	2.38	75.69	-21.02	172.53	7989.29	27.45	128.4	94.00	0.33	0.05	-8.05
	8088.00	1.94	75.90	-20.14	176.00	8084.23	26.70	131.1	95.00	0.47	-0.47	0.22
	8182.00	2.45	77.70	-19.33	179.50	8178.16	26.02	131.1	94.00	0.55	0.54	1.91
	8276.00	2.53	73.54	-18.31	183.45	8272.07	25.15	131.1	94.00	0.21	0.08	-4.42
	8371.00	2.12	69.94	-17.11	187.11	8366.99	24.09	131.1	95.00	0.46	-0.43	-3.79
	8465.00	3.06	86.59	-16.37	191.25	8460.89	23.50	131.1	94.00	1.27	1.00	17.71
	8561.00	2.24	99.92	-16.54	195.65	8556.79	23.83	131.1	96.00	1.06	-0.85	13.89
	8651.00	2.07	101.97	-17.18	198.98	8646.73	24.60	117.6	90.00	0.20	-0.18	2.28
	8745.00	2.55	96.58	-17.77	202.72	8740.65	25.33	120.3	94.00	0.56	0.51	-5.74
	8840.00	1.63	81.27	-17.81	206.16	8835.59	25.49	123.0	95.00	1.12	-0.96	-16.12
	8935.00	2.34	71.19	-16.98	209.33	8930.53	24.78	123.0	95.00	0.83	0.75	-10.61
	9030.00	2.23	94.64	-16.50	213.02	9025.46	24.44	128.4	95.00	0.99	-0.12	24.69
	9123.00	3.34	94.89	-16.88	217.52	9118.34	24.99	128.4	93.00	1.19	1.19	0.27
	9218.00	2.66	96.85	-17.38	222.46	9213.21	25.67	128.4	95.00	0.72	-0.71	2.07
	9312.00	4.07	97.72	-18.09	227.94	9307.05	26.58	128.4	94.00	1.50	1.50	0.92
	9405.00	3.47	97.39	-18.89	234.00	9399.85	27.62	128.4	93.00	0.65	-0.65	-0.36
	9492.00	2.86	97.88	-19.53	238.76	9486.71	28.43	123.0	87.00	0.69	-0.69	0.56
	9585.00	3.94	75.54	-19.05	244.16	9579.55	28.15	128.4	93.00	1.82	1.16	-24.02
	9680.00	4.10	77.21	-17.48	250.63	9674.32	26.83	131.1	95.00	0.21	0.17	1.76
	9775.00	4.06	80.17	-16.15	257.26	9769.08	25.75	131.1	95.00	0.23	-0.05	3.12
	9869.00	3.34	74.38	-14.85	263.17	9862.88	24.67	133.8	94.00	0.86	-0.77	-6.16
	9963.00	1.84	42.23	-13.00	266.82	9956.79	22.95	133.8	94.00	2.16	-1.59	-34.20
	10059.00	1.24	29.09	-10.95	268.36	10052.75	20.96	133.8	96.00	0.72	-0.62	-13.69
	10163.00	0.24	265.16	-9.98	268.69	10156.75	20.01	125.7	104.00	1.34	-0.96	-119.17
	10258.00	0.43	70.38	-9.88	268.83	10251.75	19.91	125.7	95.00	0.70	0.20	173.92
	10290.00	0.49	167.39	-9.97	268.97	10283.75	20.01	125.7	32.00	2.17	0.19	303.15
	10321.00	2.78	183.68	-10.85	268.95	10314.73	20.89	125.7	31.00	7.46	7.38	52.55
	10353.00	6.72	182.23	-13.50	268.83	10346.61	23.53	125.7	32.00	12.32	12.31	-4.53
	10384.00	10.61	184.48	-18.16	268.54	10377.25	28.17	125.7	31.00	12.59	12.54	7.28
	10415.00	13.46	184.60	-24.60	268.02	10407.57	34.59	125.7	31.00	9.18	9.18	0.38

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Tie In	MD ft	Incl deg	Azim deg	North ft	East ft	TVD ft	VS ft	Temperature degF	CRS LEN ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft
	10447.00	15.00	183.72	-32.44	267.46	10438.59	42.41	125.7	32.00	4.86	4.82	-2.76
	10479.00	17.01	182.69	-41.25	266.97	10469.35	51.19	128.4	32.00	6.36	6.30	-3.21
	10511.00	18.65	181.88	-51.04	266.58	10499.81	60.96	128.4	32.00	5.20	5.14	-2.53
	10542.00	19.45	179.49	-61.16	266.46	10529.11	71.07	128.4	31.00	3.60	2.58	-7.71
	10573.00	20.99	178.04	-71.87	266.70	10558.20	81.78	128.4	31.00	5.20	4.94	-4.69
	10605.00	22.91	177.81	-83.82	267.13	10587.88	93.74	128.4	32.00	6.02	6.01	-0.71
	10637.00	25.39	178.36	-96.91	267.57	10617.07	106.83	128.4	32.00	7.77	7.74	1.70
	10668.00	28.33	177.77	-110.90	268.04	10644.73	120.83	128.4	31.00	9.52	9.48	-1.89
	10700.00	32.51	177.96	-127.09	268.65	10672.32	137.03	133.8	32.00	13.07	13.07	0.59
	10732.00	34.80	177.63	-144.81	269.33	10698.95	154.77	131.1	32.00	7.17	7.15	-1.02
	10763.00	37.60	177.99	-163.10	270.03	10723.96	173.07	128.4	31.00	9.04	9.02	1.16
	10795.00	41.11	178.70	-183.38	270.61	10748.70	193.36	128.4	32.00	11.08	10.99	2.20
	10827.00	43.68	179.40	-204.95	270.96	10772.34	214.93	128.4	32.00	8.15	8.02	2.19
	10859.00	45.40	180.75	-227.39	270.93	10795.14	237.35	128.4	32.00	6.14	5.38	4.23
	10890.00	47.89	181.01	-249.93	270.58	10816.43	259.86	131.1	31.00	8.06	8.03	0.85
	10922.00	51.49	180.74	-274.32	270.21	10837.12	284.22	131.1	32.00	11.26	11.24	-0.84
	10954.00	54.98	180.52	-299.95	269.93	10856.27	309.82	131.1	32.00	10.94	10.93	-0.71
	10986.00	58.27	180.57	-326.67	269.68	10873.88	336.51	131.1	32.00	10.26	10.26	0.17
	11017.00	61.28	180.17	-353.45	269.51	10889.48	363.27	133.8	31.00	9.78	9.71	-1.30
	11049.00	64.02	179.63	-381.87	269.56	10904.18	391.67	133.8	32.00	8.70	8.57	-1.70
	11081.00	65.90	179.54	-410.86	269.77	10917.73	420.65	133.8	32.00	5.87	5.87	-0.26
	11113.00	65.87	178.79	-440.07	270.19	10930.80	449.85	133.8	32.00	2.14	-0.09	-2.34
	11144.00	66.01	178.70	-468.36	270.81	10943.44	478.15	133.8	31.00	0.54	0.46	-0.30
	11176.00	67.48	178.78	-497.76	271.46	10956.08	507.55	133.8	32.00	4.60	4.59	0.23
	11208.00	69.80	178.93	-527.55	272.05	10967.73	537.34	133.8	32.00	7.25	7.24	0.49
	11239.00	72.79	178.71	-556.90	272.66	10977.67	566.70	133.8	31.00	9.70	9.67	-0.72
	11271.00	75.88	179.52	-587.71	273.13	10986.31	597.50	133.8	32.00	9.94	9.64	2.54
	11302.00	78.54	179.57	-617.93	273.37	10993.17	627.71	104.1	31.00	8.58	8.58	0.17
	11334.00	81.68	179.27	-649.45	273.69	10998.67	659.22	131.1	32.00	9.86	9.82	-0.94
	11397.00	87.97	179.85	-712.16	274.17	11004.35	721.90	128.4	63.00	10.02	9.98	0.92
	11491.00	88.06	180.74	-806.10	273.69	11007.61	815.76	131.1	94.00	0.95	0.10	0.95
	11586.00	88.21	180.75	-901.05	272.46	11010.70	910.59	131.1	95.00	0.16	0.16	0.01
	11681.00	88.28	181.03	-995.99	270.98	11013.61	1005.41	382.5	95.00	0.31	0.07	0.30
	11776.00	88.21	179.83	-1090.94	270.26	11016.52	1100.27	136.5	95.00	1.26	-0.07	-1.26
	11871.00	88.27	178.89	-1185.89	271.32	11019.43	1195.19	136.5	95.00	0.99	0.06	-0.99
	11966.00	88.24	178.72	-1280.82	273.31	11022.32	1290.14	136.5	95.00	0.18	-0.03	-0.18
	12061.00	88.28	178.10	-1375.74	275.95	11025.20	1385.09	139.2	95.00	0.65	0.03	-0.65
	12155.00	88.18	177.89	-1469.64	279.23	11028.11	1479.04	139.2	94.00	0.24	-0.10	-0.22
	12250.00	88.21	177.97	-1564.53	282.65	11031.09	1574.00	141.9	95.00	0.09	0.03	0.09
	12345.00	88.28	178.93	-1659.45	285.22	11034.00	1668.95	141.9	95.00	1.00	0.06	1.00
	12440.00	88.15	179.44	-1754.40	286.57	11036.97	1763.87	144.6	95.00	0.56	-0.13	0.55
	12534.00	88.15	179.76	-1848.34	287.23	11040.00	1857.78	144.6	94.00	0.33	0.00	0.33
	12630.00	88.24	178.06	-1944.28	289.06	11043.02	1953.71	144.6	96.00	1.77	0.10	-1.77
	12725.00	88.21	181.70	-2039.21	289.26	11045.95	2048.59	147.3	95.00	3.84	-0.03	3.84
	12820.00	88.24	181.57	-2134.13	286.55	11048.89	2143.34	147.3	95.00	0.14	0.03	-0.14
	12915.00	88.21	179.40	-2229.08	285.75	11051.83	2238.19	147.3	95.00	2.29	-0.03	-2.29
	13009.00	88.18	179.66	-2323.03	286.52	11054.79	2332.10	150.0	94.00	0.29	-0.03	0.28
	13103.00	88.18	180.76	-2416.98	286.17	11057.77	2425.98	150.0	94.00	1.17	0.00	1.17
	13198.00	88.31	180.43	-2511.93	285.18	11060.68	2520.82	150.0	95.00	0.37	0.13	-0.35
	13293.00	88.28	179.98	-2606.88	284.83	11063.51	2615.70	152.7	95.00	0.48	-0.03	-0.48
	13388.00	88.18	179.30	-2701.84	285.43	11066.45	2710.61	152.7	95.00	0.72	-0.10	-0.71
	13483.00	88.31	179.46	-2796.79	286.45	11069.36	2805.53	152.7	95.00	0.21	0.13	0.17
	13577.00	88.27	180.33	-2890.74	286.62	11072.16	2899.43	152.7	94.00	0.92	-0.03	0.92
	13671.00	88.28	180.50	-2984.70	285.94	11074.99	2993.29	260.8	94.00	0.19	0.00	0.19
	13766.00	88.34	180.15	-3079.65	285.40	11077.80	3088.16	155.4	95.00	0.38	0.06	-0.37
	13861.00	88.15	180.93	-3174.60	284.51	11080.71	3183.01	155.4	95.00	0.85	-0.19	0.82
	13956.00	88.21	182.48	-3269.51	281.69	11083.72	3277.75	358.2	95.00	1.63	0.06	1.62
	14051.00	88.09	181.26	-3364.41	278.59	11086.78	3372.47	155.4	95.00	1.29	-0.13	-1.28
	14146.00	88.09	181.02	-3459.34	276.70	11089.95	3467.26	158.1	95.00	0.25	-0.00	-0.25
	14240.00	88.09	181.64	-3553.26	274.52	11093.08	3561.03	155.4	94.00	0.65	-0.00	0.65

ADVANTAGE Field Survey Listing



INTEQ

Operator Fasken Oil & Ranch **Fields** (Paloma) Sec 21, T20S, R34E **API No**
Well Paloma 21 Federal No. 2H **Wellbore** Paloma 21 Federal No. 2H Orig Hole **Rig** Nomac 54 **Job** 6945954

Tie In	MD ft	Incl deg	Azim deg	North ft	East ft	TVD ft	VS ft	Temperature degF	CRS LEN ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft
	14335.00	88.06	179.78	-3648.20	273.34	11096.28	3655.86	155.4	95.00	1.96	-0.03	-1.96
	14430.00	88.12	180.24	-3743.14	273.33	11099.44	3750.74	225.7	95.00	0.49	0.07	0.48
	14525.00	88.12	180.40	-3838.09	272.80	11102.56	3845.60	158.1	95.00	0.17	0.00	0.17
	14620.00	88.12	180.48	-3933.04	272.07	11105.67	3940.45	158.1	95.00	0.09	-0.00	0.09
	14715.00	88.15	181.12	-4027.98	270.74	11108.76	4035.28	158.1	95.00	0.67	0.03	0.67
	14811.00	88.09	180.68	-4123.91	269.24	11111.91	4131.09	160.8	96.00	0.47	-0.07	-0.46
	14905.00	88.06	179.23	-4217.86	269.32	11115.07	4224.97	139.2	94.00	1.54	-0.03	-1.54
	15000.00	88.12	179.84	-4312.80	270.10	11118.23	4319.88	158.1	95.00	0.65	0.07	0.64
	15095.00	88.21	178.30	-4407.74	271.64	11121.27	4414.81	160.8	95.00	1.62	0.10	-1.61
	15190.00	90.06	178.29	-4502.68	274.46	11122.70	4509.79	160.8	95.00	1.94	1.94	-0.01
	15284.00	90.00	177.74	-4596.62	277.71	11122.65	4603.79	160.8	94.00	0.59	-0.07	-0.58
	15379.00	89.94	178.49	-4691.57	280.83	11122.70	4698.79	163.5	95.00	0.79	-0.06	0.79
	15474.00	90.00	179.13	-4786.55	282.80	11122.75	4793.77	160.8	95.00	0.68	0.06	0.68
	15569.00	89.97	179.42	-4881.54	284.00	11122.78	4888.74	163.5	95.00	0.30	-0.03	0.30
	15664.00	89.91	179.48	-4976.54	284.90	11122.88	4983.71	163.5	95.00	0.09	-0.06	0.07
	15758.00	90.03	180.13	-5070.54	285.22	11122.93	5077.65	163.5	94.00	0.70	0.13	0.68
	15853.00	89.91	179.03	-5165.53	285.92	11122.98	5172.61	166.2	95.00	1.16	-0.13	-1.15
	15948.00	90.06	179.88	-5260.53	286.82	11123.01	5267.57	166.2	95.00	0.91	0.16	0.89
	16042.00	89.97	181.75	-5354.51	285.48	11122.98	5361.44	166.2	94.00	1.99	-0.10	1.98
	16137.00	90.06	181.71	-5449.47	282.62	11122.96	5456.22	166.2	95.00	0.10	0.10	-0.03
	16232.00	89.91	181.31	-5544.44	280.11	11122.98	5551.03	168.9	95.00	0.45	-0.16	-0.42
	16327.00	89.91	180.01	-5639.43	279.01	11123.14	5645.91	168.9	95.00	1.37	-0.00	-1.37
	16422.00	89.94	177.06	-5734.39	281.43	11123.26	5740.90	166.2	95.00	3.10	0.03	-3.10
	16517.00	89.91	177.52	-5829.28	285.92	11123.39	5835.89	168.9	95.00	0.48	-0.03	0.48
	16611.00	89.97	179.59	-5923.25	288.29	11123.49	5929.88	168.9	94.00	2.21	0.07	2.21
	16706.00	89.94	180.84	-6018.24	287.93	11123.57	6024.80	168.9	95.00	1.31	-0.03	1.31
	16801.00	89.97	182.02	-6113.21	285.56	11123.65	6119.61	168.9	95.00	1.25	0.03	1.25
	16895.00	90.22	181.97	-6207.16	282.29	11123.49	6213.37	163.5	94.00	0.27	0.26	-0.06
	16989.00	90.31	182.84	-6301.07	278.35	11123.06	6307.07	168.9	94.00	0.93	0.10	0.93
	17084.00	90.25	181.92	-6395.99	274.40	11122.60	6401.77	168.9	95.00	0.96	-0.06	-0.96
	17179.00	90.31	181.39	-6490.95	271.65	11122.15	6496.56	171.6	95.00	0.57	0.07	-0.57
	17275.00	90.09	182.70	-6586.88	268.23	11121.81	6592.30	168.9	96.00	1.38	-0.22	1.36
	17370.00	90.15	182.38	-6681.79	264.02	11121.61	6686.99	168.9	95.00	0.34	0.06	-0.33
	17465.00	90.12	180.80	-6776.75	261.38	11121.38	6781.78	168.9	95.00	1.66	-0.03	-1.66
	17560.00	90.09	177.99	-6871.73	262.39	11121.20	6876.74	168.9	95.00	2.96	-0.03	-2.96
	17654.00	90.06	176.41	-6965.62	266.98	11121.07	6970.73	168.9	94.00	1.68	-0.03	-1.68
	17749.00	90.03	177.15	-7060.47	272.31	11120.99	7065.71	168.9	95.00	0.78	-0.03	0.78
	17845.00	90.22	177.52	-7156.36	276.78	11120.79	7161.71	168.9	96.00	0.43	0.19	0.38
	17939.00	90.18	179.90	-7250.33	278.89	11120.46	7255.69	171.6	94.00	2.53	-0.03	2.53
	18034.00	89.78	180.96	-7345.33	278.18	11120.49	7350.59	171.6	95.00	1.19	-0.42	1.11
	18105.00	89.82	180.53	-7416.32	277.26	11120.73	7421.50	171.6	71.00	0.60	0.04	-0.60

Tie Column Legend: I - interpolated tie-point, S - survey station, U - user-defined, T - Surface

Notice: Field Copy Only. Certified results will be provided after submission to the Baker Hughes INTEQ office.



Company: Fasken Oil & Ranch
Lease/Well: Paloma 21 Federal Com/2H
Location: S:21 T:20S R:34E
Rig Name: Nomac 54
State/County: New Mexico/Lea
Latitude: 32.57, Longitude: -103.57
GRID North is 0.41 Degrees East of True North
VS-Azi: 0.00 Degrees



Depth Reference : 21.5 Feet (RKB)

DRILLLOG HA GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 1/15/2015 / 10:01

VES Survey International
West Texas
Surveyor: Neil Bates
(432) 563-5444

Paloma 21 Federal Com 2H / API 30-025-41994

HOBBS OCD
AUG 21 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	0.14	318.50	100.00	0.09	-0.08	0.09	0.12	318.50	0.14
200.00	0.27	95.34	200.00	0.16	0.07	0.16	0.17	25.43	0.38
300.00	0.14	173.10	300.00	0.01	0.32	0.01	0.32	88.27	0.28
400.00	0.44	230.53	400.00	-0.36	0.04	-0.36	0.36	173.80	0.38
500.00	0.57	252.26	499.99	-0.76	-0.73	-0.76	1.05	224.06	0.23
600.00	0.22	232.73	599.99	-1.03	-1.36	-1.03	1.70	232.98	0.37
700.00	0.33	184.82	699.99	-1.43	-1.54	-1.43	2.10	227.15	0.24
800.00	0.30	268.97	799.99	-1.72	-1.82	-1.72	2.51	226.76	0.42
900.00	0.06	105.45	899.99	-1.73	-2.04	-1.73	2.68	229.69	0.36
1000.00	0.42	225.83	999.99	-2.00	-2.25	-2.00	3.01	228.32	0.45
1100.00	0.01	140.69	1099.99	-2.26	-2.50	-2.26	3.38	227.86	0.42
1200.00	0.47	227.65	1199.99	-2.55	-2.80	-2.55	3.78	227.70	0.47
1300.00	0.13	162.89	1299.98	-2.93	-3.06	-2.93	4.24	226.29	0.43
1400.00	0.21	231.72	1399.98	-3.15	-3.17	-3.15	4.47	225.19	0.20
1500.00	0.39	166.18	1499.98	-3.60	-3.24	-3.60	4.84	221.98	0.36
1600.00	0.25	184.57	1599.98	-4.15	-3.17	-4.15	5.22	217.42	0.17
1700.00	0.51	193.09	1699.98	-4.80	-3.29	-4.80	5.82	214.45	0.27
1800.00	0.49	163.86	1799.98	-5.65	-3.27	-5.65	6.53	210.09	0.25

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	0.37	222.88	1899.97	-6.30	-3.37	-6.30	7.15	208.17	0.44
2000.00	0.51	190.79	1999.97	-6.98	-3.68	-6.98	7.89	207.80	0.28
2100.00	0.50	211.40	2099.97	-7.79	-3.99	-7.79	8.75	207.13	0.18
2200.00	0.65	181.07	2199.96	-8.73	-4.23	-8.73	9.70	205.85	0.33
2300.00	0.34	194.87	2299.96	-9.58	-4.32	-9.58	10.51	204.25	0.33
2400.00	0.73	171.57	2399.95	-10.49	-4.30	-10.49	11.34	202.28	0.44
2500.00	0.96	191.57	2499.94	-11.95	-4.37	-11.95	12.72	200.11	0.38
2600.00	0.76	195.79	2599.93	-13.41	-4.72	-13.41	14.22	199.41	0.21
2700.00	0.52	162.68	2699.93	-14.48	-4.77	-14.48	15.24	198.23	0.43
2800.00	0.92	127.52	2799.92	-15.40	-4.00	-15.40	15.91	194.56	0.58
2900.00	0.92	88.75	2899.91	-15.87	-2.56	-15.87	16.07	189.17	0.61
3000.00	1.18	95.31	2999.89	-15.94	-0.73	-15.94	15.96	182.61	0.29
3100.00	1.72	74.46	3099.86	-15.64	1.75	-15.64	15.74	173.62	0.75
3200.00	2.15	81.41	3199.80	-14.96	5.05	-14.96	15.78	161.34	0.49
3300.00	2.12	71.81	3299.73	-14.10	8.66	-14.10	16.55	148.43	0.36
3400.00	2.31	79.70	3399.66	-13.16	12.40	-13.16	18.08	136.71	0.36
3500.00	1.85	93.82	3499.59	-12.91	15.99	-12.91	20.55	128.92	0.68
3600.00	2.15	84.46	3599.53	-12.83	19.46	-12.83	23.31	123.40	0.45
3700.00	2.28	87.41	3699.46	-12.56	23.32	-12.56	26.49	118.31	0.17
3800.00	1.96	88.40	3799.39	-12.43	27.02	-12.43	29.74	114.70	0.32
3900.00	1.66	96.26	3899.34	-12.54	30.16	-12.54	32.67	112.57	0.39
4000.00	1.96	103.10	3999.29	-13.08	33.27	-13.08	35.75	111.46	0.37
4100.00	1.54	102.64	4099.24	-13.76	36.25	-13.76	38.78	110.79	0.42
4200.00	1.45	101.79	4199.21	-14.32	38.81	-14.32	41.36	110.25	0.09
4300.00	1.47	108.93	4299.17	-14.99	41.26	-14.99	43.90	109.97	0.18
4400.00	1.69	132.39	4399.14	-15.40	43.56	-16.40	46.54	110.63	0.68
4500.00	1.62	125.84	4499.10	-18.22	45.79	-18.22	49.28	111.69	0.20
4600.00	1.05	133.72	4599.07	-19.68	47.60	-19.68	51.51	112.46	0.59
4700.00	1.41	123.75	4699.04	-21.00	49.28	-21.00	53.57	113.08	0.41
4800.00	1.08	102.53	4799.02	-21.88	51.22	-21.88	55.70	113.13	0.56
4900.00	0.76	109.83	4899.01	-22.31	52.77	-22.31	57.29	112.92	0.34
5000.00	1.06	111.26	4999.00	-22.87	54.25	-22.87	58.88	112.86	0.29
5100.00	0.96	129.28	5098.98	-23.74	55.76	-23.74	60.50	113.06	0.33
5164.00	1.38	126.94	5162.97	-24.54	56.79	-24.54	61.86	113.37	0.66



VES Survey International
West Texas
Surveyor: Neil Bates
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