

SCHLUMBERGER
Survey Report

20-Jun-2014

Client.....: Shell Western E&P
Field.....: Phantom (Wolfcamp)

Well.....: University 20-10 WNK 1H
API number.....: 42-495-33544
Engineer.....: C.Okolo

Spud date.....: 4-Feb-14
Last survey date.....: 9-Mar-14
Total accepted surveys...: 70
MD of first survey.....: 11272.00 ft
MD of last survey.....: 16581.00 ft

County.....: Winkler
State.....: Texas
Rig.....: Patterson 274

Latitude.....: 31° 44' 11.689" N
Longitude.....: 103° 19' 16.974" W

----- Survey calculation methods-----
Method for positions...: Minimum curvature
Method for DLS.....: Lubinski

----- Depth reference -----
Permanent datum.....: MSL
Depth reference.....: Driller's Depth
GL above permanent.....: 2796.00
KB above permanent.....: 2824.50
DF above permanent.....: 2824.50

----- Vertical section origin-----
Latitude (+N/S-).....: 0.00 ft
Departure (+E/W-).....: 0.00 ft

----- Grid Coordinates -----
NAD27 Texas State Plane, Central Zone, US Feet
X.....: 765296.23 ft
Y.....: 1071143.48 ft

Azimuth from Vsect Origin to target: 163.71 degrees

-----MWD Survey Reference Criteria-----

-----Run1----- Calculation Date: 1-Mar-2014
Location G.....: 998.63244 mgn Tolerance G...: 2.50 mgn
Location B.....: 48063.64 nT Tolerance B...: 300.00 nT
Magnetic Dip: 59.6904 degrees Tolerance Dip: 0.45 degrees

-----Run2----- Calculation Date: 20-Feb-2014
Location G.....: 998.63244 mgn Tolerance G...: 2.50 mgn
Location B.....: 48066.5 nT Tolerance B...: 300.00 nT
Magnetic Dip: 59.6911 degrees Tolerance Dip: 0.45 degrees

-----Run3----- Calculation Date: 24-Feb-2014
Location G.....: 998.63244 mgn Tolerance G...: 2.50 mgn
Location B.....: 48065.23 nT Tolerance B...: 300.00 nT
Magnetic Dip: 59.6908 degrees Tolerance Dip: 0.45 degrees

-----Run4----- Calculation Date: 1-Mar-2014
Location G.....: 998.63244 mgn Tolerance G...: 2.50 mgn
Location B.....: 48063.64 nT Tolerance B...: 300.00 nT
Magnetic Dip: 59.6904 degrees Tolerance Dip: 0.45 degrees

-----Run5----- Calculation Date: 4-Mar-2014
Location G.....: 998.63244 mgn Tolerance G...: 2.50 mgn
Location B.....: 48062.69 nT Tolerance B...: 300.00 nT
Magnetic Dip: 59.6901 degrees Tolerance Dip: 0.45 degrees

-----Run6----- Calculation Date: 6-Mar-2014
Location G.....: 998.63244 mgn Tolerance G...: 2.50 mgn
Location B.....: 48062.05 nT Tolerance B...: 300.00 nT
Magnetic Dip: 59.69 degrees Tolerance Dip: 0.45 degrees

BGGM Model: 2013

-----Run1-----
Magnetic dec (+E/W-).....: 7.2009 degrees
Grid Conv (+E/W-).....: -1.5391 degrees
Total Azim Corr (+E/W-)...: 8.74 degrees

-----Run2-----
Magnetic dec (+E/W-).....: 7.2036 degrees
Grid Conv (+E/W-).....: -1.5364 degrees
Total Azim Corr (+E/W-)...: 8.74 degrees

-----Run3-----
Magnetic dec (+E/W-).....: 7.2024 degrees
Grid Conv (+E/W-).....: -1.5376 degrees
Total Azim Corr (+E/W-)...: 8.74 degrees

-----Run4-----
Magnetic dec (+E/W-).....: 7.2009 degrees
Grid Conv (+E/W-).....: -1.5391 degrees
Total Azim Corr (+E/W-)...: 8.74 degrees

-----Run5-----
Magnetic dec (+E/W-).....: 7.2 degrees
Grid Conv (+E/W-).....: -1.54 degrees
Total Azim Corr (+E/W-)...: 8.74 degrees

-----Run6-----

Magnetic dec (+E/W-).....: 7.1994 degrees

Grid Conv (+E/W-).....: -1.5406 degrees

Total Azim Corr (+E/W-)...: 8.74 degrees

-----Survey Correction Index Description-----

0 = Uncorrected 1 = Sag Corrected

2 = DMAG Corrected 3 = Sag + DMAG Corrected

Seq	Survey List												Tool	Correction
	MD (ft)	Incl (deg)	Azim (deg)	Course (ft)	TVD (ft)	V Sec (ft)	N-/S (ft)	E-/W (ft)	Closure (ft)	at Azi (deg)	DLS (deg/100ft)			
1	0.00	0.00	0.00	-999.25	0.00	0.00	0.00	0.00	0	90.00	0.00	TIP	0	
2	100.00	0.29	324.92	100.00	100.00	-0.24	0.21	-0.15	0.25	324.92	0.29	GyroTool	14	
3	200.00	0.54	345.83	100.00	200.00	-0.95	0.87	-0.41	0.96	335.00	0.29	GyroTool	14	
4	300.00	1.35	347.66	100.00	299.98	-2.60	2.48	-0.77	2.6	342.67	0.81	GyroTool	14	
5	400.00	2.73	339.80	100.00	399.92	-6.15	5.86	-1.85	6.15	342.51	1.40	GyroTool	14	
6	500.00	2.82	339.52	100.00	499.80	-10.98	10.40	-3.53	10.99	341.26	0.09	GyroTool	14	
7	600.00	2.75	340.55	100.00	599.68	-15.83	14.97	-5.19	15.84	340.88	0.09	GyroTool	14	
8	700.00	2.56	341.43	100.00	699.57	-20.45	19.35	-6.70	20.48	340.90	0.19	GyroTool	14	
9	800.00	2.47	343.80	100.00	799.48	-24.84	23.54	-8.01	24.86	341.20	0.14	GyroTool	14	
10	900.00	3.19	339.23	100.00	899.36	-29.77	28.21	-9.60	29.8	341.20	0.75	GyroTool	14	
11	1000.00	3.39	335.85	100.00	999.19	-35.47	33.51	-11.80	35.52	340.60	0.28	GyroTool	14	
12	1100.00	4.72	326.19	100.00	1098.94	-42.32	39.62	-15.30	42.47	338.89	1.49	GyroTool	14	
13	1200.00	4.72	325.22	100.00	1198.60	-50.15	46.42	-19.93	50.52	336.76	0.08	GyroTool	14	
14	1300.00	4.74	324.18	100.00	1298.26	-57.94	53.15	-24.70	58.61	335.08	0.09	GyroTool	14	
15	1400.00	4.84	325.97	100.00	1397.91	-65.86	60.00	-29.48	66.85	333.84	0.18	GyroTool	14	
16	1500.00	4.82	325.01	100.00	1497.56	-73.85	66.93	-34.25	75.19	332.90	0.08	GyroTool	14	
17	1600.00	5.09	322.18	100.00	1597.18	-81.96	73.88	-39.38	83.72	331.94	0.36	GyroTool	14	
18	1700.00	5.51	318.86	100.00	1696.75	-90.44	81.00	-45.25	92.78	330.81	0.52	GyroTool	14	
19	1800.00	5.66	317.96	100.00	1796.28	-99.24	88.28	-51.71	102.31	329.64	0.17	GyroTool	14	
20	1900.00	5.72	318.49	100.00	1895.79	-108.19	95.67	-58.32	112.05	328.63	0.08	GyroTool	14	
21	2000.00	5.68	317.65	100.00	1995.29	-117.14	103.06	-64.96	121.82	327.78	0.09	GyroTool	14	
22	2100.00	5.77	317.83	100.00	2094.79	-126.11	110.44	-71.66	131.66	327.02	0.09	GyroTool	14	
23	2200.00	5.67	318.99	100.00	2194.30	-135.12	117.90	-78.28	141.52	326.42	0.15	GyroTool	14	
24	2300.00	5.76	320.36	100.00	2293.80	-144.22	125.49	-84.72	151.41	325.98	0.16	GyroTool	14	
25	2400.00	5.62	322.78	100.00	2393.31	-153.40	133.25	-90.89	161.3	325.70	0.28	GyroTool	14	
26	2500.00	5.70	323.40	100.00	2492.82	-162.63	141.14	-96.81	171.15	325.55	0.10	GyroTool	14	
27	2600.00	5.46	324.88	100.00	2592.34	-171.79	149.02	-102.51	180.87	325.48	0.28	GyroTool	14	
28	2700.00	5.36	326.55	100.00	2691.90	-180.75	156.81	-107.82	190.3	325.49	0.19	GyroTool	14	
29	2800.00	5.29	329.25	100.00	2791.47	-189.68	164.66	-112.75	199.57	325.60	0.26	GyroTool	14	
30	2900.00	5.15	330.03	100.00	2891.05	-198.51	172.51	-117.35	208.64	325.78	0.16	GyroTool	14	
31	3000.00	5.01	329.62	100.00	2990.66	-207.10	180.17	-121.80	217.48	325.94	0.14	GyroTool	14	
32	3100.00	4.91	330.89	100.00	3090.29	-215.51	187.68	-126.09	226.1	326.10	0.15	GyroTool	14	
33	3200.00	4.81	331.83	100.00	3189.93	-223.78	195.11	-130.15	234.54	326.29	0.13	GyroTool	14	
34	3300.00	4.69	331.41	100.00	3289.58	-231.88	202.40	-134.09	242.78	326.48	0.12	GyroTool	14	
35	3400.00	4.55	330.96	100.00	3389.26	-239.74	209.45	-137.97	250.81	326.63	0.14	GyroTool	14	
36	3500.00	4.44	330.52	100.00	3488.95	-247.38	216.29	-141.80	258.63	326.75	0.12	GyroTool	14	
37	3600.00	4.44	330.15	100.00	3588.65	-254.91	223.02	-145.63	266.36	326.86	0.03	GyroTool	14	
38	3700.00	4.28	329.09	100.00	3688.36	-262.29	229.58	-149.47	273.95	326.93	0.18	GyroTool	14	
39	3800.00	4.25	329.16	100.00	3788.08	-269.48	235.96	-153.29	281.38	326.99	0.03	GyroTool	14	
40	3900.00	3.75	336.13	100.00	3887.84	-276.31	242.13	-156.51	288.31	327.12	0.70	GyroTool	14	
41	4000.00	3.42	341.62	100.00	3987.64	-282.54	247.95	-158.78	294.43	327.37	0.48	GyroTool	14	
42	4100.00	3.26	345.58	100.00	4087.48	-288.36	253.54	-160.43	300.03	327.68	0.28	GyroTool	14	
43	4200.00	3.22	344.15	100.00	4187.32	-294.01	258.99	-161.90	305.43	327.99	0.09	GyroTool	14	
44	4300.00	3.14	343.27	100.00	4287.16	-299.56	264.32	-163.46	310.78	328.27	0.09	GyroTool	14	
45	4400.00	3.05	344.36	100.00	4387.02	-304.95	269.50	-164.96	315.98	328.53	0.11	GyroTool	14	
46	4500.00	2.93	343.30	100.00	4486.88	-310.17	274.51	-166.41	321.01	328.78	0.13	GyroTool	14	
47	4600.00	2.75	348.52	100.00	4586.76	-315.12	279.31	-167.62	325.75	329.03	0.31	GyroTool	14	
48	4700.00	2.77	351.34	100.00	4686.64	-319.90	284.05	-168.47	330.25	329.33	0.14	GyroTool	14	
49	4800.00	2.62	356.25	100.00	4786.53	-324.53	288.72	-168.98	334.53	329.66	0.28	GyroTool	14	
50	4900.00	2.51	359.18	100.00	4886.43	-328.87	293.19	-169.16	338.49	330.02	0.17	GyroTool	14	
51	5000.00	2.46	2.45	100.00	4986.34	-333.01	297.52	-169.10	342.22	330.39	0.15	GyroTool	14	
52	5100.00	2.32	3.99	100.00	5086.25	-336.94	301.69	-168.87	345.73	330.76	0.15	GyroTool	14	
53	5200.00	2.17	6.20	100.00	5186.17	-340.59	305.59	-168.52	348.98	331.12	0.17	GyroTool	14	
54	5300.00	1.97	5.27	100.00	5286.11	-343.94	309.18	-168.16	351.95	331.46	0.20	GyroTool	14	
55	5400.00	2.05	3.29	100.00	5386.05	-347.22	312.68	-167.90	354.91	331.77	0.11	GyroTool	14	
56	5500.00	1.96	0.97	100.00	5485.98	-350.54	316.17	-167.77	357.93	332.05	0.12	GyroTool	14	
57	5600.00	1.97	0.05	100.00	5585.93	-353.82	319.60	-167.74	360.95	332.31	0.03	GyroTool	14	
58	5700.00	1.94	359.18	100.00	5685.87	-357.10	323.01	-167.76	363.98	332.55	0.04	GyroTool	14	
59	5800.00	1.88	0.37	100.00	5785.81	-360.31	326.35	-167.77	366.95	332.79	0.07	GyroTool	14	
60	5900.00	1.78	0.05	100.00	5885.76	-363.37	329.54	-167.76	369.79	333.02	0.10	GyroTool	14	
61	6000.00	1.65	4.03	100.00	5985.72	-366.21	332.53	-167.66	372.41	333.24	0.18	GyroTool	14	
62	6100.00	1.67	2.64	100.00	6085.67	-368.94	335.42	-167.49	374.91	333.47	0.04	GyroTool	14	
63	6200.00	1.53	357.28	100.00	6185.63	-371.61	338.21	-167.49	377.41	333.65	0.20	GyroTool	14	
64	6300.00	1.52	355.82	100.00	6285.60	-374.21	340.87	-167.65	379.86	333.81	0.04	GyroTool	14	
65	6400.00	1.28	358.23	100.00	6385.57	-376.59	343.31	-167.78	382.11	333.95	0.25	GyroTool	14	
66	6500.00	1.21	351.24	100.00	6485.55	-378.71	345.47	-167.97	384.14	334.07	0.17	GyroTool	14	
67	6600.00	1.22	347.91	100.00	6585.52	-380.82	347.55	-168.36	386.18	334.15	0.07	GyroTool	14	
68	6700.00	1.26	351.81	100.00	6685.50	-382.97	349.68	-168.74	388.26	334.24	0.09	GyroTool	14	
69	6800.00	1.00	344.18	100.00	6785.48	-384.93	351.61	-169.13	390.17	334.31	0.30	GyroTool	14	
70	6900.00	0.98	350.14	100.00	6885.47	-386.66	353.29	-169.52	391.85	334.37	0.10	GyroTool	14	
71	7000.00	0.69	344.79	100.00	6985.45	-388.11	354.71	-169.82	393.27	334.42	0.30	GyroTool	14	
72	7100.00	0.81	341.01	100.00	7085.45	-389.42	355.96	-170.21	394.56	334.44	0.13	GyroTool	14	
73	7200.00	0.89	327.74	100.00	7185.44	-390.87	357.29	-170.85	396.04	334.44	0.21	GyroTool	14	
74	7300.00	0.79	337.19	100.00	7285.42	-392.30	358.58	-171.53	397.5	334.43	0.17	GyroTool	14	
75	7400.00	0.70	332.72	100.00	7385.42	-393.58	359.76	-172.08	398.8	334.44	0.11	GyroTool	14	
76	7500.00	0.58	315.97	100.00	7485.41	-394.63	360.67	-172.71	399.89	334.41	0.22	GyroTool	14	
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90	8900.00	1.01	242.15	100.00	8885.19	-393.48	353.09	-194.53	403.13	331.15	0.13	GyroTool	14
91	9000.00	1.06	249.36	100.00	8985.18	-393.23	352.35	-196.18	403.28	330.89	0.14	GyroTool	14
92	9100.00	0.99	237.06	100.00	9085.16	-392.91	351.55	-197.77	403.36	330.64	0.23	GyroTool	14
93	9200.00	1.27	244.24	100.00	9185.14	-392.48	350.60	-199.49	403.38	330.36	0.31	GyroTool	14
94	9300.00	2.34	234.64	100.00	9285.09	-391.63	348.94	-202.15	403.27	329.91	1.11	GyroTool	14
95	9400.00	2.42	233.81	100.00	9385.01	-390.25	346.51	-205.52	402.87	329.33	0.09	GyroTool	14
96	9500.00	2.20	224.08	100.00	9484.92	-388.58	343.88	-208.56	402.19	328.76	0.45	GyroTool	14
97	9600.00	2.02	210.45	100.00	9584.86	-386.42	340.99	-210.79	400.88	328.28	0.53	GyroTool	14
98	9700.00	1.96	204.44	100.00	9684.80	-383.92	337.91	-212.39	399.11	327.85	0.22	GyroTool	14
99	9800.00	1.96	201.99	100.00	9784.74	-381.28	334.77	-213.74	397.18	327.44	0.08	GyroTool	14
100	9900.00	2.09	206.76	100.00	9884.68	-378.61	331.55	-215.20	395.27	327.01	0.21	GyroTool	14
101	10000.00	2.28	206.43	100.00	9984.60	-375.81	328.14	-216.91	393.35	326.53	0.19	GyroTool	14
102	10100.00	2.39	201.96	100.00	10084.52	-372.71	324.43	-218.57	391.19	326.03	0.21	GyroTool	14
103	10200.00	2.36	199.33	100.00	10184.43	-369.40	320.55	-220.03	388.8	325.53	0.11	GyroTool	14
104	10300.00	2.49	200.07	100.00	10284.34	-365.98	316.57	-221.46	386.34	325.02	0.13	GyroTool	14
105	10400.00	2.53	199.81	100.00	10384.25	-362.45	312.45	-222.95	383.84	324.49	0.04	GyroTool	14
106	10500.00	2.38	197.90	100.00	10484.16	-358.95	308.40	-224.34	381.36	323.97	0.17	GyroTool	14
107	10600.00	2.08	193.13	100.00	10584.08	-355.65	304.66	-225.39	378.97	323.51	0.35	GyroTool	14
108	10700.00	2.06	194.65	100.00	10684.02	-352.53	301.15	-226.26	376.67	323.08	0.06	GyroTool	14
109	10800.00	1.83	199.28	100.00	10783.96	-349.69	297.90	-227.24	374.68	322.66	0.28	GyroTool	14
110	10900.00	1.80	198.34	100.00	10883.91	-347.09	294.91	-228.26	372.92	322.26	0.04	GyroTool	14
111	11000.00	2.04	202.76	100.00	10983.85	-344.42	291.77	-229.44	371.18	321.82	0.28	GyroTool	14
112	11100.00	2.00	207.41	100.00	11083.79	-341.78	288.58	-230.93	369.61	321.33	0.17	GyroTool	14
113	11200.00	2.05	200.94	100.00	11183.73	-339.09	285.36	-232.38	368.01	320.84	0.23	GyroTool	14
114	11272.00	2.65	187.96	72.00	11255.67	-336.55	282.51	-233.07	366.24	320.48	1.11	SlimPulse	0
115	11319.00	6.19	181.34	47.00	11302.52	-333.14	278.90	-233.28	363.6	320.09	7.59	SlimPulse	0
116	11351.00	8.98	173.93	32.00	11334.24	-329.04	274.70	-233.05	360.24	319.69	9.23	SlimPulse	0
117	11383.00	12.13	168.13	32.00	11365.69	-323.23	268.92	-232.10	355.23	319.20	10.39	SlimPulse	0
118	11414.00	15.22	171.66	31.00	11395.81	-315.95	261.71	-230.84	348.96	318.59	10.31	SlimPulse	0
119	11446.00	18.66	173.77	32.00	11426.42	-306.75	252.46	-229.67	341.3	317.71	10.93	SlimPulse	0
120	11478.00	21.08	174.13	32.00	11456.51	-296.04	241.64	-228.53	332.59	316.60	7.57	SlimPulse	0
121	11510.00	24.06	173.20	32.00	11486.06	-283.95	229.44	-227.17	322.87	315.29	9.37	SlimPulse	0
122	11541.00	29.21	171.56	31.00	11513.76	-270.21	215.67	-225.31	311.89	313.75	16.79	SlimPulse	0
123	11573.00	34.97	170.64	32.00	11540.86	-253.36	198.89	-222.67	298.56	311.77	18.06	SlimPulse	0
124	11605.00	40.31	168.09	32.00	11566.19	-233.92	179.70	-219.04	283.32	309.37	17.40	SlimPulse	0
125	11639.00	46.22	163.01	34.00	11590.95	-210.66	157.17	-213.17	264.85	306.40	20.16	SlimPulse	0
126	11670.00	51.92	160.04	31.00	11611.25	-187.27	134.98	-205.73	246.06	303.27	19.76	SlimPulse	0
127	11702.00	59.16	158.15	32.00	11629.34	-160.99	110.35	-196.31	225.2	299.34	23.12	SlimPulse	0
128	11734.00	66.84	156.01	32.00	11643.86	-132.69	84.12	-185.19	203.4	294.43	24.74	SlimPulse	0
129	11765.00	71.71	153.03	31.00	11654.83	-104.08	57.97	-172.71	182.18	288.55	18.09	SlimPulse	0
130	11795.00	73.75	151.03	30.00	11663.74	-76.03	32.67	-159.28	162.59	281.59	9.32	SlimPulse	0
131	11828.00	75.75	149.96	33.00	11672.42	-45.04	4.96	-143.60	143.68	271.98	6.81	SlimPulse	0
132	11859.00	78.86	149.52	31.00	11679.23	-15.70	-21.16	-128.36	130.09	260.64	10.12	SlimPulse	0
133	11889.00	79.98	149.50	30.00	11684.74	12.89	-46.57	-113.40	122.59	247.67	3.74	SlimPulse	0
134	11961.00	85.28	148.51	72.00	11693.97	81.93	-107.75	-76.64	132.23	215.42	7.49	SlimPulse	0
135	12024.00	86.39	148.72	63.00	11698.55	142.60	-161.39	-43.92	167.26	195.22	1.78	SlimPulse	0
136	12119.00	88.21	148.56	95.00	11703.02	234.22	-242.42	5.46	242.49	178.71	1.93	SlimPulse	0
137	12214.00	88.97	149.37	95.00	11705.36	326.07	-323.80	54.43	328.34	170.46	1.16	SlimPulse	0
138	12309.00	90.45	149.17	95.00	11705.85	418.06	-405.46	102.97	418.33	165.75	1.57	SlimPulse	0
139	12404.00	90.58	148.14	95.00	11704.99	509.80	-486.59	152.38	509.89	162.61	1.09	SlimPulse	0
140	12499.00	90.83	148.93	95.00	11703.82	601.48	-567.61	201.96	602.47	160.41	0.87	SlimPulse	0
141	12594.00	89.72	152.77	95.00	11703.37	694.07	-650.57	248.23	696.31	159.12	4.20	SlimPulse	0
142	12689.00	90.79	155.92	95.00	11702.94	787.79	-736.19	289.35	791.01	158.54	3.50	SlimPulse	0
143	12783.00	90.76	157.86	94.00	11701.67	881.12	-822.63	326.24	884.96	158.37	2.06	SlimPulse	0
144	12878.00	90.21	161.55	95.00	11700.87	975.86	-911.71	359.19	979.92	158.50	3.92	SlimPulse	0
145	12973.00	90.65	166.97	95.00	11700.16	1070.82	-1003.11	384.95	1074.44	159.01	5.73	SlimPulse	0
146	13068.00	90.79	166.24	95.00	11698.96	1165.69	-1095.52	406.95	1168.67	159.62	0.79	SlimPulse	0
147	13163.00	90.76	166.16	95.00	11697.68	1260.59	-1187.77	429.61	1263.08	160.12	0.09	SlimPulse	0
148	13257.00	90.72	165.88	94.00	11696.46	1354.51	-1278.98	452.31	1356.61	160.52	0.30	SlimPulse	0
149	13352.00	90.89	167.09	95.00	11695.12	1449.39	-1371.34	474.51	1451.11	160.91	1.28	SlimPulse	0
150	13447.00	90.93	167.82	95.00	11693.61	1544.17	-1464.06	495.15	1545.52	161.31	0.77	SlimPulse	0
151	13542.00	90.93	167.28	95.00	11692.07	1638.95	-1556.81	515.63	1639.98	161.67	0.56	SlimPulse	0
152	13636.00	90.86	166.11	94.00	11690.61	1732.80	-1648.27	537.26	1733.63	161.95	1.25	SlimPulse	0
153	13731.00	90.24	164.92	95.00	11689.70	1827.75	-1740.25	561.02	1828.44	162.13	1.40	SlimPulse	0
154	13826.00	89.76	160.48	95.00	11689.70	1922.71	-1830.93	589.26	1923.42	162.16	4.71	SlimPulse	0
155	13921.00	89.79	159.32	95.00	11690.07	2017.50	-1920.14	621.91	2018.34	162.05	1.22	SlimPulse	0
156	14016.00	89.90	160.80	95.00	11690.32	2112.30	-2009.44	654.32	2113.29	161.96	1.56	SlimPulse	0
157	14111.00	89.86	164.15	95.00	11690.52	2207.27	-2100.02	682.92	2208.27	161.99	3.53	SlimPulse	0
158	14206.00	90.28	165.78	95.00	11690.41	2302.24	-2191.76	707.56	2303.14	162.11	1.77	SlimPulse	0
159	14301.00	89.52	166.03	95.00	11690.58	2397.17	-2283.90	730.69	2397.94	162.26	0.84	SlimPulse	0
160	14396.00	89.76	165.71	95.00	11691.18	2492.10	-2376.02	753.89	2492.76	162.40	0.42	SlimPulse	0
161	14490.00	89.62	166.36	94.00	11691.69	2586.02	-2467.24	776.58	2586.57	162.53	0.71	SlimPulse	0
162	14585.00	89.59	166.76	95.00	11692.34	2680.90	-2559.64	798.65	2681.34	162.67	0.43	SlimPulse	0
163	14680.00	89.62	166.92	95.00	11693.00	2775.76	-2652.14	820.28	2776.1	162.81	0.17	SlimPulse	0
164	14775.00	89.55	167.46	95.00	11693.68	2870.58	-2744.78	841.34	2870.83	162.96	0.58	SlimPulse	0
165	14869.00	89.83	167.19	94.00	11694.19	2964.39	-2836.48	861.97	2964.56	163.10	0.41	SlimPulse	0
166	14964.00	89.48	167.49	95.00	11694.76	3059.20	-2929.17	882.79	3059.31	163.23	0.48	SlimPulse	0
167	15059.00	89.59	168.09	95.00	11695.53	3153.95	-3022.02	902.87	3154.01	163.37	0.64	SlimPulse	0
168	15154.00	89.55	169.00	95.00	11696.24	3248.61	-3115.12	921.74	3248.63	163.52	0.95	SlimPulse	0
169	15249.00	89.52	169.75	95.00	11697.01	3343.14	-3208.49	939.25	3343.14	163.68	0.80	SlimPulse	0
170	15345.00	89.66	170.44	96.00	11697.70	3438.55	-3303.06	955.76	3438.56	163.86	0.73	SlimPulse	0
171	15440.00	89.86	169.22	95.00	11698.10	3533.00	-3396.56	972.53	3533.05	164.02	1.30	SlimPulse	0
172	15535.00	89.90	167.72	95.00	11698.30	3627.67	-3489.64	991.52	3627.77	164.14	1.59	SlimPulse	0
173	15629.00	90.07											