



Reservoir Development
Drilling & Measurements (Anadrill)
4301 SW 44th St
Oklahoma City, Oklahoma 73119 USA
Phone: (405) 682-2284
Fax: (405) 682-3937

August 29, 2013

Cimarex
600 N MARIENFELD STREET SUITE 600

MIDLAND, TX 79701

Re:

P-S23-T23S-R30E 285 FSL 250 FEL
N 32.28400 W 103.84378

CLIENT: Cimarex Energy Co.
WELL: Sandy Federal 20H
FIELD: Bone Spring Wildcat
RIG: Noram 23
COUNTY: Eddy County
API NO: 30-015-41426
JOB NO: 13MLD0381

Enclosed, please find the original copy of the survey performed on the referenced well by Drilling & Measurements, a division of Schlumberger Technology Corporation.
Other information required by your office is as follows.

<u>Name & Title of Surveyor</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Kingsley Nlewem MWD	Sandy Federal 20H Original Hole	8650.00 Ft to 14656.00 Ft	July 16, 2013 to July 26, 2013	SlimPulse

If any other information is required, please contact the undersigned at the above letterhead and phone number.
Sincerely,

Jasem Alharer
Field Service Manager

Reservoir Development

Drilling & Measurements (Anadrill)

4301 SW 44th St

Oklahoma City, Oklahoma 73119 USA

Phone: (405) 682-2284

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Well Reference:

P-S23-T23S-R30E 285 FSL 250 FEL

N 32.28400 W 103.84378

I, Kingsley Nlewem certify that; I am employed by Drilling & Measurements (formerly Anadrill), a division of Schlumberger Technology Corporation; that I did on the day(s) of July 16, 2013 through July 26, 2013, conduct or supervise the taking of the SlimPulse surveys from a depth of 8650.00 feet to a depth of 14656.00 feet referenced to driller's depth; that the data is true, correct, complete and within the limitations of the tool as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I am authorized and qualified to make this report; that this survey was conducted at the request of Cimarex Energy Co. for the Sandy Federal 20H Well (Original Hole) API No. 30-015-41426 and that I have reviewed this report and find that it conforms to the principals and procedures as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation.

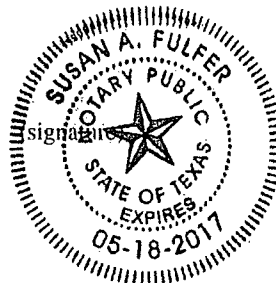
By
Kingsley Nlewem
MWD

Kingsley Nlewem
on behalf of Kingsley Nlewem

Subscribed and Sworn to before me this 29th day of August (month) 2013 (yr)

My Commission expires:

05-18-2017
Susan A. Fulfer
Notary Public
Midland, TX
(County State)



SCHLUMBERGER
Survey Report

26-Jul-13

Client.....: Cimarex Energy Co.
Field.....: Bone Spring Wildcat

Well.....: Sandy Federal 20H
API number.....: 30-015-41426
Engineer.....: K. Nlewern

Spud date.....: 05-Jul-13
Last survey date.....: 26-Jul-13
Total accepted surveys...: 104
MD of first survey.....: 8650.00 ft
MD of last survey.....: 14656.00 ft

COUNTY.....: Eddy
STATE.....: New Mexico
RIG.....: Noram 23

Latitude: 32° 17' 2.459" N
Longitude: 103° 50' 37.500" W

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

----- Depth reference -----
Permanent datum.....: MEAN SEA LEVEL
Depth reference.....: Driller's Depth
GL above permanent.....: 3293.0 ft
KB above permanent.....: Top Drive
DF above permanent.....: 3321.0 ft

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

----- Grid Coordinates -----
NAD 27 Pennsylvania State Planes, Southern Zone, US Feet
X.....: 692633.600 f US
Y.....: 467403.200 ft US

Azimuth from Vsect Origin to target: 14.51 degrees

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

-----Run1-----
Geomag Model: : BGGM 2012 Calculation Date: : 16-Jul-2013
Location G : 998.83 mgn Tolerance G : 2.50 mgn
Location B : 48381.00 nT Tolerance B : 300.00 nT
Magnetic Dip : 60.10 degrees Tolerance Dip : 0.45 degrees

-----Run2-----
Geomag Model: : BGGM 2012 Calculation Date: : 20-Jul-2013
Location G : 998.83 mgn Tolerance G : 2.50 mgn
Location B : 48379.60 nT Tolerance B : 300.00 nT
Magnetic Dip : 60.10 degrees Tolerance Dip : 0.45 degrees

-----Run3-----
Geomag Model: : BGGM 2012 Calculation Date: : 23-Jul-2013
Location G : 998.83 mgn Tolerance G : 2.50 mgn
Location B : 48378.55 nT Tolerance B : 300.00 nT
Magnetic Dip : 60.10 degrees Tolerance Dip : 0.45 degrees

BGGM Model 2012

-----Run1-----
Magnetic dec (+E/W-) : 7.5676 degrees
Grid convergence (+E/W-) : 0.2615 degrees
GTotal az corr (+E/W-) : 7.3061 degrees

-----Run2-----
Magnetic dec (+E/W-) : 7.5663 degrees
Grid convergence (+E/W-) : 0.2615 degrees
GTotal az corr (+E/W-) : 7.3048 degrees

-----Run3-----
Magnetic dec (+E/W-) : 7.5654 degrees
Grid convergence (+E/W-) : 0.2615 degrees
GTotal az corr (+E/W-) : 7.3039 degrees

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

0 = Uncorrected 1 = Sag Corrected 9 = Projection to bit
2 = DMAG Corrected 3 = Sag + DMAG Corrected

===== Survey List =====													
Seq	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)	Tool	Correction
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	0.60	191.45	100.00	100.00	-0.52	-0.51	-0.10	0.52359	191.45	0.60	GyroTool	0
3	200.00	0.88	196.24	100.00	199.99	-1.81	-1.76	-0.42	1.81355	193.48	0.29	GyroTool	0
4	300.00	0.97	198.43	100.00	299.98	-3.43	-3.30	-0.90	3.42563	195.32	0.10	GyroTool	0
5	400.00	0.13	205.74	100.00	399.97	-4.38	-4.21	-1.22	4.38292	196.19	0.84	GyroTool	0
6	500.00	0.13	216.41	100.00	499.97	-4.60	-4.40	-1.34	4.60161	196.91	0.02	GyroTool	0
7	600.00	0.07	181.69	100.00	599.97	-4.76	-4.56	-1.41	4.76755	197.17	0.08	GyroTool	0
8	700.00	0.12	338.41	100.00	699.97	-4.74	-4.52	-1.45	4.74502	197.77	0.19	GyroTool	0
9	800.00	0.10	274.63	100.00	799.97	-4.67	-4.41	-1.57	4.68633	199.62	0.12	GyroTool	0

10	900.00	0.08	242.05	100.00	899.97	-4.73	-4.44	-1.72	4.76224	201.20	0.05	GyroTool	0
11	1032.90	0.06	46.17	132.90	1032.87	-4.73	-4.44	-1.75	4.76944	201.58	0.10	GyroTool	0
12	1127.40	0.06	54.15	94.50	1127.37	-4.65	-4.37	-1.68	4.68299	201.00	0.01	GyroTool	0
13	1221.90	0.09	56.59	94.50	1221.87	-4.56	-4.30	-1.58	4.58175	200.12	0.03	GyroTool	0
14	1316.40	0.06	64.04	94.50	1316.37	-4.47	-4.24	-1.47	4.48711	199.12	0.03	GyroTool	0
15	1410.90	0.07	70.52	94.50	1410.87	-4.41	-4.20	-1.37	4.41679	198.08	0.01	GyroTool	0
16	1505.40	0.07	70.41	94.50	1505.37	-4.34	-4.16	-1.26	4.34728	196.87	0.00	GyroTool	0
17	1599.90	0.07	49.98	94.50	1599.87	-4.26	-4.10	-1.16	4.26533	195.83	0.03	GyroTool	0
18	1694.40	0.07	45.53	94.50	1694.37	-4.17	-4.03	-1.08	4.16787	194.99	0.01	GyroTool	0
19	1788.90	0.06	48.95	94.50	1788.87	-4.08	-3.95	-1.00	4.07751	194.19	0.01	GyroTool	0
20	1883.40	0.09	46.57	94.50	1883.37	-3.97	-3.87	-0.91	3.97476	193.21	0.03	GyroTool	0
21	1977.90	0.11	37.21	94.50	1977.87	-3.83	-3.75	-0.80	3.83069	192.04	0.03	GyroTool	0
22	2072.40	0.14	35.26	94.50	2072.37	-3.64	-3.58	-0.68	3.64346	190.72	0.03	GyroTool	0
23	2166.90	0.13	46.94	94.50	2166.87	-3.44	-3.41	-0.53	3.45373	188.88	0.03	GyroTool	0
24	2261.40	0.14	25.47	94.50	2261.37	-3.23	-3.23	-0.40	3.26018	187.13	0.05	GyroTool	0
25	2355.90	0.14	36.55	94.50	2355.87	-3.01	-3.04	-0.29	3.05144	185.39	0.03	GyroTool	0
26	2450.40	0.14	44.04	94.50	2450.37	-2.81	-2.86	-0.14	2.86552	182.75	0.02	GyroTool	0
27	2544.90	0.13	43.96	94.50	2544.87	-2.61	-2.70	0.02	2.70211	179.64	0.01	GyroTool	0
28	2639.40	0.13	47.07	94.50	2639.37	-2.43	-2.55	0.17	2.55753	176.19	0.01	GyroTool	0
29	2733.90	0.14	55.01	94.50	2733.87	-2.25	-2.41	0.34	2.43693	171.90	0.02	GyroTool	0
30	2828.40	0.15	53.18	94.50	2828.37	-2.07	-2.27	0.54	2.33485	166.71	0.01	GyroTool	0
31	2922.90	0.14	56.22	94.50	2922.87	-1.88	-2.13	0.73	2.25596	161.07	0.01	GyroTool	0
32	3017.40	0.14	40.29	94.50	3017.37	-1.69	-1.98	0.90	2.17751	155.52	0.04	GyroTool	0
33	3111.90	0.13	37.36	94.50	3111.87	-1.49	-1.81	1.04	2.08722	150.05	0.01	GyroTool	0
34	3206.40	0.13	39.65	94.50	3206.37	-1.29	-1.64	1.18	2.01838	144.38	0.01	GyroTool	0
35	3300.90	0.13	38.40	94.50	3300.87	-1.10	-1.47	1.31	1.97248	138.36	0.00	GyroTool	0
36	3395.40	0.13	40.29	94.50	3395.37	-0.90	-1.31	1.45	1.95041	132.13	0.00	GyroTool	0
37	3489.90	0.12	38.80	94.50	3489.87	-0.72	-1.15	1.58	1.95212	126.07	0.01	GyroTool	0
38	3584.40	0.10	32.64	94.50	3584.37	-0.55	-1.00	1.68	1.96028	120.77	0.02	GyroTool	0
39	3678.90	0.11	35.12	94.50	3678.87	-0.39	-0.86	1.78	1.97742	115.75	0.01	GyroTool	0
40	3773.40	0.10	35.46	94.50	3773.37	-0.22	-0.72	1.88	2.01334	110.89	0.01	GyroTool	0
41	3867.90	0.11	36.72	94.50	3867.86	-0.06	-0.58	1.98	2.0656	106.25	0.01	GyroTool	0
42	3962.40	0.11	33.78	94.50	3962.36	0.11	-0.43	2.09	2.13156	101.63	0.01	GyroTool	0
43	4056.90	0.11	31.30	94.50	4056.86	0.28	-0.28	2.19	2.20281	97.22	0.01	GyroTool	0
44	4180.00	0.09	19.07	123.10	4179.96	0.49	-0.08	2.28	2.27988	92.13	0.02	GyroTool	0
45	4275.00	0.22	252.78	95.00	4274.96	0.47	-0.07	2.13	2.12957	91.83	0.30	GyroTool	0
46	4370.00	0.22	127.88	95.00	4369.96	0.30	-0.23	2.10	2.11124	96.37	0.41	GyroTool	0
47	4465.00	0.31	29.89	95.00	4464.96	0.47	-0.12	2.37	2.37346	92.98	0.43	GyroTool	0
48	4557.00	0.31	13.76	92.00	4556.96	0.96	0.33	2.55	2.57527	82.54	0.09	GyroTool	0
49	4652.00	0.48	5.45	95.00	4651.96	1.61	0.98	2.65	2.82767	69.72	0.19	GyroTool	0
50	4749.00	0.48	32.57	97.00	4748.96	2.40	1.73	2.91	3.3836	59.31	0.23	GyroTool	0
51	4843.00	0.48	8.26	94.00	4842.95	3.17	2.45	3.18	4.01198	52.39	0.22	GyroTool	0
52	4936.00	0.31	11.96	93.00	4935.95	3.81	3.08	3.29	4.50408	46.86	0.18	GyroTool	0
53	5031.00	0.40	16.09	95.00	5030.95	4.39	3.65	3.43	5.00983	43.23	0.10	GyroTool	0
54	5126.00	0.48	352.88	95.00	5125.95	5.09	4.36	3.47	5.57764	38.53	0.20	GyroTool	0
55	5220.00	0.31	9.76	94.00	5219.94	5.71	5.00	3.47	6.08922	34.72	0.22	GyroTool	0
56	5318.00	0.31	8.57	98.00	5317.94	6.24	5.53	3.55	6.57153	32.73	0.01	GyroTool	0
57	5413.00	0.62	338.78	95.00	5412.94	6.92	6.26	3.41	7.12757	28.54	0.40	GyroTool	0
58	5507.00	0.48	356.09	94.00	5506.94	7.70	7.13	3.19	7.81143	24.14	0.23	GyroTool	0
59	5602.00	0.40	330.08	95.00	5601.93	8.32	7.81	3.00	8.36968	21.02	0.22	GyroTool	0
60	5696.00	0.31	351.56	94.00	5695.93	8.78	8.35	2.80	8.80608	18.54	0.17	GyroTool	0
61	5790.00	0.40	0.27	94.00	5789.93	9.34	8.93	2.76	9.34681	17.21	0.11	GyroTool	0
62	5885.00	0.48	347.17	95.00	5884.93	10.01	9.65	2.68	10.0129	15.51	0.13	GyroTool	0
63	5981.00	0.62	331.66	96.00	5980.92	10.75	10.50	2.34	10.75547	12.58	0.21	GyroTool	0
64	6074.00	0.48	347.17	93.00	6073.92	11.46	11.32	2.02	11.49829	10.10	0.22	GyroTool	0
65	6170.00	0.31	318.47	96.00	6169.92	11.97	11.91	1.76	12.03523	8.39	0.27	GyroTool	0
66	6264.00	0.40	274.27	94.00	6263.91	12.05	12.12	1.26	12.18659	5.93	0.30	GyroTool	0
67	6357.00	0.48	277.39	93.00	6356.91	11.94	12.20	0.55	12.20797	2.58	0.09	GyroTool	0
68	6452.00	0.40	279.76	95.00	6451.91	11.87	12.30	-0.17	12.30419	359.20	0.09	GyroTool	0
69	6546.00	0.48	273.87	94.00	6545.91	11.77	12.39	-0.89	12.41699	355.90	0.10	GyroTool	0
70	6641.00	0.48	267.06	95.00	6640.90	11.57	12.39	-1.68	12.50535	352.27	0.06	GyroTool	0
71	6736.00	0.62	229.18	95.00	6735.90	11.03	12.04	-2.47	12.28587	348.41	0.40	GyroTool	0
72	6830.00	0.79	237.97	94.00	6829.89	10.14	11.36	-3.40	11.85795	343.32	0.21	GyroTool	0
73	6925.00	0.79	238.05	95.00	6924.88	9.19	10.67	-4.51	11.58117	337.06	0.00	GyroTool	0
74	7018.00	0.88	226.58	93.00	7017.87	8.12	9.84	-5.58	11.30616	330.45	0.20	GyroTool	0
75	7113.00	0.88	224.48	95.00	7112.86	6.87	8.81	-6.62	11.0212	323.10	0.03	GyroTool	0
76	7213.00	0.88	219.47	100.00	7212.85	5.51	7.67	-7.64	10.83038	315.11	0.08	GyroTool	0
77	7307.00	1.01	214.19	94.00	7306.84	4.08	6.43	-8.57	10.71268	306.89	0.17	GyroTool	0
78	7402.00	1.01	222.85	95.00	7401.82	2.55	5.12	-9.61	10.889	298.07	0.16	GyroTool	0
79	7497.00	1.19	223.38	95.00	7496.80	0.95	3.79	-10.86	11.49879	289.26	0.19	GyroTool	0
80	7591.00	1.10	220.08	94.00	7590.79	-0.72	2.39	-12.11	12.34087	281.18	0.12	GyroTool	0
81	7686.00	1.19	226.76	95.00	7685.77	-2.37	1.02	-13.41	13.4511	274.35	0.17	GyroTool	0
82	7781.00	1.32	217.58	95.00	7780.74	-4.21	-0.52	-14.80	14.80766	267.97	0.25	GyroTool	0
83	7874.00	1.32	218.76	93.00	7873.72	-6.18	-2.21	-16.12	16.27279	262.20	0.03	GyroTool	0
84	7968.00	1.80	241.48	94.00	7967.68	-8.17	-3.76	-18.10	18.48321	258.27	0.82	GyroTool	0
85	8064.00	0.88	269.08	96.00	8063.66	-9.40	-4.49	-20.16	20.65296	257.45	1.14	GyroTool	0
86	8158.00	1.41	251.15	94.00	8157.64	-10.22	-4.87	-21.98	22.50954	257.49	0.67	GyroTool	0
87	8190.00	1.32	270.00	32.00	8189.63	-10.53	-5.00	-22.72	23.2607	257.58	1.42	GyroTool	0
88	8253.00	1.49	250.58	63.00	8252.61	-11.17	-5.27	-24.21	24.78241	257.71	0.80	GyroTool	0
89	8347.00	1.49	254.18	94.00	8346.58	-12.47	-6.01	-26.54	27.21581	257.24	0.10	GyroTool	0
90	8443.00	1.49	242.05	96.00	8442.55	-13.94	-6.94	-28.85	29.6693	256.48	0.33	GyroTool	0
91	8539.00	1.80	235.29	96.00	8538.51	-15.93	-8.38	-31.19	32.29524	254.96	0.38	GyroTool	0
92	8622.00	1.80	221.09	83.00	8621.47	-18.08	-10.11	-33.12	34.62473	253.03	0.54	GyroTool	0
93	8650.00	1.71	223.44	28.00	8649.45	-18.84	-10.74	-33.69	35.36453	252.32	0.40	SlimPulse	0
94	8682.00	1.38	188.79	32.00	8681.44	-19.64	-11.47	-34.08	35.95908	251.40	3.05	SlimPulse	0
95	8713.00	2.18	126.30	31.00	8712.43	-20.23	-12.19	-33.66	35.79972	250.10	6.36	SlimPulse	0
96	8745.00	3.49	116.53	32.00	8744.39	-20.66	-12.98	-32.30	34.81043	248.10	4.33	SlimPulse	0
97	8776.00	4.66	107.86	31.00	8775.31	-20.93	-13.79	-30.26	33.25106	245.50	4.25	SlimPulse	0
98	8808.00	6.36	102.97	32.00	8807.16	-20.96	-14.59	-27.29	30.94627	241.88	5.51	SlimPulse	0
99	8839.00	8.36	100.96	31.00									

106	9060.00	14.82	94.65	31.00	9053.27	-14.15	-21.09	25.03	32.73124	130.12	1.75	SlimPulse	0
107	9092.00	15.20	94.37	32.00	9084.17	-12.71	-21.74	33.29	39.76461	123.15	1.21	SlimPulse	0
108	9123.00	16.85	89.14	31.00	9113.97	-10.80	-21.98	41.84	47.26431	117.72	7.05	SlimPulse	0
109	9155.00	18.46	84.67	32.00	9144.46	-7.85	-21.44	51.52	55.80648	112.60	6.57	SlimPulse	0
110	9187.00	19.21	82.24	32.00	9174.75	-4.14	-20.26	61.78	65.01965	108.16	3.39	SlimPulse	0
111	9218.00	19.71	83.73	31.00	9203.98	-0.35	-19.00	72.03	74.4963	104.78	2.29	SlimPulse	0
112	9250.00	19.82	84.83	32.00	9234.09	3.39	-17.93	82.80	84.71768	102.22	1.21	SlimPulse	0
113	9281.00	20.63	84.77	31.00	9263.18	7.00	-16.96	93.47	94.9966	100.28	2.61	SlimPulse	0
114	9313.00	22.74	85.19	32.00	9292.92	10.95	-15.92	105.25	106.44569	98.60	5.61	SlimPulse	0
115	9344.00	24.08	85.06	31.00	9321.36	15.04	-14.88	117.52	118.45705	97.21	4.34	SlimPulse	0
116	9376.00	24.33	83.47	32.00	9350.55	19.58	-13.56	130.57	131.27597	95.93	2.19	SlimPulse	0
117	9408.00	23.86	82.09	32.00	9379.76	24.42	-11.92	143.53	144.02848	94.75	2.29	SlimPulse	0
118	9439.00	24.04	82.55	31.00	9408.09	29.17	-10.24	156.01	156.34117	93.76	0.82	SlimPulse	0
119	9471.00	26.11	86.58	32.00	9437.08	33.78	-8.98	169.50	169.73582	93.03	8.38	SlimPulse	0
120	9502.00	28.76	89.57	31.00	9464.59	37.80	-8.51	183.77	183.96393	92.65	9.64	SlimPulse	0
121	9534.00	32.59	88.97	32.00	9492.11	42.09	-8.30	200.09	200.2596	92.38	12.02	SlimPulse	0
122	9565.00	36.89	86.35	31.00	9517.58	47.23	-7.56	217.73	217.86149	91.99	14.69	SlimPulse	0
123	9597.00	41.03	84.17	32.00	9542.46	53.88	-5.88	237.77	237.84706	91.42	13.62	SlimPulse	0
124	9628.00	43.73	82.54	31.00	9565.35	61.43	-3.45	258.52	258.54717	90.77	9.39	SlimPulse	0
125	9660.00	45.82	80.86	32.00	9588.07	70.17	-0.19	280.82	280.82255	90.04	7.52	SlimPulse	0
126	9692.00	48.13	78.78	32.00	9609.90	79.95	3.95	303.84	303.86986	89.26	8.65	SlimPulse	0
127	9723.00	50.46	76.53	31.00	9630.12	90.57	8.98	326.80	326.91907	88.43	9.31	SlimPulse	0
128	9755.00	53.64	72.99	32.00	9649.80	103.10	15.63	351.13	351.47511	87.45	13.22	SlimPulse	0
129	9786.00	56.35	67.84	31.00	9667.59	117.34	24.15	375.03	375.80508	86.32	16.16	SlimPulse	0
130	9818.00	59.05	64.09	32.00	9684.69	134.20	35.18	399.72	401.26118	84.97	13.02	SlimPulse	0
131	9850.00	60.14	62.48	32.00	9700.89	152.39	47.58	424.37	427.02697	83.60	5.50	SlimPulse	0
132	9881.00	61.95	60.39	31.00	9715.89	170.92	60.56	448.19	452.25951	82.31	8.31	SlimPulse	0
133	9913.00	63.76	57.49	32.00	9730.50	191.25	75.25	472.57	478.52681	80.95	9.85	SlimPulse	0
134	9944.00	65.86	53.72	31.00	9743.69	212.39	91.10	495.71	504.01052	79.59	12.92	SlimPulse	0
135	9976.00	67.78	50.32	32.00	9756.29	235.72	109.20	518.89	530.25911	78.12	11.47	SlimPulse	0
136	10007.00	69.13	47.24	31.00	9767.68	259.55	128.20	540.57	555.56284	76.66	10.22	SlimPulse	0
137	10038.00	70.46	45.09	31.00	9778.38	284.31	148.35	561.55	580.81578	75.20	7.77	SlimPulse	0
138	10070.00	71.57	43.33	32.00	9788.79	310.60	170.04	582.65	606.95357	73.73	6.26	SlimPulse	0
139	10102.00	72.42	40.61	32.00	9798.69	337.60	192.66	603.00	633.02883	72.28	8.51	SlimPulse	0
140	10133.00	73.70	38.79	31.00	9807.72	364.43	215.48	621.94	658.20802	70.89	6.97	SlimPulse	0
141	10165.00	76.36	36.91	32.00	9815.99	392.81	239.89	640.90	684.32456	69.48	10.06	SlimPulse	0
142	10196.00	79.05	34.92	31.00	9822.59	421.01	264.41	658.66	709.75615	68.13	10.70	SlimPulse	0
143	10228.00	79.66	33.11	32.00	9828.50	450.65	290.48	676.26	736.00456	66.75	5.89	SlimPulse	0
144	10260.00	79.14	32.59	32.00	9839.90	508.50	341.68	709.31	767.31803	64.28	1.19	SlimPulse	0
145	10322.00	79.66	31.32	32.00	9845.79	538.50	368.37	725.96	814.06993	63.10	4.23	SlimPulse	0
146	10353.00	80.58	30.41	31.00	9851.11	567.81	394.58	741.63	840.06148	61.98	4.13	SlimPulse	0
147	10385.00	80.99	29.19	32.00	9856.23	598.28	421.99	757.32	866.95739	60.87	3.99	SlimPulse	0
148	10416.00	81.86	28.14	31.00	9860.66	628.00	448.89	772.03	893.04287	59.82	4.35	SlimPulse	0
149	10448.00	82.45	26.64	32.00	9865.22	658.90	477.03	786.61	919.95413	58.77	5.01	SlimPulse	0
150	10479.00	83.45	25.86	31.00	9869.03	689.02	504.62	800.22	946.04102	57.76	4.08	SlimPulse	0
151	10511.00	84.73	25.41	32.00	9872.32	720.25	533.32	813.99	973.14323	56.77	4.24	SlimPulse	0
152	10543.00	86.18	25.16	32.00	9874.86	751.59	562.16	827.61	1000.48545	55.81	4.59	SlimPulse	0
153	10575.00	87.56	24.23	32.00	9876.60	783.04	591.19	840.96	1027.97263	54.89	5.19	SlimPulse	0
154	10617.00	89.76	23.10	96.00	9878.85	877.78	679.09	879.48	1111.14837	52.33	2.58	SlimPulse	0
155	10765.00	89.79	23.06	94.00	9879.22	970.73	765.56	916.33	1194.04551	50.12	0.05	SlimPulse	0
156	10860.00	90.52	23.29	95.00	9878.96	1064.65	852.90	953.71	1279.45331	48.19	0.80	SlimPulse	0
157	10955.00	91.03	23.74	95.00	9877.68	1158.47	940.00	991.61	1366.34481	46.53	0.72	SlimPulse	0
158	11050.00	90.07	22.71	95.00	9876.77	1252.36	1027.29	1029.08	1454.0751	45.05	1.48	SlimPulse	0
159	11144.00	90.34	22.54	94.00	9876.43	1345.42	1114.06	1065.25	1541.38557	43.72	0.34	SlimPulse	0
160	11239.00	90.28	21.09	95.00	9875.91	1439.64	1202.25	1100.55	1629.9109	42.47	1.54	SlimPulse	0
161	11334.00	88.83	19.41	95.00	9876.66	1534.16	1291.37	1133.43	1718.22254	41.27	2.33	SlimPulse	0
162	11429.00	90.41	18.29	95.00	9877.28	1628.88	1381.27	1164.12	1806.3972	40.12	2.04	SlimPulse	0
163	11524.00	91.89	16.04	95.00	9875.37	1723.75	1472.01	1192.15	1894.20965	39.00	2.83	SlimPulse	0
164	11619.00	92.61	12.39	95.00	9871.64	1818.66	1564.01	1215.46	1980.77502	37.85	3.92	SlimPulse	0
165	11714.00	93.65	7.85	95.00	9866.45	1913.21	1657.37	1232.12	2065.18591	36.63	4.89	SlimPulse	0
166	11809.00	91.00	5.67	95.00	9862.60	2007.25	1751.62	1243.30	2148.00948	35.37	3.61	SlimPulse	0
167	11904.00	86.87	3.60	95.00	9864.37	2100.80	1846.26	1250.97	2230.16027	34.12	4.86	SlimPulse	0
168	11999.00	85.63	2.16	95.00	9870.59	2193.65	1940.94	1255.73	2311.7306	32.90	1.99	SlimPulse	0
169	12094.00	89.83	3.05	95.00	9874.35	2286.51	2035.74	1260.05	2394.15363	31.76	4.52	SlimPulse	0
170	12189.00	89.62	2.32	95.00	9874.81	2379.50	2130.63	1264.51	2477.61572	30.69	0.80	SlimPulse	0
171	12285.00	89.69	1.69	96.00	9875.38	2473.22	2226.57	1267.87	2562.24958	29.66	0.66	SlimPulse	0
172	12379.00	90.45	1.04	94.00	9875.27	2564.75	2320.54	1270.11	2645.39487	28.69	1.06	SlimPulse	0
173	12474.00	90.10	0.63	95.00	9874.82	2657.06	2415.53	1271.50	2729.74488	27.76	0.56	SlimPulse	0
174	12569.00	90.07	0.32	95.00	9874.67	2749.22	2510.53	1272.28	2814.50883	26.87	0.33	SlimPulse	0
175	12663.00	90.21	0.25	94.00	9874.45	2840.34	2604.53	1272.74	2898.8696	26.04	0.16	SlimPulse	0
176	12758.00	90.21	359.22	95.00	9874.11	2932.19	2699.53	1272.30	2984.32352	25.23	1.09	SlimPulse	0
177	12854.00	90.24	358.71	96.00	9873.73	3024.68	2795.51	1270.56	3070.69964	24.44	0.53	SlimPulse	0
178	12949.00	89.59	358.15	95.00	9873.87	3115.96	2890.47	1267.95	3156.34796	23.69	0.91	SlimPulse	0
179	13044.00	87.42	358.02	95.00	9876.35	3207.05	2985.38	1264.77	3242.24419	22.96	2.29	SlimPulse	0
180	13139.00	86.90	358.26	95.00	9881.06	3298.08	3080.21	1261.69	3328.59871	22.27	0.60	SlimPulse	0
181	13234.00	87.42	358.35	95.00	9885.77	3389.19	3175.05	1258.88	3415.51654	21.63	0.55	SlimPulse	0
182	13327.00	88.28	357.91	93.00	9889.26	3478.36	3267.94	1255.85	3500.94065	21.02	1.04	SlimPulse	0
183	13423.00	88.90	357.37	96.00	9891.62	3570.20	3363.83	1251.90	3589.2336	20.41	0.85	SlimPulse	0
184	13518.00	90.48	357.03	95.00	9892.13	3660.89	3458.71	1247.27	3676.73024	19.83	1.70	SlimPulse	0
185	13613.00	90.79	356.85	95.00	9891.08	3751.45	3553.57	1242.19	3764.42411	19.27	0.38	SlimPulse	0
186	13708.00	90.72	356.70	95.00	9889.82	3841.93	3648.41	1236.85	3852.36106	18.73	0.17	SlimPulse	0
187	13803.00	90.55	356.28	95.00	9888.77	3932.27	3743.23	1231.04	3940.45478	18.20	0.48	SlimPulse	0
188	13898.00	90.48	357.10	95.00	9887.91	4022.70	3838.06	1225.56	4028.98348	17.71	0.87	SlimPulse	0
189	13992.00	90.72	356.69	94.00	9886.93	4112.29	3931.92	1220.47	4116.98037	17.24			