

Results of Directional Survey

API number:	30-025-41243		
OGRID:		Operator:	CIMAREX ENERGY CO.
		Property:	CASCADE 29 FEDERAL # 5H

surface	ULSTR:	D	29	T	25S	R	33E
				330	FNL	500	FWL

BH Loc	ULSTR:	M	29	T	25S	R	33E
14373	MD	9874.0	TVD	332	FSL	1137	FWL
4948 FNL							

Top Perf/OH	ULSTR:	D	29	T	25S	R	33E
9870	MD	9686.4	TVD	539	FNL	942	FWL

Bot Perf/OH	ULSTR:	M	29	T	25S	R	33E
14260	MD	9873.0	TVD	445	FNL	1138	FWL
4835 FNL							

	MD	N/S	E/W	VD
	9860.00	-202.55	436.76	9680.98
TOP PERFS/OH	9870.00	-208.75	442.48	9686.35
	9892.00	-222.39	455.07	9698.16
	14247.00	-4491.59	638.72	9872.88
BOT PERFS/OH	14260.00	-4504.59	638.47	9872.99
	14303.00	-4547.58	637.64	9873.37

NEXT TO LAST	14303.00	-4547.58	637.64	9873.37
LAST READING	14373.00	-4617.57	636.80	9874.04
TD	14373.00	-4617.57	636.80	9874.04

Surface Location	330	FN	500	FW
Projected BHL	4948	FN	1137	FW
Location of				
Top Perfs/OH	539	FN	942	FW
Bottom Perfs/OH	4835	FN	1138	FW

SUMMARY of Subsurface Locations

Surface Location	D-29-25S-33E	330	FN	500	FW	Vert. Depth
Top Perfs/OH	D-29-25S-33E	539	FN	942	FW	9686.35
Bottom Perfs/OH	M-29-25S-33E	4835	FN	1138	FW	9872.99
Projected TD	M-29-25S-33E	4948	FN	1137	FW	9874.04

FEB 03 2015

Oilfield Services, Central U.S. Land

HOBBSOCD

PATHFINDER
A Schlumberger Company

Reservoir Development

PathFinder, a Schlumberger Company

9200 West Reno Avenue

Oklahoma City, Oklahoma 73127USA

Phone: (405) 789-1515

Fax: (405) 789-1519

JAN 22 2015

RECEIVED

October 1, 2014

Cimarex

600 N MARIENFELD STREET SUITE 600

MIDLAND ,TX 79701

Re:

CLIENT: Cimarex Energy Co.

WELL: Cascade 29 Federal 5H

FIELD: Bone Spring

RIG: Cactus 101

COUNTY: Lea

API NO: 30-025-41243

JOB NO: 14MLD0490

Sec 29, T25S, R33E Lea NM
N 32.10793 W103.60123

Enclosed, please find the original copy of the survey performed on the referenced well by PathFinder, 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>
Brandon Chandler FE	Cascade 29 Federal 5H Original Hole	8945.00 Ft to 14303.00 Ft	June 28, 2014 to July 5, 2014	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

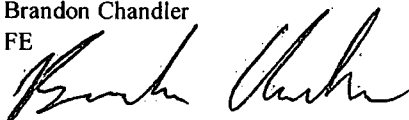
PathFinder, a Schlumberger Company
9200 West Reno Avenue
Oklahoma City, Oklahoma 73127USA
Phone: (405) 789-1515
Fax: (405) 789-1519

Well Reference:

Sec 29, T25S, R33E Lea NM
N 32.10793 W 103.60097

I, Brandon Chandler certify that; I am employed by PathFinder, a division of Schlumberger Technology Corporation; that I did on the day(s) of June 28, 2014 through July 05, 2014, conduct or supervise the taking of the SlimPulse surveys from a depth of 8945.00 feet to a depth of 14303.00 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 Cascade 29 Federal 5H Well (Original Hole) API No. 30-025-41243 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
Brandon Chandler
FE



Subscribed and Sworn to before me this 1st day of October (month) 2014 (yr)

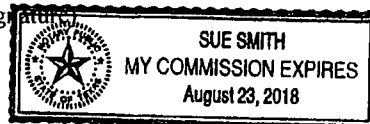
My Commission expires:

August 23, 2018
Sue Smith

Notary Public

Midland Texas
(County State)

(signature)



SCHLUMBERGER

Survey Report

8-Oct-2014

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

Well.....: Cascade 29 Federal 5H
API number.....: 30-025-41243
Engineer.....: Brandon Chandler

County.....: Lea
State.....: New Mexico
Rig.....: Cactus 101

Spud date.....: 14-Jun-14
Last survey date.....: 5-Jul-14
Total accepted surveys...: 89
MD of first survey.....: 8945.00 ft
MD of last survey.....: 14303.00 ft

Latitude.....: 32° 6' 28.533" N
Longitude.....: 103° 36' 3.503" 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.....: 3422.00
KB above permanent.....: 3440.00
DF above permanent.....: 3440.00

----- Vertical section origin-----

Latitude (+N/-).....: 0.00 ft
Departure (+E/-W-).....: 0.00 ft

----- Grid Coordinates -----

NAD27 Texas State Plane, Central Zone, US Feet
X.....: 403770.10 ft
Y.....: 768096.80 ft

Azimuth from Vsect Origin to target: 171.99 degrees

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

-----Run1----- Calculation Date: 25-Jun-2014
Location G....: 998.63244 mgn Tolerance G....: 2.50 mgn
Location B....: 48211.27 nT Tolerance B....: 300.00 nT
Magnetic Dip: 59.992 degrees Tolerance Dip: 0.45 degrees

-----Run2----- Calculation Date: 30-Jun-2014
Location G....: 998.63244 mgn Tolerance G....: 2.50 mgn
Location B....: 48211.27 nT Tolerance B....: 300.00 nT
Magnetic Dip: 59.99 degrees Tolerance Dip: 0.45 degrees

-----Run3----- Calculation Date: 2-Jul-2014
Location G....: 998.63244 mgn Tolerance G....: 2.50 mgn
Location B....: 48211.27 nT Tolerance B....: 300.00 nT
Magnetic Dip: 59.99 degrees Tolerance Dip: 0.45 degrees

BGGM Model: 2013

-----Run1-----
Magnetic dec (+E/-W-).....: 7.378 degrees
Grid Conv (+E/-W-).....: 0.388 degrees
Total Azim Corr (+E/-W-)...: 6.99 degrees

-----Run2-----
Magnetic dec (+E/-W-).....: 7.378 degrees
Grid Conv (+E/-W-).....: 0.388 degrees
Total Azim Corr (+E/-W-)...: 6.99 degrees

-----Run3-----
Magnetic dec (+E/-W-).....: 7.378 degrees
Grid Conv (+E/-W-).....: 0.388 degrees
Total Azim Corr (+E/-W-)...: 6.99 degrees

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

0 = Uncorrected 1 = Sag Corrected

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	35.00	0.09	20.13	35.00	35.00	-0.02	0.03	0.01	0.03	20.13	0.26	Other	0
3	127.00	0.31	15.65	92.00	127.00	-0.32	0.33	0.10	0.35	16.93	0.24	Other	0
4	173.00	0.48	82.14	46.00	173.00	-0.43	0.48	0.33	0.58	34.20	0.99	Other	0
5	288.00	0.62	73.13	115.00	287.99	-0.52	0.73	1.40	1.58	62.57	0.14	Other	0
6	341.00	0.70	64.03	53.00	340.99	-0.67	0.95	1.96	2.18	64.16	0.25	Other	0

7	398.00	0.79	64.87	57.00	397.98	-0.89	1.27	2.63	2.92	64.24	0.16	Other	0
8	454.00	0.88	61.97	56.00	453.98	-1.15	1.64	3.36	3.74	64.05	0.18	Other	0
9	511.00	1.01	57.97	57.00	510.97	-1.51	2.11	4.17	4.68	63.20	0.26	Other	0
10	570.00	0.88	60.04	59.00	569.96	-1.89	2.61	5.01	5.65	62.47	0.23	Other	0
11	617.00	0.88	69.75	47.00	616.96	-2.10	2.92	5.66	6.37	62.74	0.32	Other	0
12	720.00	1.10	75.86	103.00	719.94	-2.37	3.43	7.36	8.12	65.01	0.24	Other	0
13	814.00	1.01	70.36	94.00	813.93	-2.64	3.93	9.01	9.89	66.45	0.14	Other	0
14	907.00	0.88	78.05	93.00	906.91	-2.85	4.35	10.49	11.35	67.45	0.19	Other	0
15	965.00	0.88	77.83	62.00	968.91	-2.92	4.55	11.42	12.29	68.26	0.01	Other	0
16	1079.00	1.10	5.95	110.00	1078.89	-4.00	5.78	12.35	13.64	64.92	1.07	Other	0
17	1167.00	1.10	70.54	88.00	1166.88	-4.99	6.90	13.24	14.93	62.46	1.34	Other	0
18	1268.00	1.19	69.97	101.00	1267.86	-5.40	7.58	15.14	16.93	63.38	0.09	Other	0
19	1363.00	1.32	64.65	95.00	1362.84	-5.93	8.39	17.05	19	63.80	0.18	Other	0
20	1458.00	1.32	64.03	95.00	1457.81	-6.60	9.34	19.02	21.19	63.85	0.02	Other	0
21	1552.00	1.49	64.03	94.00	1551.78	-7.31	10.35	21.10	23.5	63.87	0.18	Other	0
22	1647.00	0.48	20.97	95.00	1646.77	-8.04	11.26	22.35	25.02	63.26	1.25	Other	0
23	1742.00	0.62	12.05	95.00	1741.77	-8.87	12.13	22.60	25.65	61.77	0.17	Other	0
24	1836.00	0.70	15.96	94.00	1835.76	-9.87	13.18	22.86	26.39	60.03	0.10	Other	0
25	1932.00	0.70	247.77	96.00	1931.76	-10.26	13.53	22.48	26.24	58.97	1.31	Other	0
26	2026.00	0.88	29.05	94.00	2025.75	-10.70	13.94	22.30	26.3	57.99	1.59	Other	0
27	2120.00	1.10	35.16	94.00	2119.74	-11.93	15.31	23.17	27.77	56.55	0.26	Other	0
28	2218.00	1.19	37.36	98.00	2217.72	-13.33	16.89	24.33	29.61	55.24	0.10	Other	0
29	2313.00	1.41	39.16	95.00	2312.69	-14.82	18.58	25.67	31.68	54.10	0.24	Other	0
30	2408.00	1.49	41.67	95.00	2407.66	-16.41	20.41	27.22	34.02	53.15	0.11	Other	0
31	2504.00	2.90	53.36	96.00	2503.59	-18.39	22.79	30.00	37.68	52.78	1.53	Other	0
32	2597.00	2.50	57.44	93.00	2596.49	-20.36	25.28	33.60	42.05	53.04	0.48	Other	0
33	2690.00	1.32	53.97	93.00	2689.43	-21.70	27.00	36.18	45.14	53.26	1.27	Other	0
34	2788.00	0.62	96.73	98.00	2787.42	-22.10	27.61	37.62	46.66	53.73	0.98	Other	0
35	2883.00	0.48	107.45	95.00	2882.42	-21.80	27.43	38.51	47.28	54.54	0.18	Other	0
36	2978.00	0.62	102.14	95.00	2977.41	-21.45	27.20	39.39	47.87	55.37	0.16	Other	0
37	3073.00	0.70	86.75	95.00	3072.41	-21.22	27.12	40.47	48.72	56.17	0.20	Other	0
38	3168.00	0.79	80.73	95.00	3167.40	-21.19	27.26	41.70	49.82	56.82	0.13	Other	0
39	3266.00	0.88	79.06	98.00	3265.39	-21.24	27.51	43.10	51.13	57.45	0.10	Other	0
40	3357.00	1.01	75.45	91.00	3356.37	-21.37	27.85	44.56	52.55	58.00	0.16	Other	0
41	3451.00	1.01	70.45	94.00	3450.36	-21.63	28.33	46.15	54.15	58.45	0.09	Other	0
42	3547.00	0.88	75.64	96.00	3546.35	-21.88	28.80	47.66	55.68	58.86	0.16	Other	0
43	3641.00	1.01	75.15	94.00	3640.33	-22.06	29.19	49.16	57.17	59.30	0.14	Other	0
44	3736.00	1.01	68.56	95.00	3735.32	-22.35	29.71	50.75	58.8	59.65	0.12	Other	0
45	3830.00	1.19	68.03	94.00	3829.30	-22.78	30.38	52.42	60.59	59.91	0.19	Other	0
46	3924.00	1.32	66.45	94.00	3923.28	-23.31	31.05	56.30	62.63	60.15	0.14	Other	0
47	4018.00	1.32	66.23	94.00	4017.25	-23.89	32.05	58.30	64.79	60.35	0.01	Other	0
48	4113.00	1.32	65.35	95.00	4112.23	-24.50	32.94	58.30	66.96	60.53	0.02	Other	0
49	4207.00	1.49	67.16	94.00	4206.20	-25.12	33.87	60.41	69.26	60.72	0.19	Other	0
50	4303.00	0.79	96.86	96.00	4302.18	-25.27	34.27	62.22	71.03	61.15	0.93	Other	0
51	4398.00	0.79	117.25	95.00	4397.17	-24.73	33.90	63.45	71.94	61.89	0.29	Other	0
52	4492.00	1.19	113.17	94.00	4491.16	-23.85	33.22	64.92	72.93	62.91	0.43	Other	0
53	4587.00	1.49	128.55	95.00	4586.13	-22.44	32.06	66.80	74.09	64.36	0.49	Other	0
54	4681.00	1.19	130.35	94.00	4680.11	-20.82	30.66	68.50	75.05	65.88	0.32	Other	0
55	4777.00	1.10	130.74	96.00	4776.09	-19.39	29.42	69.95	75.89	67.19	0.09	Other	0
56	4836.00	1.10	131.67	59.00	4835.08	-18.53	28.67	70.81	76.39	67.96	0.03	Other	0
57	4972.00	1.19	134.83	136.00	4971.05	-16.41	26.81	72.68	77.56	69.78	0.08	Other	0
58	5068.00	0.70	166.25	96.00	5067.04	-15.03	25.54	73.63	70.87	70.87	0.72	Other	0
59	5163.00	0.62	178.25	95.00	5162.03	-13.94	24.46	73.78	71.66	71.66	0.17	Other	0
60	5257.00	0.62	186.07	94.00	5256.03	-12.94	23.44	73.74	77.38	72.36	0.09	Other	0
61	5352.00	0.62	187.57	95.00	5351.02	-11.95	22.42	73.62	76.96	73.06	0.02	Other	0
62	5445.00	0.62	182.64	93.00	5444.02	-10.97	21.42	73.53	76.59	73.76	0.06	Other	0
63	5540.00	0.79	231.25	95.00	5539.01	-10.13	20.50	73.00	75.82	74.31	0.63	Other	0
64	5637.00	0.79	233.84	97.00	5636.00	-9.47	19.69	71.94	74.58	74.70	0.04	Other	0
65	5732.00	0.88	235.33	95.00	5730.99	-8.84	18.88	70.81	73.28	75.07	0.10	Other	0
66	5826.00	0.79	227.47	94.00	5824.98	-8.15	18.04	69.74	72.03	75.50	0.15	Other	0
67	5919.00	0.79	226.06	93.00	5917.97	-7.41	17.16	68.80	70.91	76.00	0.02	Other	0
68	6014.00	0.79	230.24	95.00	6012.96	-6.68	16.28	67.83	69.76	76.50	0.06	Other	0
69	6108.00	0.79	236.17	94.00	6106.95	-6.05	15.51	66.79	68.57	76.93	0.09	Other	0
70	6203.00	0.70	236.87	95.00	6201.94	-5.52	14.83	65.76	67.41	77.29	0.10	Other	0
71	6297.00	1.01	243.24	94.00	6295.93	-5.01	14.14	64.54	66.07	77.64	0.34	Other	0
72	6390.00	0.88	239.16	93.00	6388.92	-4.47	13.40	63.20	64.6	78.02	0.16	Other	0
73	6488.00	1.01	240.87	98.00	6486.91	-3.87	12.60	61.80	63.07	78.48	0.14	Other	0
74	6581.00	1.01	240.04	93.00	6579.89	-3.27	11.79	60.37	61.51	78.95	0.02	Other	0
75	6675.00	1.01	240.43	94.00	6673.88	-2.65	10.97	58.93	59.94	79.46	0.01	Other	0
76	6773.00	0.88	240.96	98.00	6771.87	-2.06	10.18	57.52	58.42	79.97	0.13	Other	0
77	6867.00	1.01	241.13	94.00	6865.85	-1.51	9.43	56.17	56.95	80.47	0.14	Other	0
78	6961.00	1.10	239.86	94.00	6959.84	-0.88	8.57	54.66	55.33	81.09	0.10	Other	0
79	7057.00	1.10	231.55	96.00	7055.82	-0.06	7.54	53.14	53.67	81.93	0.17	Other	0
80	7151.00	1.10	232.57	94.00	7149.80	0.84	6.43	51.72	52.12	82.92	0.02	Other	0
81	7246.00	1.10	230.85	95.00	7244.78	1.76	5.30	50.29	50.56	83.99	0.03	Other	0
82	7340.00	1.10	231.95	94.00	7338.77	2.68	4.17	48.88	49.05	85.12	0.02	Other	0
83	7435.00	1.19	231.55	95.00	7433.75	3.63	3.00	47.39	47.48	86.38	0.10	Other	0
84	7529.00	1.32	234.06	94.00	7527.73	4.64	1.75	45.74	45.78	87.80	0.15	Other	0
85	7624.00	1.32	232.04	95.00	7622.70	5.69	0.44	44.00	44	89.43	0.05	Other	0
86	7718.00	1.19	227.34	94.00	7716.68	6.79	-0.89	42.42	42.43	91.20	0.18	Other	0
87	7812.00	1.01	224.86	94.00	7810.66	7.95	-2.23	41.23	41.29	93.10	0.32	Other	0
88	7907.00	1.19	214.55	95.00	7905.64	9.29	-3.73	40.20	40.37	95.30	0.19	Other	0
89	8003.00	1.49	216.04	96.00	8001.62	10.32	-5.56	38.90	39.29	98.13	0.31	Other	0
90	8098.00	1.19	215.03	95.00	8096.59	12.53	-7.37	37.60	38.32	101.08	0.32	Other	0
91	8192.00	1.19	221.27	94.00	8190.57	13.88	-8.90	36.40	37.47	103.74	0.14	Other	0
92	8287.00	1.41	218.55	95.00	8285.55	15.33	-10.55	35.02	36.58	106.77	0.24	Other	0
93	8382.00	1.49	215.34	95.00	8380.52	17.03	-12.48	33.58	35.82	110.38	0.12	Other	0
94	8477.00	1.58	210.77	95.00	8475.48	18.95	-16.61	32.19	35.35	114.41	0.16	Other	0
95	8572.00	1.19	226.37	95.00	8570.45	20.55	-16.42	30.81	34.91	118.05	0.57	Other	0
96	8667.00	1.19	228.26	95.00	8665.43	21.67	-17.75	29.36	34.31	121.16	0.04	Other	0
97	8761.00	1.19	226.06	94.00	8759.41	22.78	-19.08	27.93	33.82	124.34	0.05	Other	0

98	8921.00	1.10	226.24	160.00	8919.38	24.66	-21.29	25.62	33.32	129.73	0.06	Other	0
99	8945.00	1.10	225.58	24.00	8943.38	24.93	-21.62	25.29	33.27	130.52	0.05	SlimPulse	0
100	8976.00	0.83	212.18	31.00	8974.37	25.28	-22.01	24.96	33.28	131.41	1.14	SlimPulse	0
101	9008.00	3.68	100.99	32.00	9006.35	25.79	-22.40	25.84	34.2	130.92	12.66	SlimPulse	0
102	9040.00	6.88	96.92	32.00	9038.21	26.61	-22.83	28.75	36.72	128.45	10.06	SlimPulse	0
103	9071.00	10.61	98.82	31.00	9068.85	27.92	-23.49	33.42	40.85	125.11	12.07	SlimPulse	0
104	9102.00	13.12	95.55	31.00	9099.18	29.57	-24.27	39.74	46.56	121.41	8.39	SlimPulse	0
105	9134.00	15.17	101.39	32.00	9130.21	31.81	-25.45	47.46	53.85	118.20	7.79	SlimPulse	0
106	9165.00	16.71	101.77	31.00	9160.02	34.67	-27.16	55.80	62.06	115.95	4.99	SlimPulse	0
107	9197.00	19.57	95.99	32.00	9190.43	37.52	-28.66	65.64	71.62	113.59	10.55	SlimPulse	0
108	9228.00	23.40	91.60	31.00	9219.27	39.81	-29.37	76.96	82.37	110.89	13.40	SlimPulse	0
109	9260.00	27.13	88.25	32.00	9248.20	41.66	-29.33	90.61	95.24	107.94	12.48	SlimPulse	0
110	9291.00	28.62	84.30	31.00	9275.61	42.73	-28.38	105.07	108.83	105.11	7.64	SlimPulse	0
111	9323.00	29.51	85.33	32.00	9303.58	43.50	-26.97	120.55	123.53	102.61	3.18	SlimPulse	0
112	9355.00	30.91	88.75	32.00	9331.23	44.93	-26.15	136.62	139.1	100.84	6.93	SlimPulse	0
113	9386.00	33.45	92.55	32.00	9357.47	47.43	-26.36	153.12	155.37	99.73	10.50	SlimPulse	0
114	9418.00	36.96	96.58	32.00	9383.62	51.47	-27.85	171.50	173.74	99.23	13.14	SlimPulse	0
115	9449.00	39.64	103.78	31.00	9407.96	57.49	-31.28	190.37	192.92	99.33	16.78	SlimPulse	0
116	9481.00	38.91	108.68	32.00	9432.73	65.80	-36.93	209.81	213.04	99.98	9.94	SlimPulse	0
117	9512.00	39.86	113.33	31.00	9456.70	75.34	-43.99	228.16	232.36	100.91	9.99	SlimPulse	0
118	9544.00	40.32	117.75	32.00	9481.18	86.72	-52.87	246.74	252.34	102.09	9.02	SlimPulse	0
119	9576.00	42.74	119.14	32.00	9505.14	99.33	-62.98	265.39	272.76	103.35	8.09	SlimPulse	0
120	9607.00	45.48	122.07	31.00	9527.40	112.81	-73.97	283.95	293.43	104.60	11.01	SlimPulse	0
121	9639.00	45.06	123.43	32.00	9549.92	127.64	-86.27	303.07	315.11	105.89	3.30	SlimPulse	0
122	9670.00	49.15	127.56	31.00	9571.02	143.29	-99.47	321.53	336.57	107.19	16.43	SlimPulse	0
123	9702.00	51.94	128.90	32.00	9591.35	161.13	-114.76	340.94	359.73	108.60	9.29	SlimPulse	0
124	9734.00	54.70	130.53	32.00	9610.47	180.12	-131.16	360.67	383.78	109.98	9.55	SlimPulse	0
125	9765.00	55.26	130.96	31.00	9628.26	199.21	-147.73	379.90	407.62	111.25	2.15	SlimPulse	0
126	9797.00	55.46	132.89	32.00	9646.45	219.36	-165.32	399.49	432.35	112.48	4.99	SlimPulse	0
127	9829.00	56.92	134.97	32.00	9664.25	240.29	-183.77	418.63	457.19	113.70	7.08	SlimPulse	0
128	9860.00	57.77	137.04	31.00	9680.98	261.41	-202.55	436.76	481.44	114.88	6.25	SlimPulse	0
129	9892.00	57.32	137.59	32.00	9698.16	283.61	-222.39	455.07	506.5	116.04	2.02	SlimPulse	0
130	9923.00	56.66	138.30	31.00	9715.04	305.15	-241.69	472.48	530.71	117.09	2.86	SlimPulse	0
131	9955.00	57.46	140.81	32.00	9732.45	327.82	-262.13	489.90	555.62	118.15	7.02	SlimPulse	0
132	9986.00	58.83	143.77	31.00	9748.81	350.68	-282.96	506.00	579.74	119.21	9.23	SlimPulse	0
133	10018.00	60.83	146.66	32.00	9764.89	375.38	-305.68	521.77	604.72	120.36	10.00	SlimPulse	0
134	10050.00	62.03	148.99	32.00	9780.20	401.02	-329.47	536.73	629.79	121.54	7.43	SlimPulse	0
135	10081.00	64.46	151.87	31.00	9794.15	426.76	-353.54	550.38	654.15	122.72	11.40	SlimPulse	0
136	10113.00	68.53	155.19	32.00	9806.91	454.59	-379.81	563.44	679.5	123.98	15.88	SlimPulse	0
137	10145.00	69.67	156.95	32.00	9813.33	483.34	-407.13	575.57	705.01	125.27	6.25	SlimPulse	0
138	10176.00	70.51	159.27	31.00	9828.89	511.63	-434.17	586.43	729.66	126.52	7.52	SlimPulse	0
139	10208.00	72.32	161.53	32.00	9839.09	541.34	-462.75	596.60	755.03	127.80	8.79	SlimPulse	0
140	10239.00	74.47	163.99	31.00	9845.99	570.64	-491.08	605.50	779.61	129.04	9.41	SlimPulse	0
141	10271.00	76.46	165.87	32.00	9852.99	601.36	-520.96	613.65	804.97	130.33	9.27	SlimPulse	0
142	10302.00	79.10	169.02	31.00	9862.55	631.56	-550.53	620.23	829.32	131.59	13.09	SlimPulse	0
143	10334.00	81.99	172.42	32.00	9867.81	663.11	-581.68	625.32	854.03	132.99	13.86	SlimPulse	0
144	10388.00	87.11	178.68	54.00	9872.94	716.71	-635.23	629.47	894.29	135.26	14.92	SlimPulse	0
145	10419.00	87.42	178.61	31.00	9874.42	747.47	-666.18	630.20	917.04	136.59	1.03	SlimPulse	0
146	10451.00	87.59	178.55	32.00	9875.81	779.23	-693.09	632.78	941.04	137.89	0.56	SlimPulse	0
147	10546.00	89.48	179.30	95.00	9878.23	873.50	-793.09	632.78	1014.59	141.41	2.14	SlimPulse	0
148	10641.00	89.28	177.14	95.00	9879.26	967.93	-888.03	635.73	1092.13	144.40	2.29	SlimPulse	0
149	10736.00	90.21	176.63	95.00	9879.69	1062.58	-982.89	640.89	1173.37	146.89	1.11	SlimPulse	0
150	10831.00	90.79	176.93	95.00	9878.86	1157.24	-1077.74	646.22	1256.63	149.05	0.69	SlimPulse	0
151	10926.00	90.83	177.56	95.00	9877.52	1251.83	-1172.62	650.79	1341.1	150.97	0.66	SlimPulse	0
152	11020.00	90.58	178.57	94.00	9876.37	1345.30	-1266.55	653.97	1425.42	152.69	1.11	SlimPulse	0
153	11115.00	90.62	179.48	95.00	9875.37	1439.54	-1361.53	655.59	1511.15	154.29	0.96	SlimPulse	0
154	11210.00	90.58	180.62	95.00	9874.37	1533.68	-1466.53	655.51	1597.24	155.77	1.20	SlimPulse	0
155	11304.00	90.45	181.61	94.00	9873.52	1626.44	-1550.50	653.68	1682.66	157.14	1.07	SlimPulse	0
156	11399.00	90.10	181.99	95.00	9873.07	1720.05	-1645.45	650.70	1769.44	158.42	0.54	SlimPulse	0
157	11494.00	89.97	182.50	95.00	9873.01	1813.53	-1740.38	646.98	1856.75	159.61	0.55	SlimPulse	0
158	11589.00	90.21	182.28	95.00	9872.87	1906.97	-1835.30	643.01	1944.68	160.69	0.34	SlimPulse	0
159	11684.00	90.24	182.00	95.00	9872.50	2000.49	-1930.23	639.46	2033.4	161.67	0.30	SlimPulse	0
160	11779.00	90.62	181.92	95.00	9871.78	2094.05	-2025.17	636.21	2122.76	162.56	0.41	SlimPulse	0
161	11873.00	89.97	182.04	94.00	9871.30	2286.16	-2119.11	629.55	2201.62	163.37	0.71	SlimPulse	0
162	11968.00	89.79	182.06	95.00	9871.50	2280.16	-2214.05	629.14	2258.44	164.13	0.18	SlimPulse	0
163	12062.00	89.72	182.63	94.00	9871.90	2372.63	-2307.97	625.70	2391.29	164.83	0.61	SlimPulse	0
164	12157.00	89.48	181.27	95.00	9872.55	2466.19	-2402.91	622.47	2482.23	165.48	1.45	SlimPulse	0
165	12251.00	89.62	179.67	94.00	9873.29	2559.16	-2496.90	621.69	2573.14	166.02	1.72	SlimPulse	0
166	12345.00	89.59	176.94	94.00	9873.94	2653.58	-2590.85	624.48	2665.05	166.45	2.90	SlimPulse	0
167	12440.00	91.00	177.42	95.00	9873.45	2747.19	-2685.73	629.14	2758.44	166.82	1.57	SlimPulse	0
168	12535.00	89.83	177.31	95.00	9872.77	2841.77	-2780.63	633.51	2851.88	167.17	1.24	SlimPulse	0
169	12630.00	90.03	176.52	95.00	9872.88	2936.41	-2875.49	638.63	2945.55	167.48	0.86	SlimPulse	0
170	12724.00	89.90	175.35	94.00	9872.94	3030.19	-2969.25	645.30	3038.56	167.74	1.25	SlimPulse	0
171	12819.00	90.38	176.98	95.00	9872.71	3124.94	-3064.04	651.66	3132.57	167.99	1.79	SlimPulse	0
172	12914.00	90.45	178.04	95.00	9872.03	3219.49	-3158.94	655.79	3226.29	168.27	1.12	SlimPulse	0
173	13009.00	90.41	178.30	95.00	9871.31	3313.94	-3253.89	658.82	3319.92	168.55	0.27	SlimPulse	0
174	13104.00	89.83	179.33	95.00	9870.49	3408.26	-3348.86	660.79	3413.44	168.84	1.10	SlimPulse	0
175	13200.00	89.83	180.33	95.00	9870.14	3503.36	-3444.86	661.08	3507.72	169.14	1.30	SlimPulse	0
176	13295.00	90.07	180.83	95.00	9870.23	3597.30	-3539.86	660.12	3600.88	169.44	0.59	SlimPulse	0
177	13390.00	89.93	181.64	95.00	9870.23	3691.17	-3634.85	658.74	3694.06	169.73	0.14	SlimPulse	0
178	13485.00	89.76	181.87	95.00	9870.48	3784.93	-3729.82	656.66	3787.19	170.01	0.90	SlimPulse	0
179	13580.00	89.79	182.08	95.00	9870.85	3878.52	-3824.77	653.55	3880.21	170.30	0.44	SlimPulse	0
180	13675.00	90.17	181.18	95.00	9870.88	3972.18	-3919.73	650.85	3973.4	170.57	1.03	SlimPulse	0
181	13770.00	90.00	180.97	95.00	9870.74	4066.97	-4015.71	649.05	4067.83	170.82	0.28	SlimPulse	0
182	13866.00	8											