

Results of Directional Survey

API number:	30-025-40781		
OGRID:		Operator:	CIMAREX ENERGY CO.
		Property:	DIAMONDTAIL 23 FEDERAL # 2H

surface	ULSTR:	D	23	T 23S	R 32E
				330 FNL	750 FWL

BH Loc	ULSTR:	N	23	T 23S	R 32E
14078	MD	9668.9	TVD	486 FSL	1464 FWL
				4794 FNL	

Top Perf/OH	ULSTR:	C	23	T 23S	R 32E
11628	MD	9666.5	TVD	2345 FNL	1492 FWL

Bot Perf/OH	ULSTR:	N	23	T 23S	R 32E
14050	MD	9668.9	TVD	514 FNL	1462 FWL
				4766 FNL	

	MD	N/S	E/W	VD
	11582	-1969.12	744.02	9666.17
TOP PERFS/OH	11628	-2015.10	742.49	9666.49
	11676	-2063.07	740.89	9666.82
	14040	-4426.22	712.01	9668.93
BOT PERFS/OH	14050	-4436.21	712.46	9668.93
	14078	-4464.18	713.72	9668.93

NEXT TO LAST	14040	-4426.22	712.01	9668.93
LAST READING	14078	-4464.18	713.72	9668.93
TD	14078	-4464.18	713.72	9668.93

Surface Location	330	FN	750	FW
Projected BHL	4794	FN	1464	FW
Location of				
Top Perfs/OH	2345	FN	1492	FW
Bottom Perfs/OH	4766	FN	1462	FW

SUMMARY of Subsurface Locations

Surface Location	D-23-23S-32E	330	FN	750	FW	Vert. Depth
Top Perfs/OH	C-23-23S-32E	2345	FN	1492	FW	9666.49
Bottom Perfs/OH	N-23-23S-32E	4766	FN	1462	FW	9668.93
Projected TD	N-23-23S-32E	4794	FN	1464	FW	9668.93

FEB 03 2015

Schlumberger

Reservoir Development

Drilling & Measurements (Anadrill)

4301 SW 44th St

Oklahoma City, Oklahoma 73119 USA

Phone: (405) 682-2284

Fax: (405) 682-3937

HOBBSOCD

JAN 22 2015

January 21, 2014

RECEIVED

Cimarex

600N MARIENFELD ST STE600

MIDLAND, TX 79701

Re:

S23-T23S-R32E 330 FNL 750 FWL
N 32.29654 W 103.65151

CLIENT: Cimarex Energy Co.
WELL: Diamondtail 23 Federal 2H
FIELD: Diamondtail; Bonespring
RIG: Scan Drill Eagle
COUNTY: Lea
API NO: 30-025-40781
JOB NO: 13MLD0752

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>
Kurt Valentine MWD	Diamondtail 23 Federal 2H Original Hole	9086.00 Ft to 14040.00 Ft	January 9, 2014 to January 17, 2014	SlimPulse

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



Joseph Hogan
Field Service Manager



Reservoir Development

Drilling & Measurements (Anadrill)

4301 SW 44th St

Oklahoma City, Oklahoma 73119 USA

Phone: (405) 682-2284

Fax: (405) 682-3937

Well Reference:

S23-T23S-R32E 330 FNL 750 FWL

N 32.29654 W 103.65151

I, Kurt Valentine certify that; I am employed by Drilling & Measurements (formerly Anadrill), a division of Schlumberger Technology Corporation; that I did on the day(s) of January 09, 2014 through January 17, 2014, conduct or supervise the taking of the SlimPulse surveys from a depth of 9086.00 feet to a depth of 14040.00 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 Diamondtail 23 Federal 2H Well (Original Hole) API No. 30-025-40781 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

Kurt Valentine

MWD



Subscribed and Sworn to before me this 21st day of JANUARY (month) 2014 (yr)

My Commission expires:

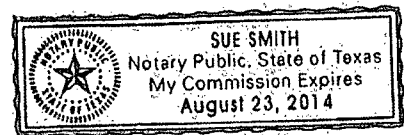
8/23/14

(signature)

Notary Public

Midland Texas

(County State)



SCHLUMBERGER
Survey Report

21-Jan-2014

Client..... Cimarex Energy Co
Field..... Diamondtail, Bonaspring

Well..... Diamondtail 23 Fed 2H
API number..... 30-25-40781
Engineer..... Kurt Valentine

County..... Lea
State..... New Mexico
Rig..... Sandrill Eagle

Spud date..... 27-Dec-13
Last survey date..... 17-Jan-14
Total accepted surveys..... 80
MD of first survey..... 9086.00 ft
MD of last survey..... 14040.00 ft
Latitude..... 32° 17' 47.563" N
Longitude..... 103° 39' 5.453" W

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

Depth reference..... MSL
Permanent datum.....
Depth reference..... Driller's Depth
GL above permanent..... 3706.00
KB above permanent..... 3731.00
DF above permanent..... 3731.00

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..... 752012.20 ft
Y..... 472285.50 ft

Azimuth from Vsect Origin to target: 170.75 degrees

NWD Survey Reference Criteria

BGGM Model: 2013

Run1.....
Magnetic dec (E/W)..... 7.423 degrees
Grid Conv (E/W)..... 0.363 degrees
Total Azim Corr (E/W)..... 7.06 degrees

Run2.....
Magnetic dec (E/W)..... 7.42145 degrees
Grid Conv (E/W)..... 0.36431 degrees
Total Azim Corr (E/W)..... 7.05714 degrees

Survey Correction Index Description.....
0 = Uncorrected 1 = Sag Corrected
2 = DMAG Corrected 3 = Sag + DMAG Corrected

Seq	MD (ft)	Incl (deg)	Azim (deg)	Course (ft)	TYD (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	50.00	0.00	Tip	0
2	98.00	0.22	6.86	98.00	98.00	-0.18	0.19	0.02	0.19	6.86	0.22	Other	14
3	161.00	0.09	57.61	63.00	161.00	-0.32	0.33	0.08	0.34	13.28	0.28	Other	14
4	283.00	0.40	42.19	122.00	283.00	-0.62	0.70	0.45	0.83	32.47	0.26	Other	14
5	405.00	0.00	46.10	122.00	405.00	-0.88	1.02	0.73	1.25	35.76	0.33	Other	14
6	464.00	0.00	209.40	59.00	464.00	-0.88	1.02	0.73	1.25	35.76	0.00	Other	14
7	495.00	0.48	184.61	31.00	495.00	-0.76	0.89	0.72	1.14	39.13	1.55	Other	14
8	555.00	0.70	207.82	60.00	554.99	-0.22	0.31	0.53	0.61	59.54	0.53	Other	14
9	676.00	0.88	206.72	121.00	675.98	1.12	-1.17	-0.23	1.19	191.24	0.15	Other	14
10	829.00	1.01	181.19	153.00	828.96	3.40	-3.57	-0.79	3.66	192.47	0.29	Other	14
11	861.00	0.79	190.20	32.00	860.96	3.88	-4.07	-0.83	4.15	191.58	0.82	Other	14
12	922.00	0.88	206.41	61.00	921.95	4.66	-4.90	-1.12	5.03	192.83	0.41	Other	14
13	1017.00	0.22	198.02	95.00	1016.95	5.41	-5.73	-1.50	5.92	194.65	0.70	Other	14
14	1107.00	0.09	11.69	90.00	1106.95	5.50	-5.82	-1.54	6.02	194.78	0.34	Other	14
15	1202.00	0.22	188.79	95.00	1201.95	5.60	-5.93	-1.55	6.13	194.64	0.33	Other	14
16	1241.00	0.48	196.70	39.00	1240.95	5.82	-6.16	-1.61	6.37	194.63	0.68	Other	14
17	1412.00	0.40	213.39	171.00	1411.94	6.91	-7.35	-2.14	7.65	196.26	0.09	Other	14
18	1508.00	0.46	180.87	96.00	1507.94	7.55	-8.03	-2.33	8.36	196.20	0.27	Other	14
19	1603.00	0.48	183.60	95.00	1602.93	8.33	-8.82	-2.36	9.13	195.00	0.02	Other	14
20	1699.00	0.48	222.00	96.00	1698.93	8.97	-9.52	-2.66	9.89	195.60	0.33	Other	14
21	1890.00	0.31	221.48	191.00	1889.93	9.80	-10.50	-3.54	11.08	198.60	0.09	Other	14
22	1988.00	0.48	197.88	98.00	1987.92	10.33	-11.09	-3.84	11.74	199.08	0.24	Other	14
23	2081.00	0.40	204.21	93.00	2080.92	10.95	-11.76	-4.09	12.45	199.18	0.10	Other	14

24	2177.00	0.40	247.98	96.00	2176.92	11.30	-12.19	-4.54	13.01	200.42	0.31	Other	14
25	2272.00	0.40	221.87	95.00	2271.92	11.59	-12.56	-5.07	13.55	201.96	0.19	Other	14
26	2368.00	0.48	220.29	96.00	2367.91	12.06	-13.12	-5.55	14.25	202.93	0.08	Other	14
27	2464.00	0.48	260.68	96.00	2463.91	12.32	-13.49	-6.21	14.85	204.71	0.35	Other	14
28	2559.00	0.48	249.08	95.00	2558.91	12.40	-13.70	-5.97	15.37	206.97	0.10	Other	14
29	2655.00	0.40	236.81	96.00	2654.91	12.62	-14.03	-7.63	15.97	208.54	0.13	Other	14
30	2750.00	0.48	250.31	95.00	2749.90	12.82	-14.34	-8.28	16.56	210.00	0.14	Other	14
31	2845.00	0.70	248.50	95.00	2844.90	13.02	-14.69	-9.19	17.33	211.05	0.23	Other	14
32	2940.00	0.48	233.47	95.00	2939.89	13.32	-15.14	-10.05	18.17	213.59	0.28	Other	14
33	3036.00	0.62	260.41	96.00	3035.89	13.51	-15.46	-10.89	18.91	215.15	0.30	Other	14
34	3131.00	0.48	258.61	95.00	3130.88	13.53	-15.63	-11.79	19.57	217.02	0.15	Other	14
35	3226.00	0.40	256.59	95.00	3225.88	13.57	-15.78	-12.50	20.13	218.38	0.09	Other	14
36	3322.00	0.40	233.08	96.00	3321.88	13.75	-16.06	-13.09	20.72	219.19	0.17	Other	14
37	3417.00	0.40	236.11	95.00	3416.88	14.04	-16.45	-13.63	21.36	219.66	0.02	Other	14
38	3513.00	0.40	240.59	96.00	3512.87	14.30	-16.80	-14.20	22	220.22	0.03	Other	14
39	3608.00	0.40	280.80	95.00	3607.87	14.30	-16.90	-14.82	22.47	221.25	0.29	Other	14
40	3703.00	0.31	286.80	95.00	3702.87	14.07	-16.76	-15.39	22.76	222.56	0.10	Other	14
41	3799.00	0.31	280.80	96.00	3798.87	13.87	-16.64	-15.89	23.01	223.69	0.03	Other	14
42	3895.00	0.48	273.99	96.00	3894.87	13.69	-16.56	-16.55	23.41	224.98	0.18	Other	14
43	3990.00	0.48	267.18	95.00	3989.86	13.55	-16.55	-17.34	23.98	226.34	0.06	Other	14
44	4146.00	0.40	256.28	156.00	4145.86	13.52	-16.71	-18.53	24.95	227.94	0.07	Other	14
45	4277.00	0.31	133.67	131.00	4276.86	13.84	-17.07	-18.71	25.33	227.63	0.48	Other	14
46	4372.00	0.48	152.09	95.00	4371.86	14.42	-17.60	-18.34	25.42	228.19	0.22	Other	14
47	4467.00	0.79	132.71	95.00	4466.85	15.31	-18.39	-17.67	25.51	228.86	0.39	Other	14
48	4563.00	0.79	143.78	96.00	4562.84	16.42	-19.38	-16.80	25.64	229.92	0.16	Other	14
49	4658.00	1.10	142.29	95.00	4657.83	17.81	-20.62	-15.85	26.01	231.55	0.33	Other	14
50	4754.00	1.19	133.67	96.00	4753.81	19.41	-21.04	-14.57	26.42	231.46	0.20	Other	14
51	4860.00	1.19	132.97	106.00	4859.79	21.16	-23.55	-12.97	26.89	208.83	0.01	Other	14
52	4954.00	1.01	137.28	94.00	4953.77	22.62	-24.83	-11.69	27.44	205.21	0.21	Other	14
53	5146.00	1.10	141.80	192.00	5145.74	25.65	-27.52	-9.40	29.08	198.86	0.06	Other	14
54	5241.00	1.10	127.61	95.00	5240.72	27.11	-28.79	-8.12	29.91	195.74	0.29	Other	14
55	5337.00	1.10	128.58	96.00	5336.70	28.47	-29.93	-6.67	30.66	192.56	0.02	Other	14
56	5432.00	1.01	135.48	95.00	5431.68	29.83	-31.09	-5.37	31.55	189.79	0.16	Other	14
57	5527.00	0.88	135.48	95.00	5526.67	31.11	-32.21	-4.27	32.49	187.55	0.14	Other	14
58	5623.00	0.88	143.30	96.00	5622.66	32.36	-33.33	-3.31	33.49	185.67	0.13	Other	14
59	5719.00	1.41	103.70	96.00	5718.64	33.48	-34.20	-1.72	34.24	182.88	0.96	Other	14
60	5814.00	1.58	99.57	95.00	5813.61	34.36	-34.69	0.71	34.7	178.83	0.21	Other	14
61	5910.00	1.49	102.78	96.00	5909.58	35.25	-35.19	3.23	35.34	174.76	0.13	Other	14
62	6006.00	1.41	104.89	96.00	6005.54	36.20	-35.77	5.59	36.2	171.12	0.10	Other	14
63	6101.00	1.49	102.30	95.00	6100.51	37.13	-36.33	7.92	37.19	167.70	0.11	Other	14
64	6196.00	1.41	98.61	95.00	6195.48	37.95	-36.77	10.29	38.18	164.37	0.13	Other	14
65	6292.00	1.49	105.20	96.00	6291.45	38.82	-37.27	12.66	39.36	161.24	0.19	Other	14
66	6387.00	1.58	104.01	95.00	6386.42	39.85	-37.92	15.12	40.82	158.26	0.10	Other	14
67	6483.00	1.80	103.48	96.00	6482.38	40.96	-38.59	17.87	42.52	155.15	0.23	Other	14
68	6579.00	2.29	92.82	96.00	6578.32	41.94	-39.03	21.25	44.44	151.43	0.64	Other	14
69	6674.00	2.90	84.10	95.00	6673.22	42.48	-38.88	25.54	46.52	146.70	0.76	Other	14
70	6770.00	2.81	84.41	96.00	6769.10	42.77	-38.40	30.30	48.91	141.73	0.10	Other	14
71	6865.00	2.81	81.51	95.00	6863.98	42.95	-37.83	34.92	51.48	137.29	0.15	Other	14
72	6960.00	2.81	82.00	95.00	6958.87	43.03	-37.16	39.53	54.25	133.23	0.03	Other	14
73	7056.00	2.68	82.61	96.00	7054.76	43.16	-36.55	44.08	57.26	129.66	0.14	Other	14
74	7151.00	2.68	78.87	95.00	7149.66	43.16	-35.83	48.46	60.27	125.48	0.18	Other	14
75	7246.00	2.68	80.89	95.00	7244.55	43.09	-35.05	52.84	63.41	123.56	0.10	Other	14
76	7342.00	2.42	82.70	96.00	7340.46	43.16	-34.44	57.06	66.65	121.11	0.28	Other	14
77	7437.00	2.42	82.79	95.00	7435.37	43.30	-33.93	61.04	69.84	119.07	0.00	Other	14
78	7533.00	2.90	77.91	96.00	7531.27	43.25	-33.17	65.43	73.35	116.88	0.55	Other	14
79	7628.00	2.90	77.51	95.00	7626.15	43.00	-32.15	70.12	77.14	114.63	0.02	Other	14
80	7723.00	2.90	78.08	95.00	7721.03	42.75	-31.13	74.82	81.04	112.59	0.03	Other	14
81	7818.00	2.68	79.40	95.00	7815.91	42.59	-30.22	79.36	84.92	110.85	0.24	Other	14
82	7913.00	2.81	81.91	95.00	7910.80	42.58	-29.49	83.84	88.88	109.38	0.19	Other	14
83	8009.00	2.59	85.07	96.00	8006.70	42.79	-28.97	88.33	92.96	108.16	0.28	Other	14
84	8104.00	2.68	89.59	95.00	8101.60	43.30	-28.77	92.69	97.06	107.24	0.24	Other	14
85	8199.00	2.68	89.77	95.00	8196.49	43.99	-28.75	97.14	101.3	106.49	0.01	Other	14
86	8295.00	2.42	93.99	96.00	8292.40	44.80	-28.88	101.40	105.43	105.90	0.33	Other	14
87	8391.00	2.20	93.11	96.00	8388.32	45.66	-29.12	105.26	109.22	105.46	0.33	Other	14
88	8486.00	2.59	94.08	95.00	8483.24	46.55	-29.37	109.23	113.11	105.05	0.41	Other	14
89	8581.00	2.50	103.09	95.00	8578.14	47.83	-29.99	113.38	117.28	104.82	0.43	Other	14
90	8676.00	2.20	109.29	95.00	8673.06	49.49	-31.06	117.12	121.17	104.85	0.41	Other	14
91	8772.00	1.89	119.48	96.00	8769.00	51.36	-32.45	120.24	124.54	105.10	0.50	Other	14
92	8868.00	1.58	115.79	96.00	8864.96	53.11	-33.81	122.81	127.38	105.39	0.34	Other	14
93	8963.00	1.80	110.21	95.00	8959.92	54.59	-34.89	125.70	130.15	105.55	0.29	Other	14
94	9053.00	1.32	108.98	90.00	9049.88	55.78	-35.72	128.46	133.4	105.63	0.53	Other	14
95	9086.00	1.46	107.73	33.00	9082.87	56.15	-35.97	128.46	133.4	105.63	0.44	SlimPulse	0
96	9180.00	3.60	107.53	32.00	9114.84	56.78	-36.39	129.81	134.81	105.66	6.70	SlimPulse	0
97	9180.00	8.44	111.67	32.00	9146.66	58.44	-37.56	132.50	138.15	105.78	15.17	SlimPulse	0
98	9182.00	13.25	121.71	32.00	9178.08	62.06	-40.36	138.26	144.03	106.27	16.10	SlimPulse	0
99	9214.00	18.37	123.31	32.00	9208.86	67.81	-44.98	145.65	152.43	107.16	15.00	SlimPulse	0
100	9246.00	23.35	120.73	32.00	9238.75	75.23	-50.92	155.36	163.5	108.15	15.65	SlimPulse	0
101	9246.00	27.20	116.98	32.00	9267.68	83.63	-57.48	167.34	176.94	108.96	13.02	SlimPulse	0
102	9309.00	31.07	116.24	31.00	9294.76	92.47	-64.24	180.83	191.9	109.56	12.54	SlimPulse	0
103	9341.00	34.65	115.95	32.00	9321.63	102.51	-71.87	196.42	209.16	110.10	11.22	SlimPulse	0
104	9373.00	38.29	115.37	32.00	9347.36	113.39	-80.10	213.57	228.09	110.56	11.40	SlimPulse	0
105	9404.00	40.61	116.69	31.00	9371.30	124.77	-88.75	231.26	247.7	110.99	7.97	SlimPulse	0
106	9436.00	42.87	117.77	32.00	9395.17	137.44	-98.50	250.20	268.69	111.49	7.42	SlimPulse	0
107	9467.00	45.15	117.72	31.00	9417.47	150.40	-108.53	269.26	290.31	111.95	7.34	SlimPulse	0
108	9499.00	49.93	115.56	32.00	9439.07	164.90	-119.85	289.96	313.76	112.46	15.53	SlimPulse	0

109	9530.00	55.26	119.24	31.00	9457.89	180.28	-131.94	311.41	338.21	112.96	17.21	SlimPulse	0
110	9562.00	59.66	119.19	32.00	9475.10	197.05	-145.10	334.95	365.03	113.42	13.75	SlimPulse	0
111	9593.00	62.28	119.07	31.00	9504.14	213.88	-158.29	358.62	392	113.82	8.47	SlimPulse	0
112	9625.00	64.90	119.20	32.00	9504.37	231.68	-172.25	383.65	420.55	114.18	8.18	SlimPulse	0
113	9656.00	67.75	118.77	31.00	9516.82	249.25	-186.00	408.48	448.84	114.48	9.29	SlimPulse	0
114	9688.00	68.68	118.56	32.00	9528.70	267.51	-200.26	434.56	478.48	114.74	2.96	SlimPulse	0
115	9719.00	69.36	121.19	31.00	9539.80	285.77	-214.67	459.65	507.31	115.03	8.20	SlimPulse	0
116	9751.00	69.44	124.65	32.00	9551.06	305.87	-230.95	484.79	536.99	115.47	10.14	SlimPulse	0
117	9783.00	69.80	127.29	32.00	9562.20	327.16	-248.57	509.07	566.51	116.03	7.82	SlimPulse	0
118	9814.00	70.86	130.35	31.00	9572.64	348.88	-266.87	531.80	595.01	116.65	9.92	SlimPulse	0
119	9846.00	71.53	133.60	32.00	9582.96	372.49	-287.12	554.32	624.27	117.38	9.82	SlimPulse	0
120	9877.00	72.11	136.23	31.00	9592.63	396.37	-307.92	575.17	652.41	118.16	8.27	SlimPulse	0
121	9909.00	73.25	139.34	32.00	9602.16	421.99	-330.54	595.70	681.26	119.02	9.95	SlimPulse	0
122	9940.00	74.22	143.36	31.00	9610.85	447.92	-353.77	614.28	708.87	119.94	12.84	SlimPulse	0
123	9972.00	74.64	147.66	32.00	9619.44	475.79	-379.18	631.73	736.79	120.97	13.01	SlimPulse	0
124	10003.00	75.90	151.48	31.00	9627.33	503.74	-405.02	646.91	763.24	122.05	12.59	SlimPulse	0
125	10035.00	77.49	155.00	32.00	9634.70	533.43	-432.82	660.92	790.03	123.22	11.82	SlimPulse	0
126	10066.00	79.28	157.79	31.00	9640.94	562.85	-460.64	673.08	815.61	124.39	10.52	SlimPulse	0
127	10098.00	81.30	160.95	32.00	9646.34	593.76	-490.16	684.19	841.65	125.62	11.60	SlimPulse	0
128	10130.00	83.90	163.24	32.00	9650.46	625.13	-520.35	693.94	867.36	126.86	10.81	SlimPulse	0
129	10161.00	86.25	167.28	31.00	9653.12	655.86	-550.21	701.79	891.77	128.10	15.02	SlimPulse	0
130	10193.00	87.42	171.11	32.00	9654.89	687.80	-581.59	707.78	916.08	129.41	12.50	SlimPulse	0
131	10224.00	87.80	175.46	31.00	9656.19	718.73	-612.34	711.40	938.65	130.72	14.07	SlimPulse	0
132	10257.00	87.66	177.63	33.00	9657.49	751.54	-645.25	713.39	961.91	132.13	6.59	SlimPulse	0
133	10288.00	87.42	177.27	31.00	9658.82	782.30	-676.19	714.77	983.94	133.41	1.39	SlimPulse	0
134	10320.00	87.56	176.78	32.00	9660.23	814.07	-708.12	716.43	1007.33	134.67	1.61	SlimPulse	0
135	10351.00	88.11	176.84	31.00	9661.40	844.88	-739.05	718.15	1030.5	135.82	1.79	SlimPulse	0
136	10446.00	89.76	176.95	95.00	9663.16	939.31	-833.89	723.30	1103.87	139.06	1.74	SlimPulse	0
137	10542.00	90.07	176.90	96.00	9663.31	1034.76	-929.75	728.45	1181.14	141.92	0.33	SlimPulse	0
138	10636.00	89.38	176.31	94.00	9663.76	1128.26	-1023.59	734.02	1259.57	144.36	0.96	SlimPulse	0
139	10731.00	90.07	177.08	95.00	9664.22	1222.75	-1118.42	739.50	1340.8	146.53	1.08	SlimPulse	0
140	10825.00	89.79	177.31	94.00	9664.33	1316.46	-1212.31	744.10	1422.46	148.46	0.39	SlimPulse	0
141	10920.00	89.76	178.23	95.00	9664.70	1410.44	-1307.24	747.79	1506.01	150.23	0.97	SlimPulse	0
142	11014.00	89.79	179.62	94.00	9665.07	1503.30	-1401.22	749.55	1589.1	151.86	1.48	SlimPulse	0
143	11109.00	89.72	179.98	95.00	9665.47	1597.47	-1496.22	749.88	1673.61	153.38	0.39	SlimPulse	0
144	11203.00	89.86	179.78	94.00	9665.80	1690.11	-1590.22	750.07	1758.24	154.75	0.26	SlimPulse	0
145	11298.00	89.48	180.10	95.00	9666.35	1783.89	-1685.21	750.17	1844.64	156.00	0.52	SlimPulse	0
146	11392.00	90.38	180.74	94.00	9666.66	1876.59	-1779.21	749.49	1930.63	157.16	1.17	SlimPulse	0
147	11487.00	90.28	181.91	95.00	9665.92	1969.93	-1874.18	747.29	2017.67	158.26	1.24	SlimPulse	0
148	11582.00	89.42	182.03	95.00	9666.17	2063.11	-1969.12	744.02	2105	159.30	0.91	SlimPulse	0
149	11676.00	89.79	181.78	94.00	9666.82	2155.34	-2063.07	740.89	2192.07	160.25	0.48	SlimPulse	0
150	11771.00	89.31	180.43	95.00	9667.57	2248.78	-2158.05	739.07	2281.09	161.10	1.51	SlimPulse	0
151	11866.00	90.14	179.93	95.00	9668.02	2342.50	-2253.04	738.77	2371.07	161.85	1.01	SlimPulse	0
152	11961.00	90.58	178.53	95.00	9667.42	2436.45	-2348.03	740.04	2461.89	162.51	1.55	SlimPulse	0
153	12055.00	90.00	178.27	94.00	9666.94	2529.62	-2441.99	742.66	2552.43	163.08	0.68	SlimPulse	0
154	12150.00	90.21	179.14	95.00	9666.77	2623.70	-2536.97	744.81	2644.04	163.64	0.94	SlimPulse	0
155	12245.00	89.97	179.34	95.00	9666.63	2717.66	-2631.96	746.07	2735.66	164.17	0.32	SlimPulse	0
156	12340.00	89.93	180.16	95.00	9666.72	2811.49	-2726.96	746.48	2827.28	164.69	0.87	SlimPulse	0
157	12435.00	89.90	180.64	95.00	9666.86	2905.14	-2821.95	745.82	2918.85	165.20	0.51	SlimPulse	0
158	12530.00	89.97	181.52	95.00	9666.97	2998.60	-2916.94	744.02	3010.33	165.69	0.93	SlimPulse	0
159	12624.00	90.38	181.90	94.00	9666.69	3090.89	-3010.89	741.21	3100.79	166.17	0.60	SlimPulse	0
160	12719.00	89.86	181.93	95.00	9666.49	3184.09	-3105.84	738.03	3192.32	166.63	0.54	SlimPulse	0
161	12815.00	89.69	181.85	96.00	9666.86	3278.28	-3201.79	734.87	3285.04	167.07	0.20	SlimPulse	0
162	12907.00	90.31	182.00	92.00	9666.86	3368.53	-3293.73	731.78	3374.05	167.47	0.69	SlimPulse	0
163	13002.00	89.90	182.24	95.00	9666.69	3461.67	-3388.67	728.26	3465.04	167.87	0.50	SlimPulse	0
164	13097.00	90.17	182.06	95.00	9666.64	3554.79	-3483.60	724.70	3558.18	168.25	0.35	SlimPulse	0
165	13191.00	89.90	182.02	94.00	9666.58	3646.97	-3577.54	721.36	3649.54	168.60	0.30	SlimPulse	0
166	13286.00	90.17	182.30	95.00	9666.52	3740.10	-3672.47	717.78	3741.96	168.94	0.41	SlimPulse	0
167	13381.00	89.66	181.59	95.00	9666.67	3833.29	-3767.42	714.55	3834.58	169.26	0.93	SlimPulse	0
168	13476.00	89.76	181.52	95.00	9667.15	3926.60	-3862.38	711.97	3927.46	169.56	0.13	SlimPulse	0
169	13570.00	90.41	181.61	94.00	9667.01	4018.93	-3956.35	709.40	4019.44	169.83	0.70	SlimPulse	0
170	13665.00	90.07	180.77	95.00	9666.61	4112.36	-4051.32	707.43	4112.63	170.09	0.95	SlimPulse	0
171	13760.00	89.52	180.55	95.00	9666.95	4205.94	-4146.32	706.34	4206.05	170.33	0.62	SlimPulse	0
172	13854.00	89.28	179.15	94.00	9667.94	4298.75	-4240.31	706.59	4298.78	170.54	1.51	SlimPulse	0
173	13949.00	89.76	178.35	95.00	9668.74	4392.82	-4335.28	708.66	4392.82	170.72	0.98	SlimPulse	0
174	14040.00	90.00	177.43	91.00	9668.93	4483.11	-4426.22	712.01	4483.12	170.86	1.05	SlimPulse	0
175	14078.00	90.00	177.43	38.00	9668.93	4520.86	-4464.18	713.72	4520.87	170.92	0.01	Proj to bit	7