

Results of Directional Survey

API number:	30-025-40770		
OGRID:		Operator:	CIMAREX ENERGY CO.
		Property:	DIAMONDTAIL 23 FEDERAL # 4H

surface	ULSTR:	C	23	T	23S	R	32E
				330	FNL	1955	FWL

BH Loc	ULSTR:	N	23	T	23S	R	32E
14078	MD	9624.9	TVD	337	FSL	2354	FWL
				4943	FNL		

Top Perf/OH	ULSTR:	C	23	T	23S	R	32E
9850	MD	9558.7	TVD	753	FNL	2296	FWL

Bot Perf/OH	ULSTR:	N	23	T	23S	R	32E
14050	MD	9624.4	TVD	365	FSL	2356	FWL
				4915	FNL		

	MD	N/S	E/W	VD
	9838	-412.05	338.19	9554.29
TOP PERFS/OH	9850	-422.74	341.44	9558.66
	9870	-440.56	346.86	9565.95
	14019	-4553.99	404.61	9623.82
BOT PERFS/OH	14050	-4584.82	401.44	9624.40
	14078	-4612.67	398.57	9624.92

NEXT TO LAST	14019	-4553.99	404.61	9623.82
LAST READING	14078	-4612.67	398.57	9624.92
TD	14078	-4612.67	398.57	9624.92

Surface Location	330	FN	1955	FW
Projected BHL	4943	FN	2354	FW
Location of				
Top Perfs/OH	753	FN	2296	FW
Bottom Perfs/OH	4915	FN	2356	FW

SUMMARY of Subsurface Locations

Surface Location	C-23-23S-32E	330	FN	1955	FW	Vert. Depth
Top Perfs/OH	C-23-23S-32E	753	FN	2296	FW	9558.66
Bottom Perfs/OH	N-23-23S-32E	4915	FN	2356	FW	9624.40
Projected TD	N-23-23S-32E	4943	FN	2354	FW	9624.92

MAR 05 2014

Schlumberger

Reservoir Development

Drilling & Measurements (Anadrill)

4301 SW 44th St

Oklahoma City, Oklahoma 73119 USA

Phone: (405) 682-2284

Fax: (405) 682-3937

September 9, 2013

Cimarex

600 N MARIENFELD STREET SUITE 600

MIDLAND, TX 79701

HOBBS OCD

JAN 24 2014

RECEIVED

Re:

CLIENT: Cimarex Energy Co.
WELL: Diamondtail 23 Federal No. 4H
FIELD: Diamondtail; Bone Spring
RIG: Cactus 116
COUNTY: Lea New Mexico
API NO: 30-025-40770
JOB NO: 13MLD0568

C-S23-T23S-R32E 330 FNL 1955 FWL
N 32.29656 W 103.64761

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	Diamondtail 23 Federal No. 411	8928.00 Ft to	August 23, 2013 to	SlimPulse
MWD	Original Hole	14019.00 Ft	September 1, 2013	

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

Jasem Alharer
Field Service Manager

Schlumberger

Reservoir Development

Drilling & Measurements (Anadrill)

4301 SW 44th St

Oklahoma City, Oklahoma 73119 USA

Phone: (405) 682-2284

Fax: (405) 682-3937

Well Reference:

C-S23-T23S-R32E 330 FNL 1955 FWL

N 32.29656 W 103.64761

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 August 23, 2013 through September 01, 2013, conduct or supervise the taking of the SlimPulse surveys from a depth of 8928.00 feet to a depth of 14019.00 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 No. 4H Well (Original Hole) API No. 30-025-40770 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.

Nicholas Seguelis

By
Kingsley Nlewem
MWD

on behalf of Kingsley Nlewem

Subscribed and Sworn to before me this 9th day of September (month) 2013 (yr)

My Commission expires:

September 5, 2016

Michelle Ellwood

Notary Public

Midland, TX

(County State)



SCHLUMBERGER
Survey Report

16-Sep-2013

Client..... Cimarex Energy Co.
Field..... Diamond/J, Bone Spring

Well..... Diamond/J 23 Federal No. 4H
API number..... 30-025-40770
Engineer..... K. Niewiem

County..... Lea
State..... New Mexico
Reg..... Cactus 116

Method for positions..... Minimum curvature
Method for DLS..... Lubinski

Depth reference.....
Permanent datum..... MEAN SEA LEVEL
Depth reference..... Driller's Depth
GI above permanent..... 3713.0 ft
KI above permanent..... Top Drive
OI above permanent..... 3731.0 ft

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..... 753217.200 ft
Y..... 472258.700 ft

Azimuth from Vsect Origin to target: 175.22 degrees

Spud date..... 13-Aug-13
Last survey date..... 1-Sep-13
Total accepted surveys..... 178
MD of first survey..... 8928.00 ft
MD of last survey..... 14019.00 ft
Latitude..... 32° 17' 47.617" N
Longitude..... 103° 38' 51.414" W

MWD Survey Reference Criteria

Run1— Calculation Date: 23-Aug-2013
Location G..... 998.83322 mgn Tolerance G..... 2.50 mgn
Location B..... 48396.02 nT Tolerance B..... 300.00 nT
Magnetic Dip: 60.14127 degrees Tolerance Dip: 0.45 degrees

Run2— Calculation Date: 26-Aug-2013
Location G..... 998.83322 mgn Tolerance G..... 2.50 mgn
Location B..... 48394.56 nT Tolerance B..... 300.00 nT
Magnetic Dip: 60.1411 degrees Tolerance Dip: 0.45 degrees

Run3— Calculation Date: 28-Aug-2013
Location G..... 998.83322 mgn Tolerance G..... 2.50 mgn
Location B..... 48394.26 nT Tolerance B..... 300.00 nT
Magnetic Dip: 60.14081 degrees Tolerance Dip: 0.45 degrees

Run4— Calculation Date: 29-Aug-2013
Location G..... 998.83322 mgn Tolerance G..... 2.50 mgn
Location B..... 48393.91 nT Tolerance B..... 300.00 nT
Magnetic Dip: 60.14072 degrees Tolerance Dip: 0.45 degrees

BGGM Model: BGGM 202

Run1—
Magnetic dec (E/W)..... 7.46492 degrees
Grid Conv (E/W)..... 0.3664 degrees
Total Azim Corr (E/W)..... 7.09852 degrees

Run2—
Magnetic dec (E/W)..... 7.46396 degrees
Grid Conv (E/W)..... 0.3664 degrees
Total Azim Corr (E/W)..... 7.09755 degrees

Run3—
Magnetic dec (E/W)..... 7.46332 degrees
Grid Conv (E/W)..... 0.3664 degrees
Total Azim Corr (E/W)..... 7.09592 degrees

Run4—
Magnetic dec (E/W)..... 7.463 degrees
Grid Conv (E/W)..... 0.3664 degrees
Total Azim Corr (E/W)..... 7.0956 degrees

Survey Correction Index Description

0 = Uncorrected 1 = Sag Corrected
2 = DMAG Corrected 3 = Sag + DMAG Corrected 7 = Projection to Bit

Survey List															
Seq	MD (ft)	Incl (deg)	Azim (deg)	Course (ft)	TVD (ft)	VSec (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	112.00	0.70	111.04	112.00	112.00	0.30	-0.25	0.64	0.68416	111.04	0.63	GyroTool	0		
3	178.00	0.79	282.73	66.00	178.00	0.34	-0.29	0.57	0.64049	116.93	2.25	GyroTool	0		
4	218.00	0.79	281.32	40.00	217.99	0.18	-0.18	0.03	0.17806	169.76	0.05	GyroTool	0		
5	288.00	0.88	281.24	70.00	287.98	-0.10	0.02	-0.97	0.96906	271.44	0.13	GyroTool	0		
6	341.00	0.88	288.44	53.00	340.98	-0.38	0.23	-1.75	1.76937	277.55	0.21	GyroTool	0		
7	405.00	0.26	296.22	64.00	404.97	-0.65	0.45	-2.35	2.39361	280.88	0.97	GyroTool	0		
8	465.00	0.88	297.72	60.00	464.97	-0.96	0.73	-2.88	2.97074	284.15	1.03	GyroTool	0		
9	524.00	0.88	293.15	59.00	523.96	-1.42	1.12	-3.70	3.86273	286.78	0.12	GyroTool	0		
10	582.00	0.62	267.75	58.00	581.96	-1.64	1.28	-4.42	4.60233	286.12	0.72	GyroTool	0		
11	644.00	0.62	277.24	62.00	643.96	-1.73	1.31	-5.09	5.25446	284.41	0.17	GyroTool	0		
12	706.00	0.70	285.15	62.00	705.95	-1.93	1.45	-5.79	5.96609	284.05	0.20	GyroTool	0		
13	797.00	0.48	281.02	91.00	796.95	-2.22	1.67	-6.70	6.90251	283.97	0.25	GyroTool	0		
14	841.00	0.62	262.91	44.00	840.94	-2.26	1.67	-7.12	7.30935	283.23	0.50	GyroTool	0		
15	983.00	0.40	250.12	142.00	982.94	-2.10	1.41	-8.34	8.46212	279.59	0.17	GyroTool	0		
16	1075.00	0.62	235.62	92.00	1074.94	-1.77	1.02	-9.06	9.11391	276.42	0.28	GyroTool	0		
17	1165.00	0.40	255.44	90.00	1164.93	-1.48	0.66	-9.76	9.78534	273.90	0.31	GyroTool	0		
18	1237.00	0.48	221.03	72.00	1236.93	-1.22	0.37	-10.20	10.21082	272.10	0.38	GyroTool	0		
19	1270.00	0.31	261.02	33.00	1269.93	-1.12	0.26	-10.38	10.38604	271.41	0.95	GyroTool	0		
20	1365.00	0.31	273.33	95.00	1364.93	-1.14	0.23	-10.89	10.89574	271.21	0.07	GyroTool	0		
21	1460.00	0.31	266.82	95.00	1459.93	-1.18	0.23	-11.41	11.40881	271.16	0.04	GyroTool	0		
22	1555.00	0.31	288.62	95.00	1554.92	-1.29	0.30	-11.91	11.91038	271.44	0.12	GyroTool	0		
23	1650.00	0.31	286.33	95.00	1649.92	-1.48	0.45	-12.40	12.40509	272.10	0.01	GyroTool	0		
24	1744.00	0.22	293.23	94.00	1743.92	-1.66	0.50	-12.81	12.82053	272.67	0.10	GyroTool	0		
25	1839.00	0.22	307.03	95.00	1838.92	-1.87	0.78	-13.12	13.14291	273.39	0.06	GyroTool	0		
26	1933.00	0.31	275.22	94.00	1932.92	-2.03	0.91	-13.52	13.54776	273.85	0.18	GyroTool	0		
27	2028.00	0.31	308.22	95.00	2027.92	-2.25	1.09	-13.98	14.01763	274.47	0.19	GyroTool	0		
28	2124.00	0.40	307.74	96.00	2123.92	-2.66	1.46	-14.44	14.51744	275.76	0.09	GyroTool	0		
29	2217.00	0.40	295.12	93.00	2216.92	-3.04	1.79	-14.99	15.10168	276.82	0.09	GyroTool	0		
30	2313.00	0.48	289.85	96.00	2312.91	-3.37	2.07	-15.68	15.81283	277.53	0.09	GyroTool	0		
31	2408.00	0.31	309.63	95.00	2407.91	-3.72	2.37	-16.25	16.42081	278.31	0.23	GyroTool	0		
32	2500.00	0.31	308.35	92.00	2499.91	-4.06	2.69	-16.64	16.85078	279.17	0.01	GyroTool	0		
33	2595.00	0.48	309.45	95.00	2594.91	-4.51	3.10	-17.14	17.42186	280.24	0.18	GyroTool	0		
34	2690.00	0.40	313.62	95.00	2689.90	-5.04	3.58	-17.69	18.05004	281.44	0.09	GyroTool	0		
35	2783.00	0.40	312.04	93.00	2782.90	-5.52	4.02	-18.17	18.60728	282.48	0.01	GyroTool	0		
36	2878.00	0.62	311.91	95.00	2877.90	-6.14	4.59	-18.80	19.34786	283.71	0.23	GyroTool	0		
37	2974.00	0.62	329.44	96.00	2973.89	-6.98	5.38	-19.45	20.17763	285.46	0.20	GyroTool	0		
38	3068.00	0.62	324.22	94.00	3067.89	-7.88	6.23	-20.00	20.951	287.30	0.06	GyroTool	0		
39	3162.00	0.70	318.81	94.00	3161.88	-8.77	7.08	-20.68	21.85553	288.89	0.11	GyroTool	0		
40	3258.00	0.70	323.25	96.00	3257.87	-9.74	7.99	-21.42	22.85638	290.45	0.06	GyroTool	0		
41	3353.00	0.79	329.14	95.00	3352.87	-10.82	9.01	-22.10	23.86636	292.19	0.12	GyroTool	0		
42	3448.00	0.79	328.74	95.00	3447.86	-12.00	10.14	-22.77	24.92818	293.99	0.01	GyroTool	0		
43	3542.00	0.79	329.53	94.00	3541.85	-13.16	11.25	-23.44	25.98866	295.64	0.01	GyroTool	0		
44	3637.00	1.01	325.71	95.00	3636.84	-14.48	12.50	-24.24	27.27814	297.28	0.24	GyroTool	0		
45	3731.00	0.88	331.11	94.00	3730.82	-15.86	13.82	-25.06	28.61746	298.88	0.17	GyroTool	0		
46	3826.00	1.01	335.51	95.00	3825.81	-17.31	15.22	-25.76	29.91967	300.58	0.16	GyroTool	0		
47	3921.00	1.10	334.15	95.00	3920.79	-18.95	16.80	-26.50	31.38134	302.38	0.10	GyroTool	0		
48	4016.00	1.10	335.64	95.00	4015.78	-20.66	18.46	-27.28	32.93364	304.08	0.03	GyroTool	0		
49	4113.00	1.01	348.52	97.00	4112.76	-22.39	20.14	-27.83	34.35461	305.89	0.26	GyroTool	0		
50	4208.00	0.79	10.93	95.00	4207.75	-23.85	21.61	-27.87	35.26618	307.78	0.43	GyroTool	0		
51	4303.00	0.79	17.35	95.00	4302.74	-25.09	22.87	-27.55	35.81063	309.70	0.09	GyroTool	0		
52	4397.00	0.79	26.44	94.00	4396.73	-26.24	24.07	-27.07	36.22652	311.64	0.13	GyroTool	0		
53	4492.00	0.79	37.34	95.00	4491.72	-27.29	25.18	-26.38	36.47006	313.66	0.16	GyroTool	0		
54	4587.00	0.88	47.23	95.00	4586.71	-28.22	26.20	-25.45	36.52283	315.83	0.18	GyroTool	0		
55	4681.00	0.88	59.44	94.00	4680.70	-28.98	27.05	-24.30	36.36311	318.07	0.20	GyroTool	0		
56	4775.00	1.01	55.14	94.00	4774.69	-29.71	27.89	-23.00	36.1512	320.49	0.16	GyroTool	0		
57	4870.00	0.88	53.73	95.00	4869.67	-30.51	28.80	-21.72	36.07609	322.98	0.14	GyroTool	0		
58	4967.00	1.01	49.43	97.00	4966.66	-31.40	29.80	-20.47	36.15455	325.51	0.15	GyroTool	0		
59	5061.00	1.01	59.53	94.00	5060.65	-32.24	30.76	-19.13	36.22186	328.12	0.19	GyroTool	0		
60	5156.00	1.01	54.13	95.00	5155.63	-33.04	31.67	-17.73	36.29813	330.76	0.10	GyroTool	0		
61	5251.00	1.01	52.24	95.00	5250.62	-33.93	32.68	-16.39	36.55663	333.37	0.04	GyroTool	0		
62	5347.00	1.10	65.82	96.00	5346.60	-34.70	33.57	-14.88	36.72217	336.10	0.28	GyroTool	0		
63	5441.00	1.10	71.84	94.00	5440.58	-35.20	34.22	-13.20	36.68047	338.91	0.12	GyroTool	0		
64	5535.00	1.10	64.85	94.00	5534.57	-35.73	34.89	-11.52	36.74242	341.72	0.14	GyroTool	0		
65	5632.00	1.19	64.32	97.00	5631.55	-36.41	35.72	-9.77	37.03351	344.70	0.09	GyroTool	0		
66	5727.00	0.88	72.72	95.00	5726.53	-36.92	36.36	-8.19	37.27514	347.31	0.36	GyroTool	0		
67	5821.00	0.79	54.92	94.00	5820.52	-37.40	36.95	-6.97	37.60288	349.32	0.29	GyroTool	0		
68	5916.00	0.79	61.33	95.00	5915.51	-38.00	37.64	-5.86	38.09522	351.15	0.09	GyroTool	0		
69	6010.00	1.10	56.32	94.00	6009.50	-38.70	38.45	-4.54	38.7203	353.27	0.34	GyroTool	0		
70	6107.00	0.79	60.15	97.00	6106.49	-39.43	39.30	-3.18	39.4313	355.37	0.33	GyroTool	0		
71	6201.00	0.79	53.12	94.00	6200.48	-40.05	40.01	-2.10	40.06924	356.99	0.10	GyroTool	0		
72	6296.00	1.01	56.02	95.00	6295.47	-40.81	40.87	-0.89	40.88457	358.76	0.24	GyroTool	0		
73	6390.00	0.79	41.51	94.00	6389.45	-41.66	41.82	0.23	41.82393	0.32	0.34	GyroTool	0		
74	6485.00	0.79	45.82	95.00	6484.45	-42.53	42.77	1.13	42.78519	1.52	0.06	GyroTool	0		
75	6580.00	0.88	42.83	95.00	6579.44	-43.43	43.76	2.10	43.81194	2.75	0.11	GyroTool	0		
76	6674.00	1.10	34.22	94.00	6673.42	-44.62	45.04	3.10	45.14349	3.94	0.28	GyroTool	0		
77	6768.00	0.79	46.13	94.00	6767.41	-45.73	46.23	4.07	46.41129	5.03	0.39	GyroTool	0		
78	6862.00	1.01	49.82	94.00	6861.40	-46.62	47.22	5.17	47.49839	6.25	0.24	GyroTool	0		
79	6958.00	0.88	39.71	95.00	6957.38	-47.64	48.33	6.29	48.73653	7.42	0.22	GyroTool	0		
80	7052.00	1.10	35.01	94.00	7051.37	-48.85	49.62	7.27	50.15281	8.33	0.25	GyroTool	0		
81	7146.00	0.88	38.44	94.00	7145.36	-50.06	50.93	8.24	51.58922	9.19	0.24	GyroTool	0		
82	7240.00	1.01	39.32	94.00	7239.34	-51.19	52.13	9.21	52.94109	10.02	0.14	GyroTool	0		
83	7336.00	1.01	31.14	95.00	7335.33	-52.48	53.51	10.18	54.47292	10.77	0.15	GyroTool	0		
84	7431.00	1.10	13.35	95.00	7430.31	-54.02	55.12	10.83	56.16981	11.11	0.36	GyroTool	0		
85	7526.00	0.79	348.03	95.00	7525.30	-55.54	56.64	10.90	57.6839	10.89	0.54	GyroTool	0		
86	7620.00	0.70	358.84	94.00	7619.29	-56.76	57.85	10.76	58.84372	10.53	0.18	GyroTool	0		
87	7715.00	0.62	341.13	95.00	7714.29	-57.83	58.92	10.58	59.860						

90	7998.00	0.40	328.92	95.00	7997.56	-60.63	61.54	8.36	62.1028	7.74	0.26	GyroTool	0
91	8093.00	0.22	314.24	95.00	8092.78	-61.06	61.95	8.06	62.47025	7.41	0.21	GyroTool	0
92	8190.00	0.31	297.65	95.00	8189.69	-61.34	62.20	7.69	62.67975	7.05	0.12	GyroTool	0
93	8284.00	0.31	235.23	94.00	8283.76	-61.35	62.17	7.26	62.55694	6.66	0.34	GyroTool	0
94	8379.00	0.31	99.13	95.00	8378.69	-61.16	61.99	7.30	62.41594	6.72	0.61	GyroTool	0
95	8473.00	0.48	232.33	96.00	8474.25	-60.88	61.70	7.24	62.12362	6.69	0.76	GyroTool	0
96	8569.00	0.88	207.63	94.00	8568.75	-60.06	60.82	6.59	61.1765	6.19	0.52	GyroTool	0
97	8664.00	0.70	208.73	95.00	8663.24	-58.96	59.66	5.98	59.95349	5.72	0.19	GyroTool	0
98	8759.00	0.88	700.82	95.00	8758.23	-57.82	58.47	5.44	58.7265	5.31	0.22	GyroTool	0
99	8853.00	0.70	156.21	94.00	8852.22	-56.62	57.27	5.41	57.52929	5.40	0.66	GyroTool	0
100	8928.00	1.51	163.47	75.00	8927.21	-55.22	55.91	5.88	56.21377	6.00	1.10	SlimPulse	0
101	8959.00	5.34	145.59	31.00	8958.15	-53.57	54.32	6.81	54.74815	7.15	12.66	SlimPulse	0
102	8993.00	10.79	142.28	31.00	8992.83	-49.87	50.89	9.40	51.69703	10.48	17.65	SlimPulse	0
103	9022.00	15.66	143.73	32.00	9019.96	-43.63	44.93	13.83	47.01322	17.10	15.87	SlimPulse	0
104	9054.00	19.97	145.29	32.00	9050.40	-35.16	36.91	19.53	41.76185	27.88	12.91	SlimPulse	0
105	9086.00	22.46	144.36	32.00	9080.23	-25.18	27.45	26.20	37.95145	43.66	7.87	SlimPulse	0
106	9117.00	23.87	141.68	31.00	9108.73	-14.87	17.72	33.54	37.99338	62.15	5.66	SlimPulse	0
107	9149.00	25.55	137.91	32.00	9137.80	-3.98	7.52	42.18	42.84748	79.90	7.20	SlimPulse	0
108	9181.00	27.84	136.81	32.00	9166.39	7.37	-3.05	51.92	52.01397	93.36	7.31	SlimPulse	0
109	9212.00	29.49	136.30	31.00	9193.59	18.97	-13.85	62.15	63.67395	102.56	5.39	SlimPulse	0
110	9244.00	31.00	135.59	32.00	9221.23	31.45	-25.43	73.36	77.64074	109.12	4.85	SlimPulse	0
111	9275.00	32.55	134.48	31.00	9247.98	43.92	-36.97	80.90	92.59832	113.53	5.34	SlimPulse	0
112	9307.00	34.65	134.87	32.00	9274.24	57.37	-49.43	97.49	109.29316	116.89	6.60	SlimPulse	0
113	9338.00	37.47	137.42	31.00	9299.30	71.54	-62.59	110.11	116.66044	119.61	10.31	SlimPulse	0
114	9370.00	40.48	140.22	32.00	9324.17	87.75	-77.75	123.35	145.80898	122.22	10.90	SlimPulse	0
115	9402.00	43.59	141.66	32.00	9347.84	105.48	-94.41	136.82	166.22809	124.61	10.29	SlimPulse	0
116	9433.00	47.18	141.76	31.00	9369.70	123.89	-111.75	150.46	187.41828	126.60	11.59	SlimPulse	0
117	9465.00	51.15	139.76	32.00	9390.63	149.84	-130.09	165.78	210.97224	128.21	13.26	SlimPulse	0
118	9497.00	54.85	138.05	32.00	9409.88	164.42	-149.74	182.58	236.12673	129.36	12.33	SlimPulse	0
119	9529.00	57.90	138.91	32.00	9427.60	185.77	-169.68	200.24	262.46521	130.28	9.81	SlimPulse	0
120	9560.00	59.43	140.12	31.00	9443.72	207.27	-189.82	217.43	288.62978	131.12	5.95	SlimPulse	0
121	9588.00	61.41	141.21	29.00	9458.04	228.04	-209.33	233.41	313.5732	131.80	7.59	SlimPulse	0
122	9620.00	64.25	144.62	34.00	9473.56	253.61	-233.46	251.63	343.25512	132.85	12.21	SlimPulse	0
123	9654.00	66.06	147.94	31.00	9486.59	278.22	-256.86	267.24	370.66739	133.87	11.34	SlimPulse	0
124	9685.00	67.12	150.84	31.00	9498.91	304.83	-281.34	281.72	398.14558	134.96	9.23	SlimPulse	0
125	9717.00	68.49	153.35	32.00	9511.00	331.07	-307.52	295.58	426.54394	136.13	8.44	SlimPulse	0
126	9748.00	69.26	155.79	31.00	9522.17	358.13	-333.64	308.00	454.06464	137.29	7.76	SlimPulse	0
127	9780.00	69.23	157.80	32.00	9533.32	386.51	-361.14	319.79	482.31774	138.48	5.86	SlimPulse	0
128	9809.00	69.26	159.82	27.00	9543.08	410.73	-384.68	328.91	506.1208	139.47	6.99	SlimPulse	0
129	9838.00	68.38	162.72	31.00	9554.29	438.78	-412.05	338.19	533.06486	140.62	9.18	SlimPulse	0
130	9870.00	68.86	163.48	32.00	9565.95	467.91	-440.56	346.86	560.71525	141.79	7.66	SlimPulse	0
131	9902.00	70.20	164.16	31.00	9577.19	497.28	-469.33	355.20	588.5937	142.88	4.08	SlimPulse	0
132	9933.00	71.37	164.70	32.00	9587.44	526.02	-497.51	370.94	615.88927	143.88	4.70	SlimPulse	0
133	9965.00	72.58	165.27	32.00	9597.55	555.96	-526.90	370.94	644.37682	144.85	4.16	SlimPulse	0
134	9997.00	74.19	165.46	32.00	9606.50	586.17	-556.57	378.69	673.18234	145.77	5.07	SlimPulse	0
135	10029.00	78.75	166.93	95.00	9628.71	677.37	-646.24	400.71	760.39425	146.20	5.03	SlimPulse	0
136	10185.00	82.83	167.99	93.00	9640.36	768.31	-735.83	420.64	847.57601	150.25	4.52	SlimPulse	0
137	10281.00	87.66	170.16	96.00	9651.96	863.39	-829.74	438.76	938.60055	152.13	5.52	SlimPulse	0
138	10375.00	91.69	171.96	94.00	9662.99	957.12	-922.57	453.37	1027.94669	153.83	4.69	SlimPulse	0
139	10469.00	91.24	172.29	94.00	9674.69	1050.95	-1035.65	466.24	1117.55446	155.34	0.59	SlimPulse	0
140	10564.00	90.69	172.44	95.00	9684.80	1145.82	-1109.80	478.86	1208.69946	156.66	0.60	SlimPulse	0
141	10659.00	90.45	172.95	95.00	9694.75	1240.72	-1204.02	490.94	1300.2638	157.82	0.60	SlimPulse	0
142	10754.00	89.28	173.12	95.00	9647.38	1335.65	-1238.32	502.46	1393.15366	158.84	1.24	SlimPulse	0
143	10849.00	89.24	174.56	95.00	9664.61	1430.39	-1392.67	513.48	1484.11171	159.76	0.47	SlimPulse	0
144	10943.00	88.69	174.75	94.00	9684.48	1524.57	-1486.17	523.04	1575.52704	160.61	1.35	SlimPulse	0
145	11042.00	90.17	175.28	99.00	9694.80	1623.57	-1594.80	531.64	1671.59476	161.46	0.72	SlimPulse	0
146	11134.00	90.07	176.44	92.00	9694.91	1715.56	-1676.56	538.28	1760.89941	162.20	1.26	SlimPulse	0
147	11221.00	90.28	176.83	87.00	9694.95	1802.53	-1726.41	543.39	1845.23011	163.87	0.51	SlimPulse	0
148	11316.00	92.79	176.75	95.00	9646.61	1897.46	-1858.22	548.71	1937.33669	165.55	2.64	SlimPulse	0
149	11412.00	92.27	177.61	96.00	9642.86	1993.31	-1954.00	553.43	2030.88668	164.19	1.05	SlimPulse	0
150	11506.00	93.48	178.41	94.00	9637.66	2087.07	-2047.83	556.69	2122.14549	164.79	1.54	SlimPulse	0
151	11601.00	93.99	178.71	95.00	9631.47	2181.71	-2142.59	559.07	2214.33414	165.38	0.63	SlimPulse	0
152	11695.00	92.96	180.36	94.00	9625.78	2275.77	-2226.41	559.83	2305.42021	165.95	2.07	SlimPulse	0
153	11790.00	91.93	180.44	95.00	9627.23	2369.79	-2331.32	559.17	2397.44564	166.51	1.09	SlimPulse	0
154	11885.00	90.76	181.42	95.00	9619.20	2464.29	-2426.28	557.63	2488.53947	167.08	1.61	SlimPulse	0
155	11979.00	91.03	182.00	94.00	9618.00	2557.08	-2520.23	554.83	2580.5798	167.58	0.68	SlimPulse	0
156	12073.00	88.52	181.74	94.00	9618.40	2651.04	-2614.17	551.76	2671.76571	168.08	2.69	SlimPulse	0
157	12168.00	87.63	181.29	95.00	9621.60	2745.41	-2709.08	549.26	2764.20193	168.54	1.05	SlimPulse	0
158	12260.00	88.97	182.52	92.00	9624.33	2836.74	-2800.99	546.20	2853.74656	168.97	1.98	SlimPulse	0
159	12353.00	89.21	183.58	97.00	9625.87	2932.83	-2897.84	541.04	2947.91156	169.42	1.13	SlimPulse	0
160	12453.00	89.48	184.18	96.00	9626.57	3027.73	-2993.61	534.55	3040.90508	169.88	0.68	SlimPulse	0
161	12548.00	90.41	184.16	95.00	9627.05	3121.57	-3088.36	527.64	3133.10665	170.30	0.98	SlimPulse	0
162	12641.00	90.32	184.33	95.00	9626.30	3207.23	-3181.10	520.76	3223.4425	170.70	0.21	SlimPulse	0
163	12736.00	89.76	184.76	95.00	9626.07	3302.33	-3275.83	513.64	3315.85606	171.09	0.80	SlimPulse	0
164	12830.00	91.51	183.51	94.00	9625.03	3400.14	-3369.61	507.27	3407.57447	171.44	2.03	SlimPulse	0
165	12925.00	91.14	184.00	95.00	9622.83	3494.07	-3464.38	501.05	3500.42197	171.77	0.65	SlimPulse	0
166	13020.00	90.82	184.55	95.00	9621.18	3587.87	-3559.10	493.98	3593.21675	172.10	0.79	SlimPulse	0
167	13114.00	89.62	185.01	94.00	9621.18	3680.57	-3652.77	486.15	3684.98097	172.42	1.17	SlimPulse	0
168	13209.00	90.65	184.07	95.00	9619.96	3774.21	-3747.47	478.63	3777.91356	172.72	1.46	SlimPulse	0
169	13303.00	90.62	184.36	94.00	9619.91	3867.15	-3841.21	471.73	3870.00891	173.00	0.30	SlimPulse	0
170	13398.00	90.10	184.28	95.00	9619.31	3960.36	-3935.94	464.57	3963.26148	173.27	0.55	SlimPulse	0
171	13493.00	89.79	184.82	95.00	9619.40	4054.70	-4030.64	457.03	4056.46693	173.53	0.65	SlimPulse	0
172	13588.00	89.66	185.69	95.00	9619.66	4148.24	-4125.24	448.32	4149.52712	173.80	0.93	SlimPulse	0
173	13682.00												