

## STORED ENERGY DATA

Date: 5/26/2005

**BOW MFGR.-** 3 RIVERS ARCHERY **BRACE HEIGHT.=** 7.13 INCHES  
**MODEL -** TOMAHAWK THUNDER STORM **ZERO INTERCEPT =** 8.88 INCHES  
**DRAW LENGTH =** 24.00 INCHES **P.D.F. =** 46.00 POUNDS

**S.N. -** 8298

DR LNTH	FORCE	^INCH	^POUND	ELM. AREA	SUM AREA	SUM AREA
INCHES	POUNDS	INCHES	POUNDS	INCH LB.	INCH LB.	FT. LB.
5.00		1.00				0.00
6.00		1.00	0.00	0.00	0.00	0.00
7.00		1.88	0.00	0.00	0.00	0.00
8.88	0.0	0.13	0.00	0.00	0.00	0.00
9.00	1.0	1.00	1.00	0.06	0.06	0.01
10.00	5.9	1.00	4.90	3.45	3.51	0.29
11.00	10.4	1.00	4.50	8.15	11.66	0.97
12.00	14.0	1.00	3.60	12.20	23.86	1.99
13.00	17.1	1.00	3.10	15.55	39.41	3.28
14.00	20.1	1.00	3.00	18.60	58.01	4.83
15.00	22.8	1.00	2.70	21.45	79.46	6.62
16.00	25.4	1.00	2.60	24.10	103.56	8.63
17.00	27.9	1.00	2.50	26.65	130.21	10.85
18.00	30.4	1.00	2.50	29.15	159.36	13.28
19.00	32.8	1.00	2.40	31.60	190.96	15.91
20.00	35.3	1.00	2.50	34.05	225.01	18.75
21.00	37.8	1.00	2.50	36.55	261.56	21.80
22.00	40.5	1.00	2.70	39.15	300.71	25.06
23.00	43.2	1.00	2.70	41.85	342.56	28.55
24.00	46.0	1.00	2.80	44.60	387.16	32.26
25.00		1.00	0.00	0.00	0.00	0.00
26.00		1.00	0.00	0.00	0.00	0.00
27.00		1.00	0.00	0.00	0.00	0.00
28.00		1.00	0.00	0.00	0.00	0.00
29.00		1.00	0.00	0.00	0.00	0.00
30.00		1.00	0.00	0.00	0.00	0.00
31.00		1.00	0.00	0.00	0.00	0.00
32.00		1.00	0.00	0.00	0.00	0.00
33.00		1.00	0.00	0.00	0.00	0.00
34.00		1.00	0.00	0.00	0.00	0.00
35.00						0.00

**STORED ENERGY (S.E.) =** 32.264 FT.LB  
**S.E./P.D.F. =** 0.701 FT.LB./LB.  
**% OF LET-OFF OVERALL=** 23.26 PERCENT  
**% OF LET-OFF AT 30 IN. =** 100.00 PERCENT  
**ENERGY STORING EFFICIENCY =** 35.07 PERCENT OVERALL  
**ENERGY STORING EFFICIENCY =** 55.65 PERCENT POWERSTROKE  
**BOTTOM OF VALLEY AT** INCHES << ENTER VALUE  
**DRAW FORCE @VALLEY BOTTOM =** LB.. << ENTER VALUE  
**LET-OFF AT BOTTOM OF VALLEY =** 100.00 PERCENT

## LET-DOWN DATA

DR LENGH INCHES	FORCE POUNDS	^INCH INCHES	^POUND POUNDS	ELM. AREA INCH LB.	SUM AREA INCH LB.	SUM AREA FT. LB.
5.00		1.00				0.00
6.00		1.00	0.00	0.00	0.00	0.00
7.00		1.88	0.00	0.00	0.00	0.00
8.88	0.0	0.12	0.00	0.00	0.00	0.00
9.00	0.9	1.00	0.90	0.05	0.05	0.00
10.00	5.7	1.00	4.80	3.30	3.35	0.28
11.00	10.3	1.00	4.60	8.00	11.35	0.95
12.00	13.9	1.00	3.60	12.10	23.45	1.95
13.00	16.5	1.00	2.60	15.20	38.65	3.22
14.00	19.5	1.00	3.00	18.00	56.65	4.72
15.00	22.0	1.00	2.50	20.75	77.40	6.45
16.00	24.7	1.00	2.70	23.35	100.75	8.40
17.00	27.1	1.00	2.40	25.90	126.65	10.55
18.00	29.6	1.00	2.50	28.35	155.00	12.92
19.00	32.0	1.00	2.40	30.80	185.80	15.48
20.00	34.5	1.00	2.50	33.25	219.05	18.25
21.00	37.0	1.00	2.50	35.75	254.80	21.23
22.00	39.7	1.00	2.70	38.35	293.15	24.43
23.00	42.4	1.00	2.70	41.05	334.20	27.85
24.00	45.3	1.00	2.90	43.85	378.05	31.50
25.00		1.00	0.00	0.00	0.00	0.00
26.00		1.00	0.00	0.00	0.00	0.00
27.00		1.00	0.00	0.00	0.00	0.00
28.00		1.00	0.00	0.00	0.00	0.00
29.00		1.00	0.00	0.00	0.00	0.00
30.00		1.00	0.00	0.00	0.00	0.00
31.00		1.00	0.00	0.00	0.00	0.00
32.00		1.00	0.00	0.00	0.00	0.00
33.00		1.00	0.00	0.00	0.00	0.00
34.00		1.00	0.00	0.00	0.00	0.00
35.00						

**RECOVERED ENERGY =** 31.505 FT.-LB

**STATIC HYSTERESIS =** 0.76 FT.-LB.

**STATIC HYSTERESIS =** 2.35 PERCENT OF STORED ENERGY

**ARROW VELOCITY - TEST DATA**

ARROW TYPE	WEIGHT GRAINS	VELOCITY FT. / SEC.	KIN. ENRGY FT.-LB.	DYN. EFFNC\ PERCENT	VIRT. MASS GRAINS
3-40/390	360.0	175.0	24.49	75.90	114.33
2300	407.0	166.0	24.91	77.21	120.16
2115	451.0	161.0	25.96	80.48	109.41
2315	495.0	154.0	26.07	80.81	117.51
2117	540.0	150.0	26.99	83.64	105.61
XT 19-12	599.0	141.0	26.45	81.98	131.66
2419	654.0	138.0	27.66	85.74	108.78
			0	0.00	0.00
			0	0.00	0.00
			0	0.00	0.00
			0	0.00	0.00
<b>AVERAGE VIRTUAL MASS=</b>					115.35

ENTER NUMBER OF ARROWS > 7 < HERE

ARO WGT. GRAINS	VIR MASS GRAINS	Wa ^2	Wa*Wk	Wk ^2	
360.0	114.33	129600.00	41158.57	13071.21	
407.0	120.16	165649.00	48903.88	14437.69	
451.0	109.41	203401.00	49343.03	11970.12	
495.0	117.51	245025.00	58168.49	13809.09	<b>A =</b> 0.00288422
540.0	105.61	291600.00	57032.09	11154.52	
599.0	131.66	358801.00	78866.92	17335.49	<b>B =</b> 113.907329
654.0	108.78	427716.00	71140.56	11832.57	
0.0	0.00	0.00	0.00	0.00	
0.0	0.00	0.00	0.00	0.00	
0.0	0.00	0.00	0.00	0.00	
0.0	0.00	0.00	0.00	0.00	
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3506.0	807.46	1821792.00	404613.54	93610.70	

**PERFORMANCE FROM REGRESSION CURVE**

ARO WGT. GRAINS	VIR MASS GRAINS	Wa+Wk GRAINS	VEL. FT./SEC.	DYN. EFF. PERCENT	KIN. ENERGY FT.-LB.
150	114.34	264.34	234.42	56.75	18.31
175	114.41	289.41	224.04	60.47	19.51
200	114.48	314.48	214.92	63.60	20.52
225	114.56	339.56	206.83	66.26	21.38
250	114.63	364.63	199.60	68.56	22.12
275	114.70	389.70	193.07	70.57	22.77
300	114.77	414.77	187.14	72.33	23.34
325	114.84	439.84	181.73	73.89	23.84
350	114.92	464.92	176.76	75.28	24.29
375	114.99	489.99	172.18	76.53	24.69
400	115.06	515.06	167.94	77.66	25.06
425	115.13	540.13	163.99	78.68	25.39
450	115.21	565.21	160.32	79.62	25.69

<b>ARO WGT.</b>	<b>VIR MASS</b>	<b>Wa+Wk</b>	<b>VEL.</b>	<b>DYN. EFF.</b>	<b>KIN. ENERGY</b>
<b>GRAINS</b>	<b>GRAINS</b>	<b>GRAINS</b>	<b>FT./SEC.</b>	<b>PERCENT</b>	<b>FT.-LB.</b>
475	115.28	590.28	156.87	80.47	25.96
500	115.35	615.35	153.64	81.25	26.22
525	115.42	640.42	150.61	81.98	26.45
550	115.49	665.49	147.74	82.65	26.66
575	115.57	690.57	145.04	83.27	26.86
600	115.64	715.64	142.47	83.84	27.05
625	115.71	740.71	140.04	84.38	27.22
650	115.78	765.78	137.73	84.88	27.39
675	115.85	790.85	135.53	85.35	27.54
700	115.93	815.93	133.43	85.79	27.68
360	114.95	474.95	174.89	75.80	24.46
540	115.46	655.46	148.87	82.38	26.58

**RATING VELOCITY WITH 360 GRAIN ARROW (60#--30"-360 GR.) :**

**RATING VELOCITY WITH 540 GRAIN ARROW (60#-30"-540 GR.) :**

**ONLY THOSE ARROW WEIGHT VALUES CORRESPONDING TO THE ACCEPTABLE SPINE RANGE FOR THE TEST BOW AND WITHIN THE GENERAL RANGE OF ARROW WEIGHT TESTED SHOULD BE USED WITH COMPLETE CONFIDENCE. EXTRAPOLATING DATA FOR VERY LOW WEIGHT ARROWS ON HEAVIER BOWS MAY BE SUBJECT TO ERROR.**