

## 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 =** 28.00 INCHES **P.D.F. =** 59.20 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	49.0	1.00	3.00	47.50	434.66	36.22
26.00	52.2	1.00	3.20	50.60	485.26	40.44
27.00	55.6	1.00	3.40	53.90	539.16	44.93
28.00	59.2	1.00	3.60	57.40	596.56	49.71
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.) =** 49.714 FT.LB  
**S.E./P.D.F. =** 0.840 FT.LB./LB.  
**% OF LET-OFF OVERALL=** 40.37 PERCENT  
**% OF LET-OFF AT 30 IN. =** 100.00 PERCENT  
**ENERGY STORING EFFICIENCY =** 35.99 PERCENT OVERALL  
**ENERGY STORING EFFICIENCY =** 52.69 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	48.4	1.00	3.10	46.85	424.90	35.41
26.00	51.6	1.00	3.20	50.00	474.90	39.58
27.00	55.1	1.00	3.50	53.35	528.25	44.02
28.00	58.9	1.00	3.80	57.00	585.25	48.77
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

**RECOVERED ENERGY =** 48.771 FT.-LB

**STATIC HYSTERESIS =** 0.94 FT.-LB.

**STATIC HYSTERESIS =** 1.90 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	214.9	36.93	74.28	124.67
2300	407.0	205.2	38.06	76.57	124.57
2115	451.0	197.0	38.87	78.20	125.75
2315	495.0	189.0	39.27	79.00	131.61
2117	540.0	184.0	40.61	81.68	121.12
XT 19-12	599.0	173.0	39.82	80.09	148.87
2419	654.0	169.0	41.49	83.45	129.69
			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>					129.47

ENTER NUMBER OF ARROWS > 7 < HERE

ARO WGT. GRAINS	VIR MASS GRAINS	Wa ^2	Wa*Wk	Wk ^2	
360.0	124.67	129600.00	44881.12	15542.56	
407.0	124.57	165649.00	50701.79	15518.78	
451.0	125.75	203401.00	56712.49	15812.64	
495.0	131.61	245025.00	65145.41	17320.38	<b>A =</b> 0.0443862
540.0	121.12	291600.00	65407.13	14671.10	
599.0	148.87	358801.00	89173.61	22162.51	<b>B =</b> 107.238347
654.0	129.69	427716.00	84818.52	16819.99	
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	906.29	1821792.00	456840.07	117847.96	

**PERFORMANCE FROM REGRESSION CURVE**

ARO WGT. GRAINS	VIR MASS GRAINS	Wa+Wk GRAINS	VEL. FT./SEC.	DYN. EFF. PERCENT	KIN. ENERGY FT.-LB.
150	113.90	263.90	291.23	56.84	28.26
175	115.01	290.01	277.82	60.34	30.00
200	116.12	316.12	266.10	63.27	31.45
225	117.23	342.23	255.74	65.75	32.68
250	118.33	368.33	246.51	67.87	33.74
275	119.44	394.44	238.21	69.72	34.66
300	120.55	420.55	230.70	71.33	35.46
325	121.66	446.66	223.86	72.76	36.17
350	122.77	472.77	217.59	74.03	36.80
375	123.88	498.88	211.82	75.17	37.37
400	124.99	524.99	206.48	76.19	37.88
425	126.10	551.10	201.53	77.12	38.34
450	127.21	577.21	196.92	77.96	38.76

ARO WGT. GRAINS	VIR MASS GRAINS	Wa+Wk GRAINS	VEL. FT./SEC.	DYN. EFF. PERCENT	KIN. ENERGY FT.-LB.
475	128.32	603.32	192.61	78.73	39.14
500	129.43	629.43	188.58	79.44	39.49
525	130.54	655.54	184.78	80.09	39.81
550	131.65	681.65	181.21	80.69	40.11
575	132.76	707.76	177.83	81.24	40.39
600	133.87	733.87	174.64	81.76	40.65
625	134.98	759.98	171.62	82.24	40.88
650	136.09	786.09	168.74	82.69	41.11
675	137.20	812.20	166.01	83.11	41.32
700	138.31	838.31	163.40	83.50	41.51
360	123.22	483.22	215.22	74.50	37.04
540	131.21	671.21	182.61	80.45	40.00

**RATING VELOCITY WITH 360 GRAIN ARROW (60#--30"-360 GR.) :** 216.67

**RATING VELOCITY WITH 540 GRAIN ARROW (60#-30"-540 GR.) :** 183.84

**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.**