WEST TEXAS A&M UNIVERSITY

HUMAN PERFORMANCE RESEARCH LAB

Physiological Assessment

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Client: Dr. Sloan Teeple

This report will provide you with an overview of your measurements and scores for all testing modalities performed for the complete Physiological Assessment on February 6, 2013. Additionally, specific training recommendations are included to provide you with the most useful information possible. Should you have any questions or further inquiries, please contact me:

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Sloan Teeple Physiological Assessment: Summary

Resting Blood Pressure: 126/78

Waist Circumference: 89.5 cm or 35.25 inches (Risk Category: Low)

TABLE 4.3. CRITERIA FOR WAIST CIRCUMFERENCE IN ADULTS

	WAIST CIRCUMFERENCE cm (IN)	
RISK CATEGORY	WOMEN	MEN
Very low	<70 cm (27.5 in)	<80 cm (31.5 in)
Low	70–89 (28.5–35.0)	80–99 (31.5–39.0)
High	90–109 (35.5–43.0)	100–120 (39.5–47.0)
Very high	>110 (43.5)	>120 (47.0)

From Bray GA. Don't throw the baby out with the bath water. *Am J Clin Nutr.* 2004;70(3):347–9.

Muscular Strength/ Endurance: Pushups (#): ***46*** *(Excellent) (100th Percentile)*

TABLE 4.11. FITNESS CATEGORIES BY AGE GROUPS AND SEX FOR PUSH-UPS

	AGE									
CATEGORY	20–29		30–39		40–49		50–59		60–69	
SEX	M	F	M	F	M	F	M	F	M	F
Excellent	36	30	30	27	25	24	21	21	18	17
Very good	35	29	29	26	24	23	20	20	17	16
	29	21	22	20	17	15	13	11	11	12
Good	28	20	21	19	16	14	12	10	10	11
	22	15	17	13	13	11	10	7	8	5
Fair	21	14	16	12	12	10	9	6	7	4
	17	10	12	8	10	5	7	2	5	2
Needs improvement	16	9	11	7	9	4	6	1	4	1

M, male; F, female.

Source: Canadian Physical Activity, Fitness & Lifestyle Approach: CSEP-Health & Fitness Program's Appraisal & Counseling Strategy, 3rd ed, ©2003. Used with permission from the Canadian Society for Exercise Physiology.

Muscular Strength/ Endurance: Sit-ups (#): **73** *(Excellent) (98th Percentile)*

YMCA Half Sit-Up Test Norms (Males)

Rating	% ranking	18-25	26-35	36-45	46-55	56-65	> 65
Excellent	100	99	80	79	78	77	66
	95	83	68	65	68	63	55
	90	77	62	60	61	56	50
Good	85	72	58	57	57	53	44
	80	66	56	52	53	49	40
	75	61	53	48	52	48	38
Above Average	70	57	52	45	51	46	35
	65	54	46	44	47	43	32
	60	52	44	43	44	41	31
Average	55	49	41	39	41	39	30
	50	46	38	36	39	36	27
	45	43	37	33	36	33	26
Below Average	40	41	36	32	33	32	24
	35	40	34	31	32	31	23
	30	37	33	29	29	28	22
Poor	25	35	32	28	25	25	21
	20	33	30	25	24	24	19
	15	29	26	24	21	21	15
Very Poor	10	27	21	21	16	20	12
	5	23	17	13	11	17	10
	0	14	7	6	6	5	5

Golding, L. A. (Ed.). (2000). YMCA Fitness Testing and Assessment Manual (4th Ed.). Human Kinetics: Champaign, IL.

Flexibility: Sit-and-Reach: **30 cm** (*Very Good*)

TABLE 4.15. FITNESS CATEGORIES BY AGE GROUPS FOR TRUNK FORWARD FLEXION USING A SIT-AND-REACH BOX (cm)[a]

	AGE									
CATEGORY	20–29		30–39		40–49		50–59		60–69	
SEX	M	F	M	F	M	F	M	F	M	F
Excellent	40	41	38	41	35	38	35	39	33	35
Very good	39	40	37	40	34	37	34	38	32	34
	34	37	33	36	29	34	28	33	25	31
Good	33	36	32	35	28	33	27	32	24	30
	30	33	28	32	24	30	24	30	20	27
Fair	29	32	27	31	23	29	23	29	19	26
	25	28	23	27	18	25	16	25	15	23
Needs improvement	24	27	22	26	17	24	15	24	14	22

M, male; F, female.

[a]Note: These norms are based on a sit-and-reach box in which the zero point is set at 26 cm. When using a box in which the zero point is set at 23 cm, subtract 3 cm from each value in this table.

Source: *Canadian Physical Activity, Fitness & Lifestyle Approach: CSEP-Health & Fitness Program's Appraisal & Counseling Strategy*, 3rd ed, © 2003. Used with permission from the Canadian Society for Exercise Physiology.

3 Site Skinfold Measurement: Body fat: *16.7%* (*Excellent*) this places you at the 84th percentile when compared to normal male population of ages 40-49.

Hydrostatic Weighing: Body fat: *13.2%* (*Excellent*) this places you at the 93rd percentile when compared to normal male population of ages 40-49.
Total body weight: *186.4 lbs*.
Lean muscle mass: *161.72 lbs*.
Fat mass: *24.68 lbs*.
**Note: The hydrostatic measurement is the most accurate measurement for your body fat percentage (When you reach 12.8% you will be in the *very lean category and 95th percentile*)

TABLE 4.5. BODY COMPOSITION (% BODY FAT) FOR MEN

	AGE						
%	20–29	30–39	40–49	50–59	60–69	70–79	
99	4.2	7.0	9.2	10.9	11.5	13.6	
95	6.3	9.9	12.8	14.4	15.5	15.2	VL[a]
90	7.9	11.9	14.9	16.7	17.6	17.8	
85	9.2	13.3	16.3	18.0	18.8	19.2	
80	10.5	14.5	17.4	19.1	19.7	20.4	E
75	11.5	15.5	18.4	19.9	20.6	21.1	
70	12.7	16.5	19.1	20.7	21.3	21.6	
65	13.9	17.4	19.9	21.3	22.0	22.5	
60	14.8	18.2	20.6	22.1	22.6	23.1	G
55	15.8	19.0	21.3	22.7	23.2	23.7	
50	16.6	19.7	21.9	23.2	23.7	24.1	
45	17.4	20.4	22.6	23.9	24.4	24.4	
40	18.6	21.3	23.4	24.6	25.2	24.8	F
35	19.6	22.1	24.1	25.3	26.0	25.4	
30	20.6	23.0	24.8	26.0	26.7	26.0	
25	21.9	23.9	25.7	26.8	27.5	26.7	
20	23.1	24.9	26.6	27.8	28.4	27.6	P
15	24.6	26.2	27.7	28.9	29.4	28.9	
10	26.3	27.8	29.2	30.3	30.9	30.4	
5	28.9	30.2	31.2	32.5	32.9	32.4	
1	33.3	34.3	35.0	36.4	36.8	35.5	VP
n =	1826	8373	10442	6079	1836	301	

Total n = 28,857

Norms are based on Cooper Clinic patients.

[a]Very Lean—No less than 3% body fat is recommended for males.

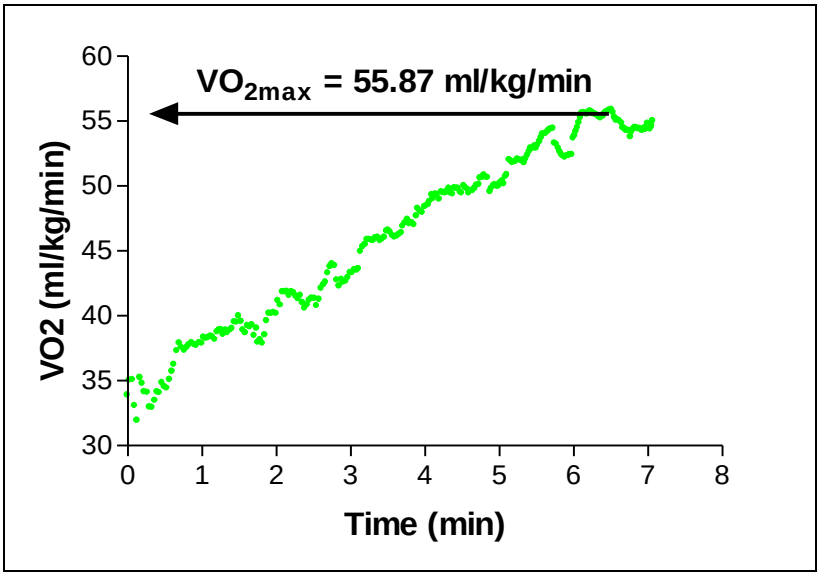
VL, very lean; E, excellent; G, good; F, fair; P, poor; VP, very poor.

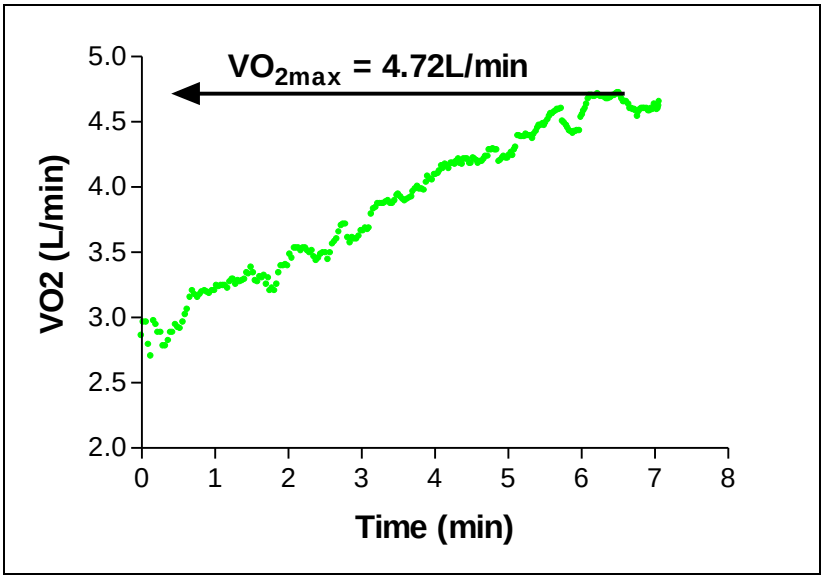
EKG Interpretation: Your EKG displayed normal heart activity with no abnormalities at rest or during exercise. Should you wish to confirm this observation with your cardiologist three EKG printouts have been attached to this report.

**Specific information follows.*

VO2max Analysis:

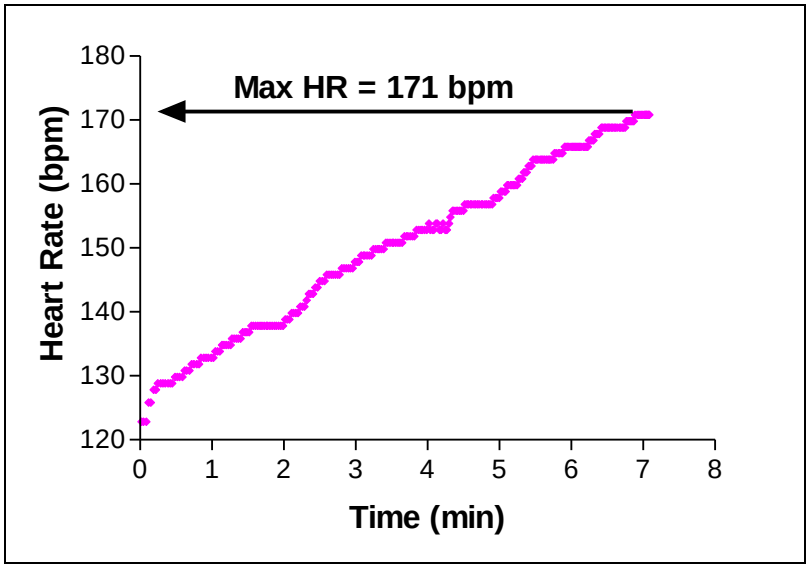
Maximal oxygen uptake is used to determine cardio respiratory fitness. This VO_{2max} refers to the maximum amount of oxygen that an individual can consume during maximal exercise. VO_{2max} is typically interpreted as the milliliters of oxygen consumed during one minute of exercise by each kilogram of an individual's body weight (**ml/kg/min)**. There is a direct correlation between cardio respiratory fitness and values of a VO_{2max} test; as your value increases, so does your fitness level. Your VO_{2max}, measured on a treadmill at a workload of 9.5 mph with 3% grade, was **55.9 ml/kg/min**. When expressed as an absolute value (i.e. not relative to your body mass) your VO_{2max} is **4.72 L/min.** Compared to other men your age, this value falls in the ***Superior*** range (97th Percentile).





Heart Rate

Exercise intensity is typically prescribed as a function of heart rate. Your heart rate during the VO_{2max} test is depicted below. Your maximal heart rate was 171 beats per minute, which met the requirements (± 10bpm of your age predicted maximal heart rate – 180bpm). This is the maximum that your heart can work during exercise, and because of this, your daily exercise does not have to reach this value. Your ventilatory heart rate is the range of intensity that we have identified to be the optimum level in order for you to reap the most benefits out of your exercise. This will be discussed further in the *Ventilatory Threshold* section.



Exercise Workload

Your exercise workload is displayed in the following table.

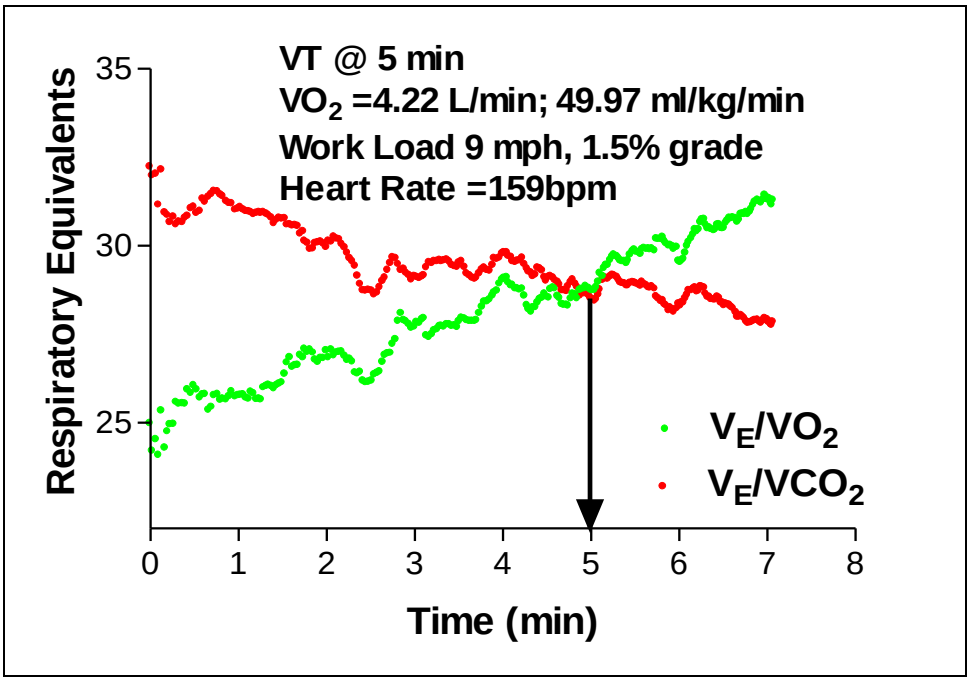
Time (minutes)	*Speed (mph)*	*Incline*
Warm-up = 2 minutes	**5.5**	**0%**
0-1	**6.5**	**0%**
1-2	**7.5**	**0%**
2-3	**8.0**	**0%**
3-4	**8.5**	**1%**
4-5	**9.0**	**1%**
5-6	**9.5**	**2%**
6-7	**9.5**	**3%**
7-8	**9.5**	**4%**

Ventilatory Threshold

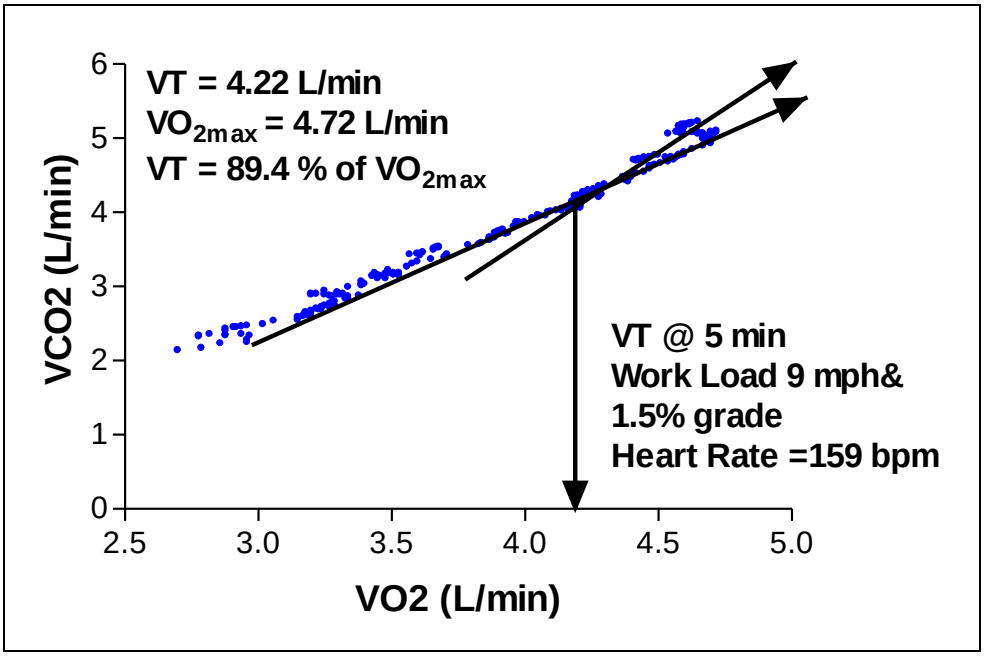
The ventilatory threshold indicates the point during exercise where your body becomes inefficient at processing oxygen. Most athletes can exercise for a prolonged amount of time (≥ 60min) at this value. Your ventilatory threshold (indicated at the cross between volume of oxygen inspired and volume of carbon dioxide expired) occurred at 5 minutes (See Graph 1, Graph 2). This point is referred to as your ventilatory threshold. At 5 minutes into exercise, your VO_2 was at a value of 4.22 L/min. Comparing this to your VO_{2max} value, we can determine that your ventilatory threshold occurs at 89.4% of your VO2max. With this data, we can determine a training regimen that will best fit your exercise intensity. From a training standpoint, you will be able to optimize your exercise benefits by exercising at a level consistent with your ventilatory threshold. Your ventilatory threshold was achieved at a **VO_2 of 4.22 L/min**, or **49.97 ml/kg/min** (**89.4% of your VO_2 max**). To make this information accessible for you to be able to incorporate into your training regimen, we calculate your ventilatory heart rate (**159 beats per minute**).

We recommend that you exercise at a heart rate between 154 bpm and 164 bpm (your ventilatory threshold range). Your ventilatory workload occurred when you were exercising at 9 mph with 1.5**%** grade *(treadmill was transitioning to a 2% grade)* (See graph 3). Thus, to get the most "bang for your buck" with your workouts, you should exercise at this workload (or one similar), or keep your heart rate between 154 bpm and 164 bpm.

Graph 1



Graph 2



Graph 3