Assessment Report

Joe Bloggs

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Athlete Information Overview

This section summarises the athletes personal data and anthropometrics.

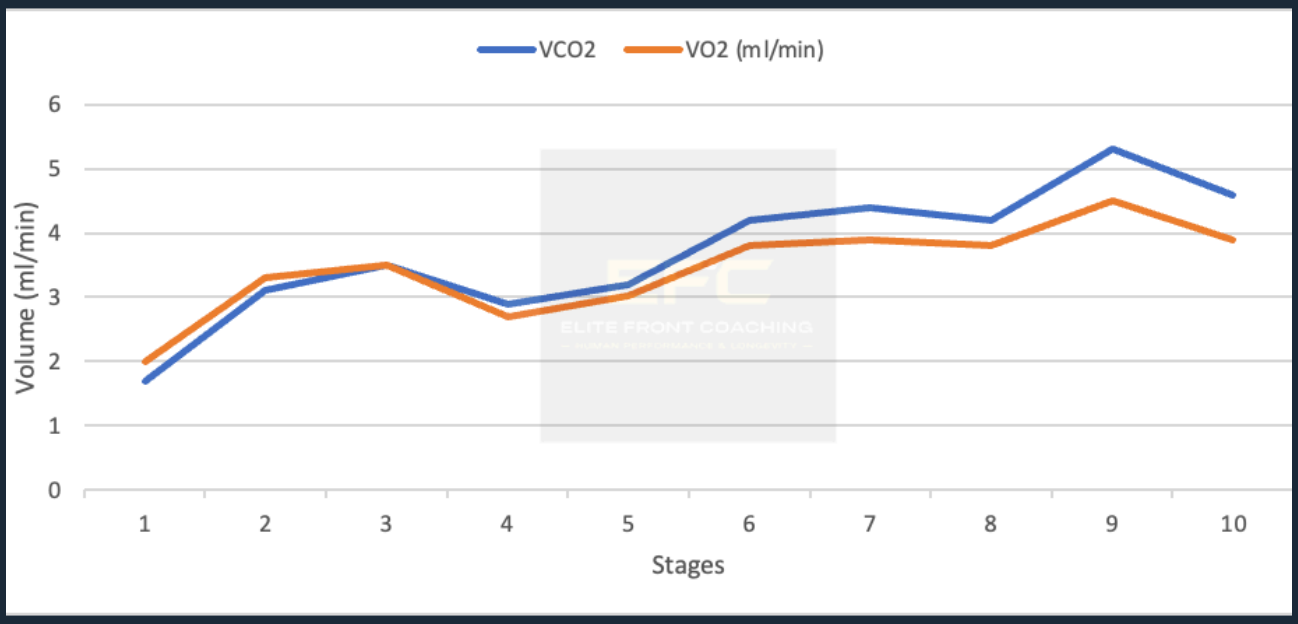
Age	Weight (kg)	Height (cm)
50	68kg	168cm

BMI	Body Fat %	Fat Mass kg
24.1	18%	15kg

Lean Body Mass kg	Resting Metabolic Rate
43kg	1809 kcal

Exercise Testing

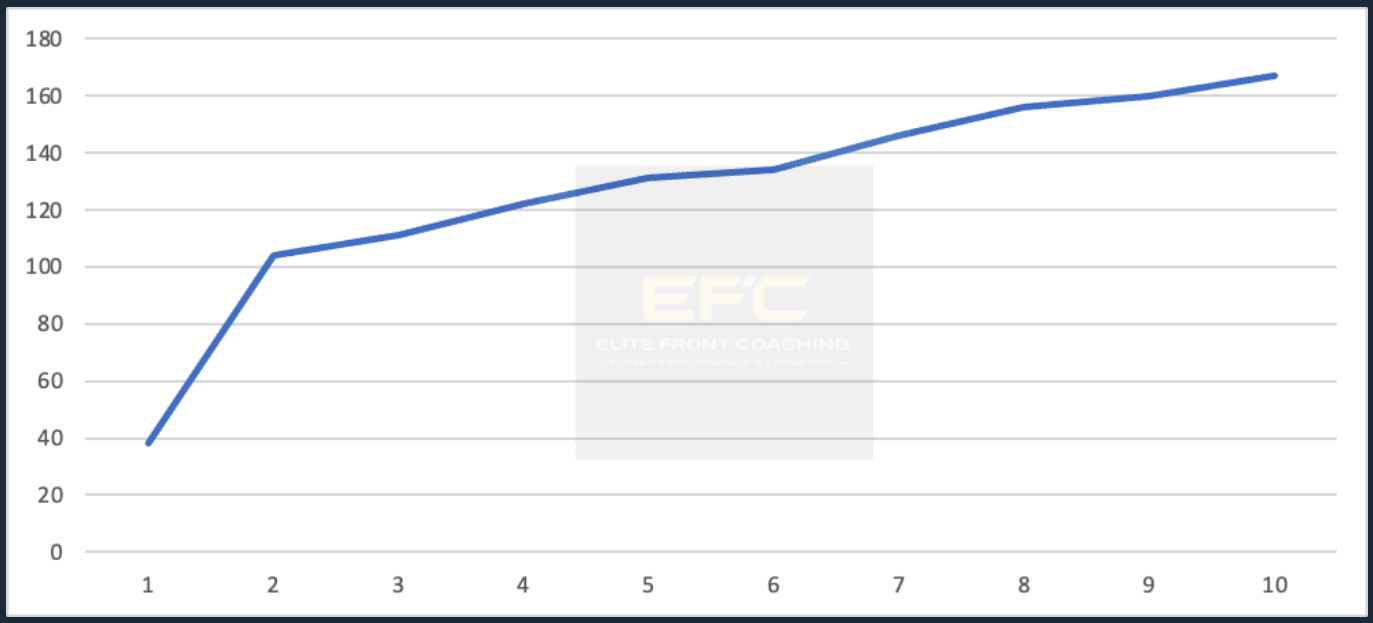
Aerobic Testing



Peak VO2 per KG	68 ml/kg/min
Ventilatory Threshold 1	RER = 0.90, Stage 2
Ventilatory Threshold 2 (AT)	RER = 1.0, Stage 3

Exercise Testing

Heart Rate

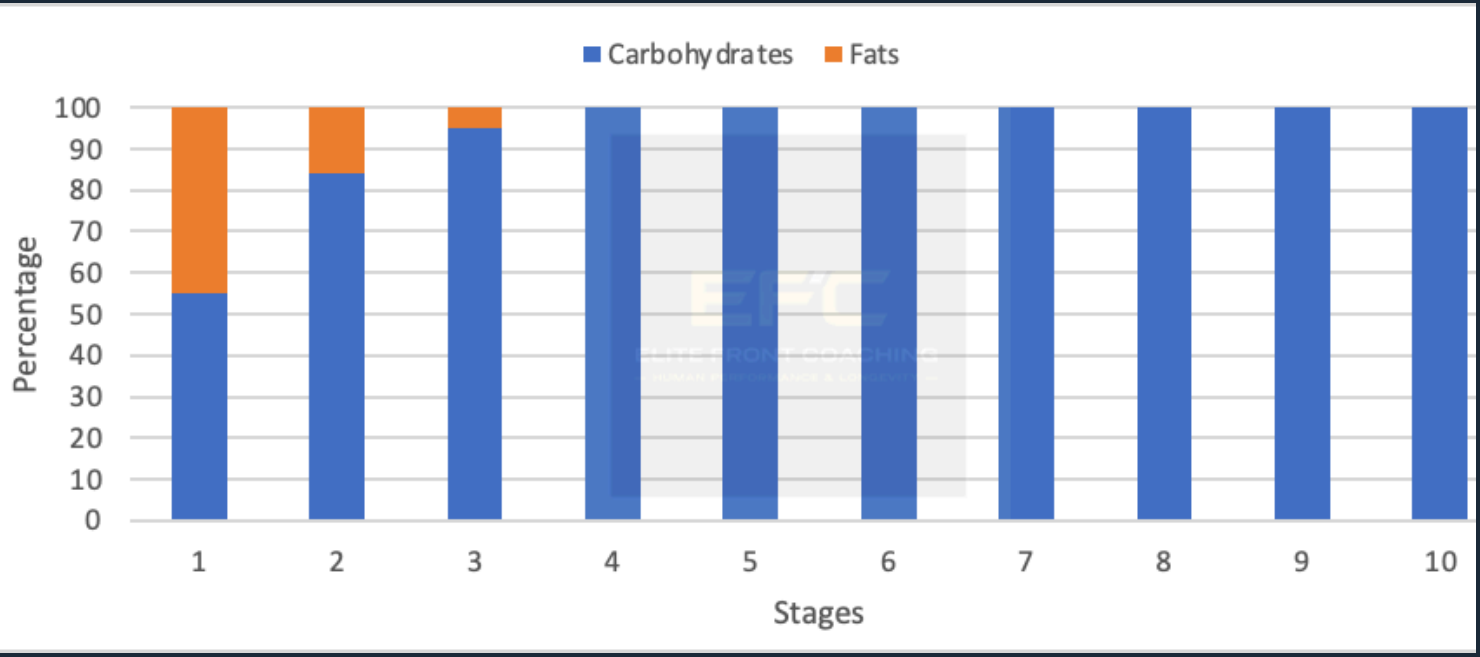


Peak Heart Rate (bpm)	168
Average Heart Rate (bpm)	131
Heart Rate at VT 1	103
Heart Rate at VT 2	115

Energy Expenditure

Fat and carbohydrate are the principle substrates that fuel energy production in skeletal muscle. The relative utilisation of fat and carbohydrate during exercise depends strongly on exercise intensity.

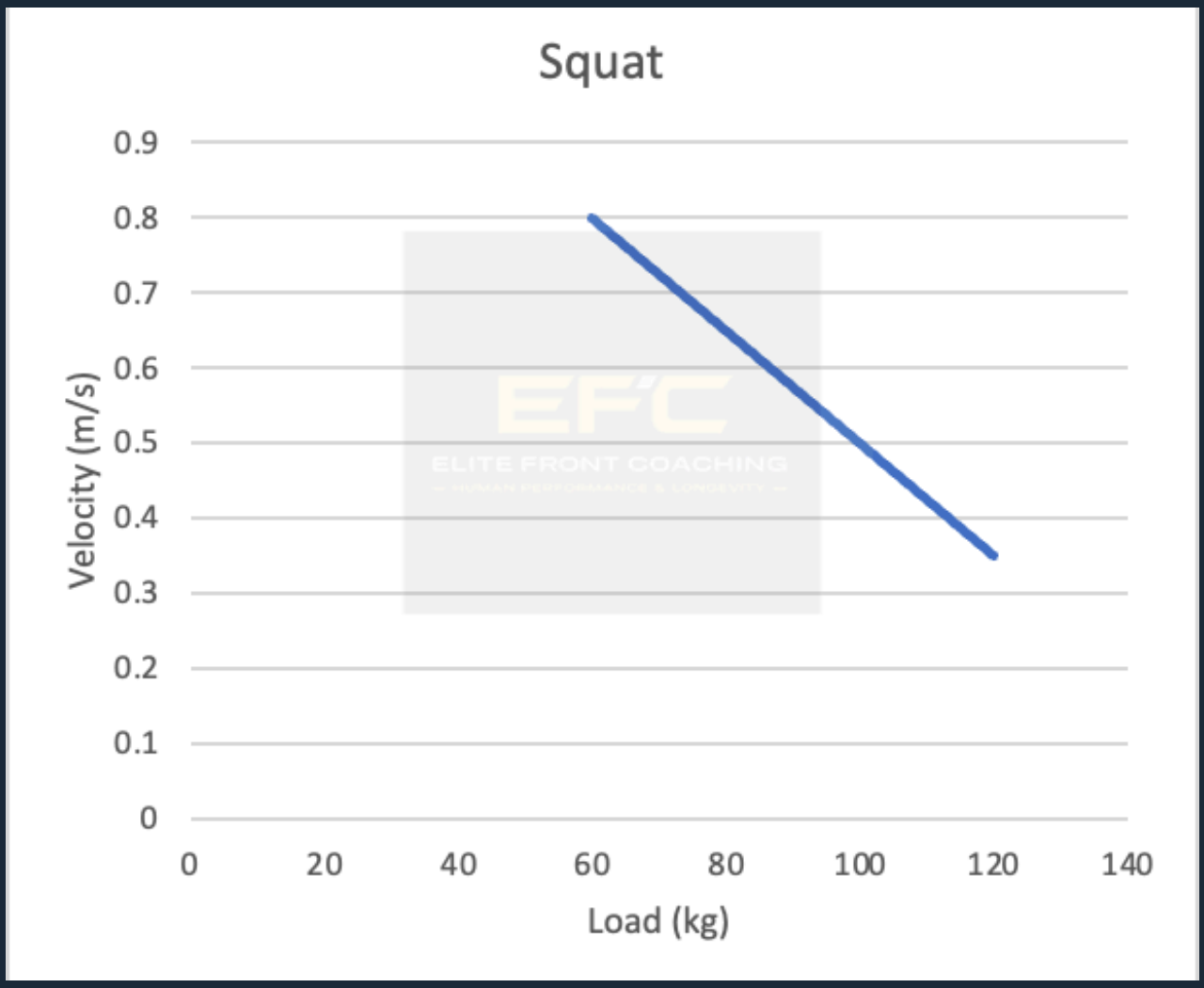
In general, lower exercise intensities correspond with higher oxidation of fat.



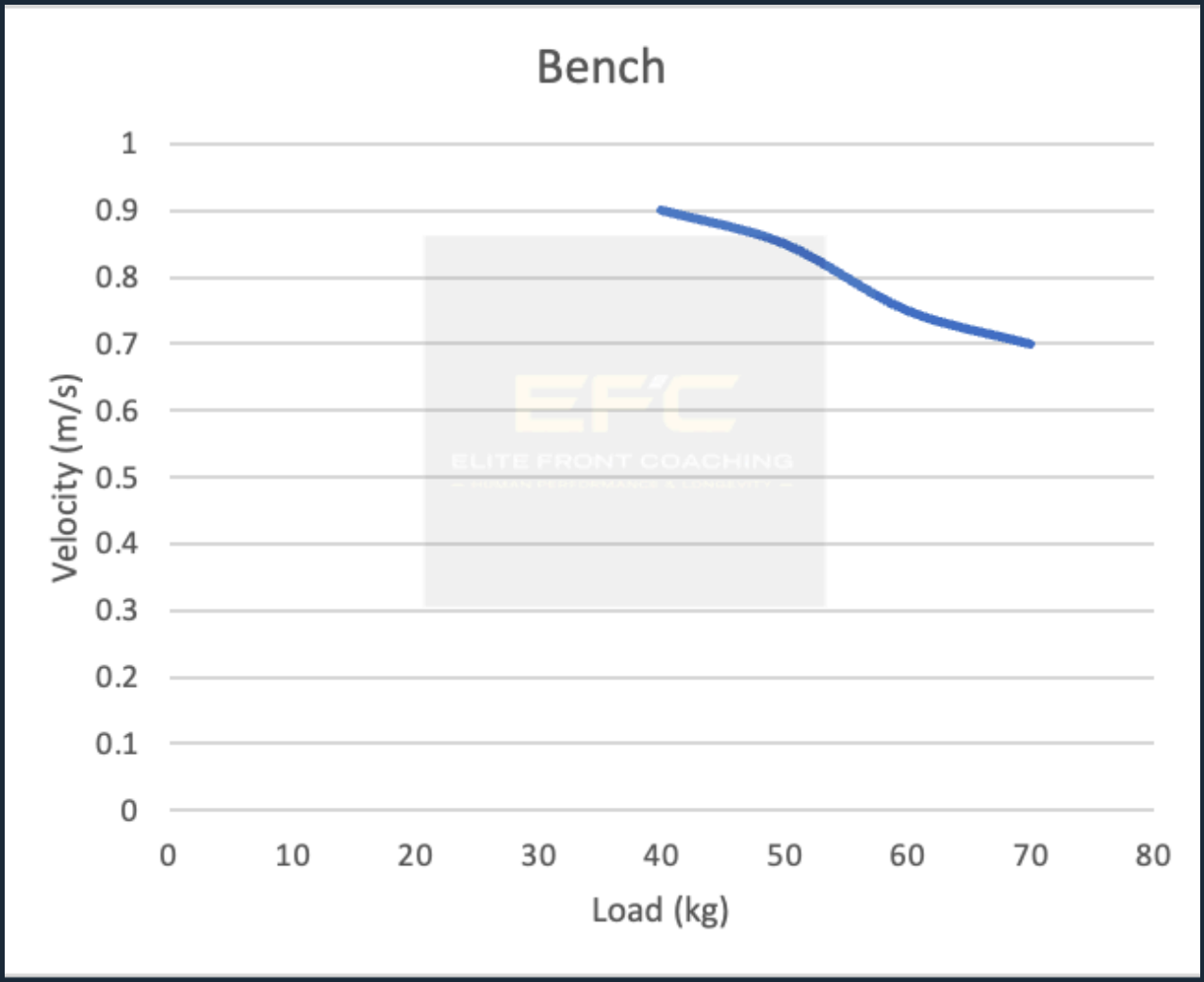
Velocity Profiling Insights

This section highlights key performance metrics including speed and acceleration.

Squat



Bench


Bench
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Velocity (m/s)
0
10
20
30
40
50
60
70
80
Load (kg)

Lower Limb Power, Strength and Asymmetry

This section highlights key performance metrics including lower limb force production, power, asymmetry and reactive strength index (RSI).

Counter Movement Jump (CMJ)

Height (cm)	34.95
Force (N)	1457
Power (W)	1908
Velocity (m/s)	1.31

Squat Jump (SJ)

Height (cm)	30.72
Force (N)	1383
Power (W)	1698
Velocity (m/s)	1.23

Drop Jump (DJ)

Height (cm)	34.95
Stiffness	6.53
Reactive Strength Index (RSI)	1.19
Velocity (m/s)	1.23

Asymmetry

Running	2.8% left

Gait Analysis	**Left**	**Right**
Contact time (s)	0.259	0.263
Flight Time (s)	0.104	0.108
Relative Force (BW)	2.206	2.218
Stiffness	10.512	10.164

Summary of Findings and Future Recommendations for Joe Bloggs

Conclusion

This report highlights significant **insights into the athlete's performance** and areas for improvement, ensuring tailored training strategies to enhance overall fitness and athletic capabilities.

The athlete presents with a strong aerobic capacity and a solid foundation of lower limb power. However, the absence of ventilatory threshold data limits the precision of training prescription.

Future assessments should prioritise accurate identification of VT1 and VT2 to optimise endurance programming.

With structured aerobic training, targeted threshold work, and continued strength development, the athlete is well-positioned to significantly enhance both endurance performance and overall athletic output.

Training Zones

Ventilatory Threshold 1 (VT1) was identified at approximately 103 bpm, corresponding to an RER of 0.90 and VO_2 of ~43 ml/kg/min. This represents the transition from predominantly aerobic metabolism to increased carbohydrate utilisation.

Ventilatory Threshold 2 (VT2) was identified at approximately 115 bpm, corresponding to an RER of 1.00 and VO_2 of ~47 ml/kg/min. This indicates the onset of significant lactate accumulation and reduced sustainability of exercise intensity.

Notably, both VT1 and VT2 occur at relatively low heart rates compared to the athlete's high VO_2max (68 ml/kg/min). This suggests that while maximal aerobic capacity is well developed, submaximal efficiency and threshold positioning may be limiting performance.

- Zone 1 (Recovery): < 103 bpm
- Zone 2 (Aerobic Base / VT1): 103–115 bpm
- Zone 3 (Tempo): 115–125 bpm
- Zone 4 (Threshold / VT2): 115–130 bpm
- Zone 5 (Max Effort): >130 bpm

Targeted Training Recommendations

- Prioritise Zone 2 training (around 103–115 bpm) to improve aerobic efficiency and shift VT1 to a higher workload
- Incorporate threshold intervals near 115 bpm to improve lactate clearance and raise VT2
- Avoid excessive high-intensity training until thresholds improve, as current metabolic efficiency limits sustainability