SA INSTITUTE FOR DRUG FREE SPORT (SAIDS)

ANTI- DOPING DISCIPLINARY HEARING

ATHLETE	**: MAX KNOX**
SPORTS FEDERATION	**: CYCLING**
DATES OF HEARING	**: 05 APRIL 2018**
PLACE OF HEARING	**: HOLIDAY INN EXPRESS, UMHLANGA** **2 NCONDO PLACE** **UMHLANGA** **DURBAN**
DISCIPLINARY PANEL	**: MR VASAVAN SAMUEL (CHAIRPERSON)** **DR MIKE MARSHALL (PANEL MEMBER-SPORTS MEDICINE PRACTIONER)** **MR RISHI HANSRAJ (PANEL MEMBER-SPORTS ADMINISTRATOR)** **DR GLEN HAGEMANN (PANEL MEMBER-SPORTS MEDICINE PRACTIONER)**
PROSECUTOR	**: WAFEEKAH BEGG**
UNION REPRESENTATIVE	**: NOT PRESENT**
ATHELETE'S REPRESENTATIVE	**: THE ATHLETE REPRESENTED HIMSELF**

ANTI-DOPING RULE VIOLATION : ANTI –DOPING RULE VIOLATION IN TERMS OF ARTICLE 2.2 OF THE 2016 SAIDS ANTI-DOPING RULES

PROCEDURAL MATTERS:

The hearing commenced on the 05TH April 2018.

1. **JURISDICTION**

In terms of section 10(1)(e) of the South African Institute for Drug-Free Sports Act No.14 of 2007, National Sports Federations must adopt and implement Anti-Doping Policies and Rules that conform with the World Anti-Doping Code("the Code") and with the requirements as set out in the SAIDS Anti-doping Rules.

SAIDS

A statutory body established by the South African Government with the responsibility to promote and support the elimination of doping in sport in South Africa.

The Anti-doping rules, so adopted by SAIDS, are sports rules governing the conditions under which athletes participate in the sport of Cycling. Participants in the said sport, like the Respondent, accept these rules as a condition of participation and are bound by them.

2. **APPLICABLE LAW**

SAIDS is an independent body established under Section 2 of the South Africa Instititute for Drug-Free Sport Act 14 of 1997(as amended), SAIDS has formally accepted the World Anti- Doping Code adopted and implemented by the World Anti-Doping Agency 2003. In so doing, SAIDS introduced anti-doping rules and regulations to govern all sports under the jurisdiction of South African Sports Confederation and Olympic Committee, as well as any national sports federation.

The SAIDS Anti-Doping Rules ("the Rules") were adopted and implemented in 2009. These proceedings are therefore governed by the Rules. This SAIDS Anti-Doping Disciplinary

Panel has been appointed in accordance with Article 8 of the Rules, to adjudicate on whether the Athlete has violated the said Rules, and if so, the consequences of such violation.

The Hearing commenced on the **05th April 2018** at 17:00 PM.

3. PROCEDURAL MATTERS

3.1. LEGAL REPRESENTATION

The athlete appeared at the hearing without legal representation.

He made it known to the Chairperson, prior to the commencement of the hearing that he would represent himself. For the purposes of the record the Chairperson raised this question once again. The following is an extract from the record:-

CHAIRPERSON: For the purposes of this hearing you decided to represent yourself?

MAX KNOX: That's correct yes.

CHAIRPERSON: Are you comfortable with that?

MAX KNOX: Yes.

The athlete represented himself at the hearing and it is apparent from the record that he had done a great deal of preparation in understanding the charge and the nature of the evidence presented.

The following facts can be noted pertaining to the history of the matter which is pertinent to the question of legal representation:-

3.1.1. On the 29th September 2017, the athlete was notified of the investigation being conducted into a potential anti-doping rule violation by him.

3.1.2. The athlete then engaged in exchanges of emails, documents and information with SAIDS.

3.1.3. The email communications depicts an exchange that reflects the complexity of the matter.

3.1.4. The athlete was given ample opportunity to respond to the preliminary investigations.

3.1.5. On the 04th December 2017, SAIDS informed the athlete that they had decided to formally charge him with an anti-doping rule violation.

3.1.6. On the 08th January 2018, the athlete sent an email to SAIDS confirming that Durban would be the most convenient venue for an anti-doping rule violation hearing before the panel. The Athlete stated categorically that he would represent himself as legal representation was unaffordable.

3.1.7. There was further communication between the athlete and SAIDS until the hearing was convened on the 05th April 2018.

3.1.8. At the hearing the Chairperson of the panel was cognisant of the athlete's choice to represent himself and granted substantial leeway to him so as to ensure that his defence was properly articulated and considered. At no stage during the hearing did the athlete communicate that he needed legal representation.

3.1.9. The hearing itself took a substantial amount of time as the athlete was allowed time to ask questions and lead his evidence in manner that he was comfortable with.

3.1.10. When the evidence was completed, the panel requested that SAIDS and the athlete prepare Heads of Argument to support their contentions, due to the lateness of the hour. SAIDS was requested to file their Heads of Argument first and the athlete was to follow suit.

3.1.11. SAIDS filed their Heads of Argument timeously, on the 21st April 2018. The athlete however failed to file his Heads of Argument timeously on the 28th April 2018.

3.1.12. On the 07th May 2018, the athlete had still not filed his Heads of Argument. The Chairperson then requested that SAIDS write a letter to the athlete and inform him that he had failed to file his Heads of Argument in time. He was required to file his Heads of Argument within the next three days.

3.1.13. On the 08th May 2018, the Athlete's attorneys, Seymore DuToit & Basson Incorporated, requested a period of 30 days in order to properly investigate the history of the matter and consult with their client, "necessary independent experts" and "objective experts" in order to properly advise their client. They further stated that they had an appointment with an independent medical expert on the 16th May 2018.

3.1.14. The panel considered the letter and then requested that SAIDS respond to the athlete, giving him the opportunity to present his Heads of Argument on or before the 25th May 2018, which SAIDS duly did. SAIDS responded on the 14th May 2018, giving the athlete an opportunity to present his heads of argument on or before 25th May 2018.

3.1.15. On the 25th May 2018, the Attorneys for the Athlete sent a letter containing several unfounded allegations and accusations and requested a postponement of the hearing.

3.1.16. The correspondence was placed before the panel, who determined that the athlete had been given substantial time to engage legal representation, and for all intent and purposes the hearing itself was almost complete, save for the Heads of argument which would be based on the evidence already led.

3.1.17. The Panel determined that the athletes request through his attorney for time to allow his attorneys to investigate the matter and then properly advise their him was deemed by the panel as a dilatory tactic. The panel was satisfied that the athlete had been given ample notice from the 29th September 2017 that an investigation was being conducted pertaining to his anti-doping rule violation. On the 04th December 2017 the athlete was aware that he was in fact being charged with an anti-doping rule violation

3.1.18. In the circumstances the panel decided to deal with the matter without the benefit of the athlete's Heads of Argument. The panel was at pains to consider all the athlete's submissions and all of his challenges to the case presented by SAIDS.

4. THE CHARGE

The Charge against the Athlete was described as follows:-

The athlete was formally charged with an Anti-Doping Rule Violation in terms of Article 2.2 of the 2016 SAIDS Anti-Doping Rules, being that you have used Prohibited Substances and/or Prohibited Methods during the period June 2015 to April 2017.

The SAIDS anti-Doping Rules are premised on the fact that it is each athlete's personal duty to ensure that no Prohibited Substance enters his body. It is consequently not necessary that intent, fault, negligence or knowing use on the athlete's part be demonstrated in order to establish an anti-doping rule violation under Article 2.2.

5. THE ATHLETE'S RESPONSE TO THE CHARGE:

The Athlete pleaded not guilty to the charge, and reserved his right to set out the basis of his defence until he had testified.

6. EVIDENCE AT THE HEARING:

6.1. THE SUMMARY OF RELEVANT FACTS

The main facts are summarised below. These facts were established as a result of the written and oral submissions and evidence provided to the panel during the hearing. These facts are set out for the purpose of providing a synopsis of this matter. Other relevant facts may be set out below in respect of the legal discussions and heads of argument that were provided. The panel has considered all the facts, allegations, legal arguments, oral and documentary evidence submitted by the parties in this hearing.

On the 28th of September 2017, four experts with knowledge in the field of clinical haematology (diagnosis of blood pathological conditions), laboratory medicine and haematology (assessment of quality control data, analytical and biological variability and instrument calibration) and sports medicine and exercise physiology namely: Prof. Giuseppe d'Onofrio, Dr. Jakob Morkeberg, Dr. Jeroen Swart and A/Prof. Andrew Bosch, analysed the Athlete's ABP on an anonymous basis and concluded that *"it is highly likely that a Prohibited Substance or Probhibited Method has been used, and that it is unlikely that the passport is the result of any other cause"* (the "Expert Report #1").

From the 4th of February 2013 until the 15th of June 2017, SAIDS collected 32 valid ABP blood samples from the athlete. Each of the samples was analysed by a laboratory accredited by the World Anti-Doping Agency ("WADA") and logged in the Anti-Doping Administration and Management System ("ADAMS"), using the Adaptive Model, a statistical model that calculates whether the reported HGB (haemoglobin concentration), RET% (percentage of immature red blood cells-reticulocytes) and OFF-score (a combination of HGB and RET%) values fall within an athlete's expected distribution.

The registered values for HGB, RET% and OFF-score in the Athlete's respective samples are as follows;-

No.	Date of sample	HBG(g/Dl)	RET%	OFF-score
1.	04/02/2013	15.9	0.59	112.90
2.	22/02/2013	16.0	0.34	115.00
3.	01/03/2013	13.4	0.24	104.60
4.	09/03/2013	14.1	0.41	102.60

5.	13/03/2013	13.9	0.38	102.00
6.	18/03/2013	14.8	0.53	104.30
7.	21/03/2013	12.5	0.24	96.60
8.	31/05/2013	UNKNOWN	UNKNOWN	UNKNOWN
9.	30/08/2013	14.1	0.47	99.90
10.	23/03/2014	15.0	0.37	113.50
11.	27/03/2014	13.6	0.27	104.82
12.	04/09/2014	15.2	0.42	113.12
13.	20/09/2014	14.1	1.49	78.36
14.	17/12/2014	14.4	0.71	93.44
15.	20/02/2015	15.0	0.77	97.35
16.	26/02/2015	15.1	0.43	111.66
17.	04/03/2015	15.6	0.56	111.10
18.	16/06/2015	16.6	0.81	112.00
19.	01/10/2015	14.5	0.31	111.59
20.	03/10/2015	13.7	0.20	110.17
21.	05/12/2015	13.6	0.65	86.89
22.	09/02/2016	14.4	0.50	101.57
23.	10/02/2016	14.3	0.44	103.20
24.	20/02/2016	15.0	0.54	105.91
25.	27/09/2016	14.3	0.80	89.33
26.	01/10/2016	14.0	0.70	89.80
27.	17/03/2017	14.2	0.46	101.31
28.	22/03/2017	13.0	0.50	87.57
29.	25/03/2017	12.7	0.69	77.16
30.	29/04/2017	15.5	1.77	75.18
31.	06/05/2017	14.6	0.42	107.12
32.	14/06/2017	15.6	0.73	104.74
33.	15/06/2017	15.4	0.75	103.44

On the 29th of September 2017, SAIDS notified the athlete of their investigation into a potential violation of an Anti-Doping Rule under Article 2.2 of the 2016 SAIDS Anti-Doping Rules. The athlete provided information in response to the investigation.

On the 29th of November 2017, the Expert Panel issued a joint report (the "Final Expert Report"), in which the athlete's claims were considered, concluding that *"based on scientific scrutiny, none of the different points raised by the athlete provides any explanation for the values which exceed the 99.9% specificity level for Hb (16th of June 2015) or for %RET (29th of April 2017). Nor do any of the comments provide an explanation for the complete cessation of erythropoiesis following the elevated %RET observed 1 week later (6th of May 2017) these points are not explained by normal physiological variation, but are typical of administration of an erythropoiesis-stimulating agent.*

Considering the information available at this stage, we therefore confirm our previous opinion that it is typical to observe features such as seen in the profile assuming blood manipulation. It is highly unlikely that it is the result of a normal physiological or pathological condition, while it is highly unlikely the result of the use of a Prohibited Substance, such as an erythropoiesis-stimulating agent.

On the 04th of December 2017 the athlete was provided with a letter which served to formally charge him with the Anti-Doping Rule Violation, he was further informed in the letter that he was afforded an opportunity until the 08th of January 2018 to;-

a. Advise SAIDS if he wished to dispute the assertion of an Anti-Doping Rule Violation;
b. Provide a basis for same;
c. Indicate if he wished to appear before a Tribunal and his preferred arrangements for such;
d. Request any information or documentation for his preparation for the hearing, and;
e. Indicate if there was any information or documentation not yet provided to SAIDS that SAIDS should have the opportunity to consider.

On the 08th of January 2018 the athlete sent an email to SAIDS with the following claims;-

a. He questioned the validity of sample 126123 since it was previously deemed invalid.
b. He questioned the test type (out of competition versus in competition) in four samples.

c. He stated that an oxygen tent was used from the 17th May 2015 to the 13th June 2015, before sample 18 (16th June 2015) with the elevated Hb, was collected.

The athlete was charged with an Anti-Doping Rule Violation in terms of Article 2.2 of the 2016 SAIDS Anti–Doping Rules, being that he has used Prohibited Substances and/or Prohibited Methods during the period June 2015 to April 2017.

The evidence of the athlete's alleged Anti-Doping Rule violation in the matter at hand is based on a longitudinal analysis of his biological passport (the "ABP") and allegedly involves using a prohibited method from June 2015 to April 2017.

On the 19th of March 2018, SAIDS sent a letter to the athlete, confirming the formal charges and informing him that an Anti-Doping hearing would be convened on the 5th April 2018. The athlete would be brought before the panel which comprised of Mr. Siven Samuel (Chairperson), Dr. Mike Marshall, Mr. Rishi Hansraj and Dr. Glen Hagemann.

6.2. DOCUMENTS ADMITTED INTO EVIDENCE, THE FOLLOWING DOCUMENTS:

SAIDS introduced documents under Bundle A and B as evidence. The correctness of the documents were not contested by the athlete.

6.3. THE MAIN ISSUES

As a result of the above, the main issues to be resolved by the Panel are:

7.3.1. Did the Athlete violate Article 2.2 of the 2016 SAIDS Rules?

7.3.2. If so what sanction shall be imposed on the athlete?

6.4. EVIDENCE ADDUCED AT THE HEARING:

JAKOB SOHESTED MORKEBERG'S EVIDENCE(via Skype)

6.4.1. The witness confirmed that he is a scientific consultant for the National Anti-doping Agency in Denmark. That he was working with the Biological Passport within the

organisation and for the Athlete Passport Management Unit (APMU) around the world to either to national anti-doping organisations or laboratories.

6.4.2. The witness confirmed that he has a Masters in Exercise Physiology and that his Master's thesis was in blood doping. He further completed his PhD in the detection of blood doping by the Athlete Biological Passport. He has also done research in the fields of EPO Research and currently is working with the Athlete Passport in Denmark for the National Anti-doping Organisation.

6.4.3. The witness acquired his qualifications at the University of Copehagen and has been involved in the anti-doping field since 2004.

6.4.4. The witness advised that an anti-doping organisation identifies those athletes that they believe are at a high risk for manipulating the blood, usually in endurance sports. The organisation would then include these athletes in the blood passport program and they would start collecting samples from the athletes and the doping control process would be placed into the database and matched with other samples in the database. A blood profile is then established and is continued every time a new sample is taken from the athlete. There are thresholds established in the passport and if a sample triggers these thresholds the profile is atypical and thereafter it is up to APMU to decided whether it should be reviewed or evaluated by an expert.

6.4.5. If a blood sample is referred to an expert for evaluation, the expert may elect to mark it's as normal, suspicious or something that could be due to a medical issue. If marked suspicious, the expert may elect to collect additional samples from the athlete to confirm if doping is clearly being carried out. If doping is found, the expert is required to send his finding to two further experts for evaluation of the athlete's samples. If all three experts unanimously agree that doping has occurred the APMU is notified of the atypical passport. APMU will then forward a certificate of analysis to confirm that the samples were treated in accordance with the Anti- Doping Agency Guidelines. The three experts then go through these documents and if satisfied a joint expert opinion is drafted as to why there is a likelihood of doping having occurred. This report is then given to the APMU and the athlete is contacted so that they may provide an explanation as to the adverse findings. This explanation is referred back to the experts and evaluated and a written response is given to the athlete, where they may elect to dismiss the explanation by the athlete and uphold their decision that there is a likelihood of doping. If this is the decision taken by the expert panel, a case will be opened against the athlete.

6.4.6. The witness confirmed that the adaptive model is based on different blood markers in the passport which have been researched to show how these markers fluctuate in a population that are not doping. This allows for a reference range where one can anticipate where the marker should lie.

6.4.7. The witness confirmed that there are two different Athlete Biological Passport, one which detects anabolic steroids, which is usually found in urine samples. The other module of the passport which is the blood passport, is the module that is concerned in this current matter. Here different kinds of values or blood markers are measured over time and these are sensitive to blood manipulation. With the Athlete Biological Passport, you do not have to detect the actual substance but rather look for abnormal variations in the markers, as some substances cannot be detected easily. This test is based on the fact that the markers will be affected to a non-psychological extent and this will influence the markers.

6.4.8. The witness referred to the Athlete's Biological Passport evaluation and advised that the red lines on the graph are the maximum and minimum level of the threshold that 99% of the time the athlete should not exceed if he/ she is not doping. The blue line is the actual values that have been measured in the athlete's sample of blood.

6.4.9. When the athlete's blood is evaluated there are two markers than can trigger an atypical finding. Therefore if these markers exceed the threshold that means that the passport will be referred to an expert. One of the markers is the haemoglobin concentration that is contained in the red blood cells. If you have many red blood cells, this means you have a large amount of oxygen- carrying capacity because of the high haemoglobin levels. The next parameter that is evaluated is the percentage of reticulocytes. This is the red blood cells contained in the bone marrow, at some point this will be released into circulation of blood in the body and therefore transfers red blood cells from the bone marrow to the blood stream. The last parameter is the off-score which is based on the haemoglobin concentration and the reticulocytes, the average score being around 80. The off-score would be high if you have a high haemoglobin concentration together with a low reticulocytes percentage. This will occur if the athlete has taken an Erythropoietin (EPO).

6.4.10. According to the witness an individual outlier in a sample is a result when the athlete's result exceeds either the upper or lower threshold and this has to be evaluated as to whether there is a high haemoglobin concentration or in the off-score profile. A sequence outlier is when the sequence based on the last 20 samples fluctuates to a very high degree, more than what is expected in 99.9 cases. It is essentially a sequence with abnormal variability.

6.4.11. The witness gave an analysis on the specific profile of the athlete which showed the following:-

a) Several samples taken from the athlete were very low in reticulocytes percentage with a normal haemoglobin concentration, shown in samples No. 2, 3, 5, 7, 10, 11, 19 and 20.

b) Some samples taken from the athlete showed extremely low reticulocytes and an extremely high haemoglobin concentration; here the low reticulocytes percentage indicates that there is a histological amount of total haemoglobin circulating in the body.

c) That there is a low off-score depicted on the 20th September 2014 and the 29th April 2017, from the samples taken from the athlete.

d) The samples taken from the athlete show low haemoglobin levels on the 01st March 2013.

e) From the samples collected from the athlete, there are two main abnormalities, being the high haemoglobin concentration of 16.6 of sample 18 which exceeds the specificity level. The second abnormality is with the high percentage of reticulocytes on the 29th April 2017 which is followed by very low reticulocytes collected thereafter approximately a week later.

f) The athlete's samples showed very low reticulocytes percentages very close to in-competition. This was suspicious as this leads to suppression in the production of red cells containing haemoglobin.

g) Considering other values in average in comparison to the athlete's readings, the athlete's readings are very abnormal because it did not reflect a normal physiological condition of an athlete. The haemoglobin readings as well as the reticulocytes percentages exceed the specificity levels.

h) Sample 30 and 31 taken from the athlete, also raises suspicion due to the high reticulocytes percentage and then the sudden decrease in the following sample.

i) There was no indication of disease, illness or any pathological conditions that could have influenced the sample readings taken from the athlete. If such was present, the readings would have shown consistent pathology over a period of time, but there is no consistency in the athlete's profile.

j) The use of an athlete's tent was ruled out due to the increase of haemoglobin concentration found in the athletes passport as it was larger that would be expected from the normal athlete that responds to exposure or the use of an altitude tent.

k) Sample 31 taken from the athlete depicts an immature red blood cell fraction of 0.0% which is not a normal occurrence. This shows that there is no production of red blood cells in the athlete, meaning that there are no red blood cells coming out of the athlete's bone marrow. There was further no explanation given by the athlete as to why this could have occurred.

l) The possible reason why the athlete did not test positive for an EPO, is likely due to the EPO being administered in relatively small dosages directly into a vein that is undetectable within 24 hours.

6.4.12. During cross examination, the athlete raised various issues on the following matters:-

a) Derivation of the threshold limits:

- it was explained to the athlete that the limits for different athletes are derived using the same algorithms and formulae, but using the athlete's unique data;
- therefore the limits were specific to each individual athlete only.

b) Whether the threshold limits changed for in-competition and out-of-competition testing:

- it was explained to the athlete that his training/racing schedule was used in the interpretation of the passport data;

c) Various questions regarding haemodilution:

- it was explained to the athlete that, after a period away from exercise, a return to training would cause a decrease in Hb (due to haemodilution) plus a small increase in reticulocyte percentage;
- it was explained to the athlete that the recording of 'haemodilution' on the doping control form was not a scientific measurement , but simply an indication that the athlete had participated in three consecutive bouts of exercise;
- scientific measurement of haemodilution was possible using a carbon monoxide test, but was not part of drug testing in sport.

d) Effects of EPO administration:

- it was explained to the athlete that:
  - during training:
    - reticulocyte percentage increases over days 3 – 5;
    - perhaps no increase in Hb due to haemodilution.
  - during non-training:
    - reticulocyte percentage increases over days 3 – 5;
    - Hb increases after 1 – 2 weeks.
  - the effect on the off-score was an initial decrease (increase in reticulocyte percentage and unchanged Hb) and later an increase.

e) ABPS:

- It was explained to the athlete that the role of the ABPS in the ABP was not yet fully evaluated;
- this measurement could be sensitive to blood transfusions, but would not trigger an adverse analytical finding.

f) Effect of injury on the ABP:

- it was explained to the athlete that an injury might be associated with an increase in Hb due to plasma volume constriction from reduced training.

g) 'Invalid' specimens:

- the athlete discussed the issue of including, in his ABP, the analysis specimens that had been labelled as 'invalid'(ie. specimens 825381 and 126123);
- it was explained to the athlete how these specimens had been erroneously labelled as 'invalid' and how it was confirmed that these specimens were in fact valid.

h) Suspension of the Bloemfontein laboratory:

- it was explained to the athlete that the suspension of the Bloemfontein laboratory had no bearing on the analysis of his ABP Blood samples.

MAX KNOX'S EVIDENCE

6.4.13. The athlete contended that there were tests that were listed as "invalid" for two years and that was then later changed to "valid". This was, however dealt with through correspondence to SAIDS General Manager, Mr Fahamy Galant in 2017. Explanations and reasons were given and thereafter not objected to. This was dealt with in the preliminary stages of the matter.

6.4.14. The athlete thereafter provided the panel with a letter from Dr Grant Lindsay, to which SAIDS did not object. The letter provided was signed and dated by the doctor for the 04th April 2018, annexed hereto marked **"ANNEXURE A".**

6.4.15. The athlete then placed in dispute the accreditation of the SAIDS laboratory at the University of Free-State in Bloemfontein. The athlete read out an article from the WADA website which mentioned that the laboratory was suspended as from 02nd May 2016. It was pointed out by the Chairperson that the laboratory's accreditation had in fact been extended to 29th June 2017 and thus the tests done on the ABP blood samples in Bloemfontein on the 06th May 2018 would be valid.

6.4.16. The athlete thereafter had no further evidence to provide the panel with and lead questions directed at the panel in regard to evidence he wished to challenge.

6.4.17. The athlete was questioned as to acquaintances he may have made through the cycling field, being former team mates that may have faced anti-doping rule violations. From the list of people the athlete may be acquainted with, four people had tested positive for either testosterone or EPO.

6.4.18. The athlete denied knowing a one Mr Brandon Stewart, who had been in violation of an anti-doping rule violation, however it was shown and confirmed by SAIDS that the athlete had in fact listed this person as a next of kin in a medical form provided to Mediclinic when the athlete was admitted in hospital.

6.4.19. The athlete confirmed that on the doping control form signed 06th May 2017, he had listed Tertroxin and Eltroxin as medications he had consumed on the day.

6.4.20. The athlete confirmed that he could not give a medical reason for why he was taking thyroid chronic medication.

6.4.21. The athlete claimed that it was his entitlement to consume substances that are not prohibited and that he had consumed such as they aided him with losing weight.

6.4.22. The athlete was questioned as to the spikes found in sample 30 and 31, which were taken within a week of each other. The athlete could not give a valid explanation as to why this had occurred. He further confirmed that he had consulted with his medical practitioner who had advised him that he could not give him a reason for the spikes due to the fact that he had not consulted with him during that period. The athlete further stated that he could not confirm if Dr Lindsay was infact qualified to deliberate on such matters.

7. ANALYSIS OF EVIDENCE

7.1. In analysing the evidence of SAIDS the following important aspects were extracted:-

The witness gave an analysis on the specific profile of the athlete which showed the following:-

a) Several samples taken from the athlete were very low in reticulocytes percentage with a normal haemoglobin concentration, shown in samples No. 2, 3, 5,7 ,10,11, 19 and 20.

b) Some samples taken from the athlete showed extremely low reticulocytes and an extremely high haemoglobin concentration; here the low reticulocytes percentage indicates that there is a histological amount of total haemoglobin circulating in the body.

c) That there is a low off-score depicted on the 20th September 2014 and the 29th April 2017, from the samples taken from the athlete.

d) The samples taken from the athlete show low haemoglobin levels on the 01st March 2013.

e) From the samples collected from the athlete, there are two main abnormalities, being the high haemoglobin concentration of 16.6 of sample 18 which exceeds the specificity level. The second abnormality is with the high percentage of reticulocytes on the 29th April 2017 which is followed by very low reticulocytes collected thereafter approximately a week later.

f) The athlete's samples showed very low reticulocytes percentages very close to in-competition. This was suspicious as this leads to suppression in the production of red cells containing haemoglobin.

g) Considering other values in average in comparison to the athlete's readings, the athletes readings are very abnormal because it did not reflect a normal physiological condition of an athlete. The haemoglobin readings as well as the reticulocytes percentages exceed the specificity levels.

h) Sample 30 and 31 taken from the athlete, also raises suspicion due to the high reticulocytes percentage and then the sudden decrease in the following sample.

i) There was no indication of disease, illness or any pathological conditions that could have influenced the sample readings taken from the athlete. If such was

present, the readings would have shown consistent pathology over a period of time, but there is no consistency in the athlete's profile.

j) The use of an athlete's tent was ruled out due to the increase of haemoglobin concentration found in the athletes passport as it was larger that would be expected from the normal athlete that responds to exposure or the use of an altitude tent.

k) Sample 31 taken from the athlete depicts an immature red blood cell fraction of 0.0% which is not a normal occurrence. This shows that there is no production of red blood cells in the athlete, meaning that there are no red blood cells coming out of the athlete's bone marrow. There was further no explanation given by the athlete as to why this could have occurred.

l) The possible reason why the athlete did not test positive for an EPO, is likely due to the EPO being administered in relatively small dosages directly into a vein that is undetectable within 24 hours.

7.2. The athlete raised various issues with the Dr Jakob Morkeberg and the following are issues and the responses thereto:-

During cross examination, the athlete raised various issues on the following matters :-

a) Derivation of the threshold limits:

- it was explained to the athlete that the limits for different athletes are derived using the same algorithms and formulae, but using the athlete's unique data;
- therefore the limits were specific to each individual athlete only.

b) Whether the threshold limits changed for In-competition and out-of-competition testing:

- it was explained to the athlete that his training/racing schedule was used in the interpretation of the passport data.

c) Various questions regarding haemodilution:

- it was explained to the athlete that, after a period away from exercise, a return to training would cause a decrease in Hb (due to haemodilution) plus a small increase in reticulocyte percentage;
- it was explained to the athlete that the recording of 'haemodilution' on the doping control form was not a scientific measurement , but simply an indication that the athlete had participated in three consecutive bouts of exercise;
- scientific measurement of haemodilution was possible using a carbon monoxide test, but was not part of drug testing in sport.

d) Effects of EPO administration:

- it was explained to the athlete that:
  - during training:
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    - perhaps no increase in Hb due to haemodilution.
  - during non-training:
    - reticulocyte percentage increases over days 3 – 5;
    - Hb increases after 1 – 2 weeks.
  - the effect on the off-score was an initial decrease (increase in reticulocyte percentage and unchanged Hb) and later an increase.

e) ABPS:

- It was explained to the athlete that the role of the ABPS in the ABP was not yet fully evaluated;
- this measurement could be sensitive to blood transfusions, but would not trigger an adverse analytical finding.

f) Effect of injury on the ABP:

- it was explained to the athlete that an injury might be associated with an increase in Hb due to plasma volume constriction from reduced training.

g) 'Invalid' specimens:

- the athlete discussed the issue of including in his ABP analysis specimens that had been labelled as 'invalid'(ie. specimens 825381 and 126123);
- it was explained to the athlete how these specimens had been erroneously labelled as 'invalid' and how it was confirmed that these specimens were in fact valid.

h) Suspension of the Bloemfontein laboratory:

- it was explained to the athlete that the suspension of the Bloemfontein laboratory had no bearing on the analysis of his ABP blood specimens.

7.3. The athlete raised no defence and could give no explanations for what SAIDS contends was an anti-doping rule violation.

7.4. It is clear from the evidence of the experts that the probabilities of the deviations from the thresholds established in the athlete's biological passport cannot be escribed to normal fluctuations in the populations and are a-typical. The probabilities of such deviations being escribed as an anti-doping rule violation is extremely high.

7.5. The athlete's biological passport was analysed by two other scientists apart from Dr Morkeberg.

8. FINDINGS OF THE PANEL

The panel is comfortably satisfied that there has been an anti-doping rule violation and found that the following provisions of the 2016 SAIDS Rules are applicable:-

8.1. The period of ineligibility shall be four (4) years where:

8.1.1. ***The anti-doping rule violation does not involve a Specified substance, unless the athlete or other person can establish that the anti-doping rule violation was not intentional.***

8.1.2. ***The anti-doping rule violation involves a specified substance and SAIDS can establish that the anti-doping rule violation was intentional.***

8.1.3 ***If the Article 10.2.1 does not apply, the period of Ineligibility shall be two (2) years.***

9. SANCTION

The panel finds that the Athlete committed an Anti-doping rule violation.

The panel having determined that Article 10.2.1 of the SAIDS rules was the applicable section and therefore imposed the following sanction:-

The athlete is sanctioned to a period of ineligibility of 4 years, which is to commence from the date of hearing being the 05th April 2018 to 04th April 2022 and the results between 16th June 2015 to 05th April 2018, are to be declared null and void and disqualified. The athlete is required to return all medals and prizes won during this period.

SOUTH AFRICAN FOR DRUG-FREE SPORT (SAIDS)

DISCIPLINARY PANEL

DATED AT DURBAN ON THIS THE 15th OF June 2018.

SIVEN SAMUEL (CHAIRPERSON)

DR MIKE MARSHALL

RISHI HANSRAJ

DR GLEN HAGEMANN

SOUTH AFRICAN FOR DRUG-FREE SPORT (SAIDS)

DISCIPLINARY PANEL

DATED AT DURBAN ON THIS THE 15th OF June 2018.

SIVEN SAMUEL (CHAIRPERSON)

DR MIKE MARSHALL

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DR GLEN HAGEMANN

Annexure A

ORIGINAL

DR GRANT LINDSAY

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To Whom It May Concern / SAIDS ,

Re : Max Know
DOB : 27 Mar 1987

Max has been known to me as a patient since the age of 5 .
I have treated him at multiple mountain bike events (Sani2C / Joburg2C etc) and for general / common complaints for many years , and still help him on occasion .
He notified me in late Sept 2017 that he had received a letter from SAIDS raising concerns about his biological profile .
I have carefully reviewed all the documentation / evidence together with all the research papers and international biological profile cases I could find .
I note a maximum HCT of 48 on 16 June 2015 (@ 06h35) , together with multiple references re haemodilution , and query whether this may have been haemoconcentration early am ? His serial **average** HCT (30 + samples) is within 10% of this ?
I also query the reticulocyte % of 1.77 of 29 Mar 2017 as being an EPO effect - why did the Hb drop ?

I will continue to help Mr Knox medically and look forward to the outcome of the hearing .

Yours faithfully ,

Dr G Lindsay .

Tongaat :

Thurs 4 Apr 2018

LINDSAY
Sc MB.ChB
0366790