

# Petrel Post



SANAE 58<sup>th</sup> Overwintering Team

## Chapter 8

*In this chapter you will meet our Electrical Engineer, Mr. Tshimangadzo Jufter Munyai (We just call him Jufter). He will tell you more about himself and his responsibilities.*

*Further in this chapter you will learn about the water base system, skivvies, our weather and more....*



*"Lorenzen Piggem" Viewed from the SANAE IV Base (Zoomed), Antarctic Petrel in flight over the top of the mountain.*



*From left to right: Marvin, Jacques, Bongisipho, Jufter, Mpati, Travis, Sanele, Ewald and Salomé.*

# SANAE 58

Editor: Salomé Odendaal

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## Did you know?

### **Antarctica has its own Treaty**

Antarctica was discovered by humans in 1820. It was the only continent without an indigenous population. Several nations quickly made claims to the continent, causing significant tension and the need for a peaceful resolution was agreed upon.

In 1959, 12 countries signed the Antarctic Treaty. It was an unprecedented international agreement to govern the continent together as a reserve for peace and science. Since then, 42 other countries have signed the Treaty and participate in decision-making. All decisions within the Antarctic Treaty System are made by consensus, with collaboration and agreement as the central pillars. It includes strict guidelines for commercial fishing, sealing, and a complete ban on mining or mineral exploration.

10 facts about Antarctica. Aurora Expeditions. 2016. <https://www.auroraexpeditions.com.au/blog/10-fun-facts-about-antarctica>  
 Antarctic Treaty System. Wikipedia. 2019. [https://en.m.wikipedia.org/wiki/Antarctic\\_Treaty\\_System](https://en.m.wikipedia.org/wiki/Antarctic_Treaty_System)

# MEET OUR ELECTRICAL ENGINEER: JUFTER MUNYAI

Tshimangadzo Jufter Munyai (DEA Electrical Engineer / Technician)

Greetings once again to all Petrel Post readers from SANAE IV Base. I am Tshimangadzo Jufter Munyai and I am from Limpopo province, under a district called the Vhembe district, from a village called Tshivhulani. That's where I was born and grew up and I am a qualified electrician based at Pretoria.

A friend of mine told me about the South African National Antarctic Programme (SANAP) and so I took a chance and applied. I was one of the lucky candidates who got appointed and given a chance to come down here and work on this beautiful continent. As soon as I received the email that I have been appointed as an electrician for SANAE 58 (S58) I

began with the preparation, from telling my family and friends that I am going to Antarctica for 15 months to buying toiletries, equipment and gadgets that I'll be using during my stay at Antarctica. I was a bit scared and on the other side excited when thinking of the new challenges that awaits me and my team members.

I am the electrician for S58 and I am responsible for the power reticulation around the base and other things around the base such as assisting the mechanical engineer, the diesel mechanics and the rest of the team.

I find this place is beautiful and yet challenging, from the minus temperatures and the scorching sun. I know it won't make sense to a lot of people as to why the sun is so scorching down here but that's one of the many wonders and mysteries of Antarctica for me.

Next, more about our water system...

## WATER BASE SYSTEM

Tshimangadzo Jufter Munyai (DEA Electrical Engineer / Technician)

I am going to tell you a little bit more about our water system here at the base, but this time I won't start from the process of making water as I already covered that part in a previous newsletter (Refer to Chapter 2, Smelly).

So, our water is divided into two parts. We have domestic hot water (DHW) and domestic cold water (DCW). We have six tanks inside the base, which stores our water from the smelly and each with a capacity of 6500 litres and they are all interlinked.

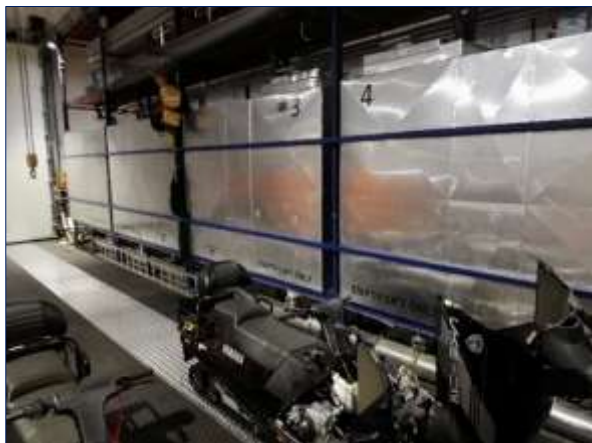


Figure 2. DCW tanks inside the base's hanger area.



Figure 1. Jufter working on a panel in the AB link at SANAE IV.



Figure 3. DHW tanks.

Our water reticulation system is a closed loop system with a supply line and a return line. The supply line supplies the DCW all over the base and the return line returns water to the tanks. The same principle applies to the DHW, but we have an expansion tank that stores our DHW. It is sort of a geyser but the elements are mostly off in this geyser of ours, because we use heat exchangers to heat our DHW.

The system also makes use of pumps as we would struggle to get water if there are no pumps to boost the water pressure. Above and below are some pictures of the DCW tank, DHW tank, DCW pumps, DHW pump and the heat exchanger that heats our DHW.



Figure 4. DCW pump.



Figure 5. DHW pump.



Figure 6. Heat exchanger.

# SKIVVIES

Tshimangadzo Juffer Munyai (DEA Electrical Engineer / Technician)

Every beginning of the week, that will be every Monday for us, we do various cleaning skivvies around the base and that includes bathroom skivvy. I am going to take you through how the bathroom skivvy is done. The person responsible for the bathroom skivvy will clean the wash basin, clean the urinals, mop the floor and refill the toilets with toilet paper and hand soap. So, we as S58 members have divided the showers and toilets amongst ourselves where everyone has their own shower and toilet. Thus, individuals are responsible for keeping their own shower and toilet clean.

Of course, during takeover it's a completely different ballgame as we do not have the luxury of owning our own toilet or shower then. During takeover we share everything and therefore also the cleaning responsibilities become different then. The team assigned for bathroom skivvy during takeover will clean the showers, toilets, urinals, wash basins and mop the floor. The wastewater is thrown into the sloppy (wash basin with a filter located in the waste room) to ensure that the hairs and particles from cleaning does not get in the system. If, however, the water used to clean an area contains any cleaning solutions or other contaminants (such as oil or glycol in other areas of the base) that would be harmful to the effluent plant, it is emptied into drums in the waste room. We do not allow any environmentally harmful substances or substances that will be harmful to the bacteria needed in the wastewater plant into the system.

We have dedicated mops and buckets for cleaning the bathroom and these mops and buckets were marked in red, meaning that they are only to be used for bathroom only. Below are pictures of one of the team members doing his bathroom skivvy



Figure 7 & 8. Sanele doing bathroom skivvy, cleaning the wash basin.



Figure 9. A clean bathroom.



Figure 10. The cleaning equipment used.

# OUR WEATHER

Marvin Rankudu (Senior Meteorological Technician / SAWS Representative)

Table 1. SANAE IV weather statistics, as recorded for the month of Oct. 2019.

Weather Statistics: October 2019								
SANAE IV - VESLESKARVET								
	Minimum		Q1	Median	Average	Q3	Maximum	
Temperature (°C)	-27	(14 <sup>th</sup> )	-21.2	-18.3	-18.8	-16.5	-10.2	(10 <sup>th</sup> )
Humidity (%)	31	(31 <sup>st</sup> )	55	70	70.3	85	100	(5,6,7 <sup>th</sup> )
Wind Gust (m/s)	0	(12 <sup>th</sup> )	5.7	10.2	10.9	13	51.6	(2 <sup>nd</sup> )
Pressure (hPa)	851.4	(2 <sup>nd</sup> )	871.3	883.5	881.9	889.8	898.8	(27 <sup>th</sup> )

°C, degrees Celsius; Q1, first quartile or 25<sup>th</sup> percentile; Q3, third quartile or 75<sup>th</sup> percentile; %, percentage; m/s, meter per second; hPa, hectopascal

# ANTARCTICA MATTERS: THE WIND SCOOP

Travis Duck (SANSA RADAR Engineer)

The wind scoop is an area just below the SANAE IV base that forms a rather beautiful and unique feature, like a sand dune but it never shifts or moves around. It just wears away during summer and build back up during winter.

If you take a walk up the hill you can see the so called Crystal Palace. A beautiful ice cave that has been worn into the side of the ice wall by wind and snowstorms due to the positioning of the cliffs and the prevailing wind direction.

A couple of us walked, tied in with rope and climbing gear to make sure we were safe, the whole way up and down.

It's a great place to have a beer and take in the views of wild Antarctica.



Figure 11. Arrived via skidoos at the wind scoop area.



Figure 12. Bongisipho nearing the Crystal Palace, up on the left.



Figure 13. Travis below the Crystal Palace in the ice flow from the wind scoop.



Figure 14. Crystal Palace.... with 2 beers.... that was removed and taken with us when we left...

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Ultimate Heli  
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 A dartboard and charcoal for the year as ours was "forgotten" back home.  
 Thanks guys, you made every braai day this year happen for us.



We would like to thank each of our sponsors for making our year that much more durable and comfortable.