

# SANAE53

South African National Antarctic Expedition

**Newsletter #5**



## **Aurora**

**If the Glove Fits**

**Antarctic Phenomena: Aurora and Ghost Tracks**

**Team Building Adventure**

**Aurora Demystified**

**Ze Tschörmans**

**Elections 2014 at SANAE IV Base**

**A SANAE Shopping Experience**

**Colours of Antarctica and Birthday Pranks**

**Two Oceans**

## If the Glove Fits...

Patrick

Don't even think about stepping outside without gloves. Face and hands are the first to suffer the cold. Cold fingers become debilitating and make even the simplest task seem insurmountable. But with a good pair of gloves... and back-up gloves... and inners... and back-up inners... and maybe chemical hand warmers, you'll be fine. Believe it or not, I counted that I have 17 different types of gloves here at SANA E, each suited to a different task and temperature. This is in no small part thanks to one of our sponsors in Cape Town, RAM Mountaineering, who offered us super discounts on their products, including their sweet range of Black Diamond gloves. Here are the top 12 I find most handy:



### Black Diamond Absolute Mitts

Nothing keeps your fingers more warm and toasty than a pair of Absolute Mitts. These have proved excellent for keeping hands warm when out at night to photograph auroras and stars.

The only reported drawback is that they make controlling a snow mobile challenging.



### First Ascent Expedition Gloves

These issued gloves are warm enough, but seriously poofy and cumbersome. I keep them inside my jacket as a back-up pair in winter.

The long gauntlets are great for keeping snow out of sleeves.



### Black Diamond Soloist Gloves

All day every day! These bad boys are warm, without being too bulky. They have been my go-to gloves since February.



### Old Leather Gloves

Classy but unfortunately not the warmest.





### Black Diamond Storm-weight Gloves

The "Windstopper" fabric makes these wind proof gloves the ultimate for summer. I wore them just about every day during takeover. And now they live in my jacket as a back-up.



### Vintage Mittens

Come on, how cool do these look. Vintage mittens that I still have not found a use for. One day...



### Black Diamond Wool-weight Inners

Great, tight-fitting inner for winter, allows dexterity for camera work



### Black Diamond Light-weight Inners

The universal inner. Great way to take any glove to the next level.



### Waterproof Work Gloves

Guaranteed frostbite. When these gloves get wet, your fingers may remain dry, but you will know all about the wind chill.





### Leather Work Gloves

Great for general work inside the base, to protect hands from cuts, abrasions and burns. Always keep a pair in my back pocket.



### Insulated Leather Work Gloves

Good for outdoor work in summer. You can get by with them on a winter's day if you pair them with inners. Not afraid of oil and grease.



### Latex Gloves

Essential for taking waste water samples. Always a good idea to have a layer of rubber between your skin and the sewerage. If only we had sizes other than Ladies Small.



## Elections 2014 at SANAE IV Base

Charles

As the elections in South Africa approach, we here at SANAE IV base have been spared the agonies and frustrations of the process of standing in long, never ending queues. I don't know which political parties were here 20 years ago, but we had our very own unique elections. First you had to vote for our last day of sunlight's name, secondly how we were to celebrate the occasion and the party shooters that were to accompany the celebration.

The polling booth was set up in the bar with the team leader as voting marshal. We bypassed the usual process of registering to vote, indicating that we were registered voter by wearing a fancy hat. At 18:00 we made our way to the official voting station. Forget the long queues in South Africa, waiting for ten people to vote can be a thirsty work, so we had an occasional shooter to quench our thirst. The election went much more smoother than the shooters, even though some were cutting the line and the occasional disruptions from some unruly voters (we won't mention names Hendrik ).

As the evening progressed and the elections finally over it was up to the team leader to count the votes. The next day the votes were in and the results were as follows:



Our last day of sunlight was rightly named Aladeen Day, our first cocktail a Tequila Sunrise, midday shooter winner a Harden-the-f-up, and last cocktail a Starry Nights. So that was elections at SANAE IV base, till next time, and have a happy Aladeen Day!



## Team Building Adventure

Raymond

I have experienced over the years that team building exercises help a lot because it's crucial for fellow workers / colleagues / people in general to get along, especially in a working environment such as Antarctica where we are so isolated.

In Antarctica, we consist of ten people who are together for fourteen months, so it's imperative that we get along and confide in each other, especially for our duties. One thing I must admit to, is the fact that we are an outstanding crew and have an exceptional working relationship.

I set up a team building obstacle course for our team as we normally have social activities every week. I put together this course out of various materials, including oil drums, ladders, planks, the climbing wall and the basketball hoop to end it off. We worked in pairs with each one carrying a bucket of water along while doing the course and the exercise was about communication and assisting your partner. We used the hanger as our venue as it is spacious. This event played out exceptionally well. Our team interaction was awesome. Once again all credit is due to all of our team players.

I think the most challenging exercise was doing the course blind-folded, which several pairs completed without incident and to the wild cheering from the crowd. I want to thank all my team mates for their support and co-operation and willingness to participate and I am sure the experience was worth it.



## Aurora Demystified

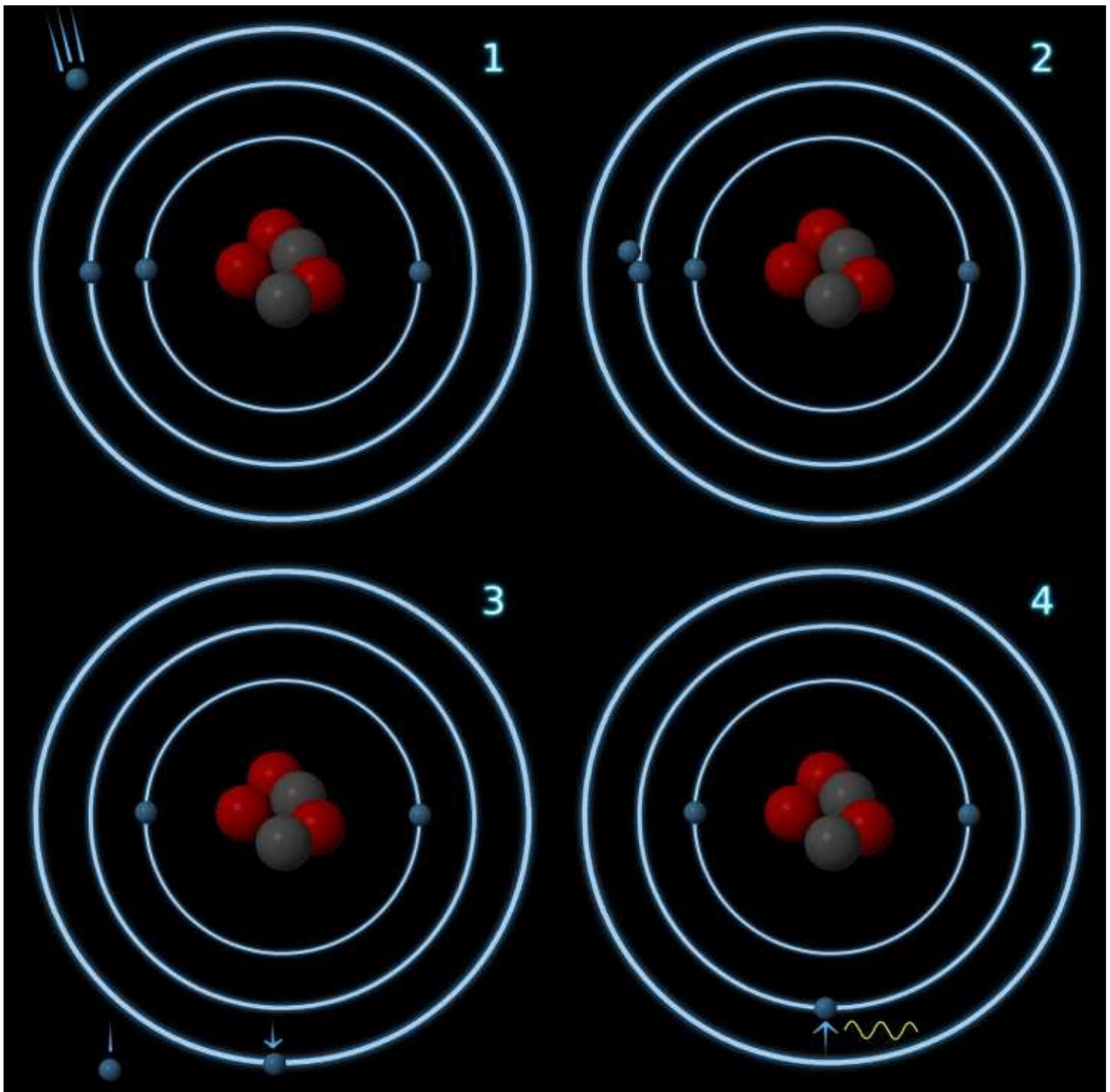
Hendrik

Here is a lot of fuss about auroras. The base is woken up at 3 am in the morning to witness a simple mechanism, called an aurora.

The sun emits a solar wind, consisting mainly of electrons and protons at a very high speed. The earth's magnetic field accelerates many of these particles toward the poles where they enter the earth's atmosphere.

Oxygen atoms and nitrogen molecules are excited by the collision of the solar wind and magnetosphere (above 80 km) particles. After a while it returns from an excited state to a ground state by emitting a photon (light)

When an incident particle (Figure 1), for example an electron, collides with one of the molecule's surrounding electron (Figure 2), the molecule's electron absorbs some of the incident particle's energy and moves to a higher energy level (Figure 3). This is called an excited state. This state is unstable and after a while the molecule releases absorbed energy in the form of a photon and return to its ground state. (Figure 4)





Auroras are more frequent and brighter during the intense phase of the solar cycle when coronal mass ejections (explained in the next issue) increase the intensity of the solar wind.

There is a colour differential with altitude; at high altitude red dominates (not seen yet, only photographed, then green (the most common) and at the bottom is blue/red (not even a hint of it here. It shows only up at the highest levels of solar activity.)

Even if we know what forms an aurora, scientists are still baffled by the onset of one, when an aurora starts and why are there more auroras during spring and autumn.

Even with the cold scientific understanding of the basic principle that forms an aurora, when one stares in awe at an aurora, one cannot help to realise that there definitely is One greater than us.



## Ze Tschörmans

Sonja

“Wir sind unterwegs. Unsere Station ist umgefallen / abgebrannt / weg geweht im Winter.” This might be the make or break of the success of an emergency evacuation to Neumayer in the eventuality of our base falling apart / burning down / or being blown away by the wind.

This and other useful phrases are part of the weekly German lessons at SANAE. Inspired by the idea of possible basic communication with our closest neighbours, a small group gathered for the first time in February to be flabbergasted by how the Germans could complicate sentence structure by introducing four cases: nominative, dative, genitive and accusative. To complete the confusion, I added the six tenses and lost even the last determined student.



However, this is surely not the aim of a language class, and I decided on a new course: The next class deserved a typical German topic. And none could be more appropriate than the über-German “Frühstück” - the breakfast. We gathered in the kitchen and baked bread rolls for the

next morning, while learning what a bowl or an oven or a “Geschirrspülmaschine” in German is. This breakfast was then perfected with a über-German glass of Nutella - unfortunately also the only glass of Nutella at the base.



The trend has remained, with weekly themes determining the new vocabulary. Whether the group is prepared to tackle a German bar, construction site or doctor’s office, emphasis is now on vocabulary instead of the finer nuances

of German grammar. And to nurture their creativity - it was actually designed to test knowledge -, a small test repeats the vocabulary of the previous lesson.

Something for which the Germans never get credit, is their wonderful sense of humour. Because that is a common misconception, our German classes are filled with jokes and laughter. And so, if my team can have a bar conversation with the Neumayer team regarding the four seasons or the temperature of a swimming pool, I am content, because I can say “At least they had some fun!”.



## A Sanae Shopping Experience

Leonard

Not having the luxury of the wonderful shopping malls that are available to city dwellers, it almost makes you sad to think that you cannot find a way to spend any money in Antarctica. Although there is always the option of ordering some well advertised unnecessary stuff over the internet. But even if it is delivered in good condition or actually happens to be the right item and can do all the amazing things that were advertised, you still cannot have it delivered at SANAE IV where you need it. That is why a great deal of purchase planning needs to be done before anyone decides to join an expedition. No time for regrets during the year.

But all is not lost and yes, we do have our own great shopping experiences at SANAE. For instance: If your vehicle should fail, you can pop into Pats-Cat Middaas with an excellent collection of all needed spare parts, oil, fan belts. Even a spare mirror or two.



Then whenever you are hungry there is always Doc's general store just down the alley with wide variety of food supplies. Tinned food, cereals, baking ingredients, all types of dried fruits and delicious mixed nuts, sweets, confectionaries. The great thing is that shopping is allowed 24/7 and you don't have to pay a cent. Just make sure that everything is booked out nicely. Doc is watching you!

Luckily Doc is also a very influential citizen and also owns the great Meat Market that stocks all types of frozen meat and vegetables. Also nice Mamma's pies and sausages. So just hop in there after work and grab some tenderized steaks and boerewors for the braai. After tanning it on the fire for about 2 hours you might even get it to defrost. If you haven't already lost some extremities in the process of extracting it from the freezer. But alas. This is also for free. Including the charcoal and firelighters.



In the refrigerator division you might find some great Frozenfresh (a new SANAE term) fruits like Blacknannas (a rare type of Antarctic fruit) and even a crispy apple or pear. The oranges and pomelos did not last long and might be on their way to a processing plant where I guess they will be converted into something more palatable and will help with the uplifting of the

team's spirit.

Then there is also Doc's Pharmacy where you can get your prescription medicine, a wide variety of ointments and enough ENO fruit salts for the occasional culinary mishap.



After braai you can visit the SANAE Library or Krisjan's Video Shop for some nice videos to watch after visiting the local Sastrugi bar, where everything is not for free. Although there are some nice fruit juices, cola and ice for free, and I must admit you will get a small subsistence allowance on the hard liquor account.

If your bulbs are blown or you need to do some rewiring in your office, you can always visit Charlie's Volts & Nuts on the second floor of our shopping centre. He has a great variety of electric fittings, bolts and nuts, as well as custom made psychedelic coloured bulbs for your party venue.

Just next door you get PWD Co-Op hardware division with a wide range of fittings for your farming and hydroponics project or fixing your leaky toilet. Even enough copper fittings to exchange for a piece of land from the native tribe. There are also some nice mirrors available if you want to impress the wife. And if you are into hydroponics you can get some super mineralised water from Pattie's Poo Plant which will ensure that you get good crop of bean sprouts soon.



Also on the same floor is Cornelia's Carpenter shop with all the wood and glue and screws to build your own kaskar for the next great race down the Ice Road Racetrack. You might even want to go visit Machie's Mechanical Workshop, for the manufacturing of your custom made wheels, brakes and mechanical parts needed to fit the two-stroke engine you got at a bargain from their pre-owned (but pre-loved) skidoo dealership in the hanger.

If you are fed up with shopping in our local Mall there is still the opportunity to explore the Francoishoek Wine Route with the finest selection of all the Cape Winelands.

Also remember to top up your electricity account at Freepower if you don't want any interruptions in the supply of power when you are watching the downloaded rugby game.

So if you think we live a boring Indoors life. You're wrong.

Until next time.



# Antarctic phenomena: Aurora and Ghost Tracks

Francois

Antarctica is truly a beautiful continent: except for the picture perfect landscapes you also get a glimpse of unique scenes that you want to claim as your own. In this article I will discuss that I have witnessed and found extraordinary.

The most obvious would be the aurora. Perceived as bushfires in the spirit world by the aborigines from Australia, this is truly spectacular. On the first night we saw a good aurora, most people went outside to see it. Some armed with cameras and others just watching. About a week later we had a good prediction for an aurora and a cloudless night. The weather wasn't ideal as we had a 50km/h wind and temperature of roughly -28 degrees Celsius. This is an adventure within itself, and even though it's cold, watching the aurora is addictive in a sense. There is usually a relatively constant green aurora on the horizon which is slow moving. What really motivates you to stay outside are the quick moving bursts or explosions. Fast moving auroras that stretch from the horizon to over your head and only last a few seconds. This kept most of us outside for one to two hours, coming back with frozen gear and possibly frozen eyelids; it leaves a sense of humility and awe.



One of the most interesting phenomena that you can see on the snow are ghost tracks. And in Antarctica with constant change of snowy landscapes this is something that you see often. When you walk outside you compact the snow underneath your boots, leaving a normal track in the snow. If the wind direction changes slightly large areas of snow move and some areas would get larger snow build-up while others would have





less. In these latter areas the only snow that remains would be that compacted by your tracks, leaving an inverted track in the snow. I walk almost daily to the radar hut which is approximately 800m from the base and therefore I see many of these. Some of them can rise up very high and you can even see the markings of the sole in the boot print. I have even had the privilege to fall over my tracks of a previous day while walking in the dark.

As everyone knows our seasons change dramatically from endless sunshine in summer to complete darkness in winter. We are now experiencing the last few days of sunlight, and even though we do not see a high rising sun, the sunsets and sunrises are spectacular and last hours long. Something that also becomes clearer as the days get darker is the light from the moon. Even on a cloudy day the moonrise would almost look like the beginning of a sunrise due to all the light it gives off. And it paints a blue reflection in the night sky.

Our last phenomena would be our Metkassie. Uninfluenced by seasons or day and night his behaviour never changes. He has to be up each morning at 6:00 AM to do his first weather observation. This appointment has never been missed, and rumour has it that he is only able to sleep during socials when there are more than 6 people in the room. Therefore his only regular sleep that he gets is during the team movie on Sunday evenings. It is said that he has received the gift of prediction, not for weather, but for table tennis. During nights of low solar wind (no aurora) he is unbeatable in table tennis, and few in the base would challenge him on a windless night. In the early hours of the morning he would be the only person wondering through the corridors of the base, not seeking company nor avoiding it. He is truly the keeper of the house, and a legend from a strange land.



## Colours of Antarctica and Birthday Pranks

Christiaan

Changing seasons lead to changing fauna and flora. Seasonal changes in Antarctica lead to changing colours. And while the auroras are the rock stars of the Antarctic equinox, the sunsets are like the opening act at a rock show upstaging the main performers.



I became a fan of the opening act while walking to the diesel bunkers one evening. With the setting sun and rising moon hanging low, the only satisfactory descriptive thought I could conjure was that I've never seen such a beautiful sunset.

Vague recollections of similar scenery in South Africa are of wheat fields at dusk. When the sun is sufficiently low, it is difficult to imagine that the colorful tapestries only consist of ripening, ripe and harvested fields. It's even harder to imagine that the Antarctic tapestries only consist of ice – with shades of purple, pink, orange, grey and white continuously in luminous flux.

Purple was the colour in transition when I was at the back of an uncomfortably cold skidoo traveling from the wind scoop to base. After the ice eventually turned deep purple, below the white drifting snow and colourful rays of the lowering sun, I was convincingly converted from auroras to sunsets.

And now, as the sunsets grow ever fewer and winter ever closer, I've come to appreciate them even more. To the extent of often trying to remanufacture previous moments of profound esthetic awareness. One such an attempt was on my birthday while hanging around the diesel bunkers at dusk, stocked with enough cool drinks and cigarettes to patiently wait for the perfect colour display.



Unfortunately it seems that moments of esthetic awareness are random occurrences. All I can remember of my birthday diesel bunker visit is fumbling cool drink cans, running after cigarette butts, and burning toes from a birthday ice bath earlier that afternoon. And also feeling annoyed because of a missing running shoe preventing a much anticipated run on the treadmill (which I later mysteriously found inside my pillow casing).



## The World's Most Beautiful Marathon



Our Easter weekend wasn't only limited to lazy days, Lindt Easter egg hunts and a magnificent Sunday brunch, we also signed up for the 56 km Two Oceans ultramarathon, self-proclaimed as "the world's most beautiful marathon".



Personally I feel that title belongs to our Annual Antarctic Wind Scoop Run, which takes place during takeover (we hosted the first annual event this year), but the catchphrase is probably trademarked.

But I digress. We started uncharacteristically early on Easter Saturday, 19 April 2014, with me taking on the first 5 km at a leisurely pace, not wanting to shock my system too much on a four day weekend. After that, our real runners took over, putting on a blistering pace, churning out the kilometres on our brand spanking new treadmill. The support crew lounged around, laughing, chatting, drinking coffee and watching season 1 of Scrubs.





Then disaster struck: Just as Sonja reached 99 minutes on the treadmill, the machine slowed down and died. No matter, just a quick reset and we will be good to go, right? Nope. No matter how many times we switched the machine on and off (as per the very informative manual) all we got was a sad E7 blinking on the screen. Clearly the treadmill felt it deserved a weekend off too. But we were all dressed up and ready to go, so we weren't taking "NO" for an answer. The internet was queried for some advice and after some fiddling by the technical team (and not so technical team), we were

finally (and literally) up and running again.

Each member of the running team proceeded to tick off their allotted kilometres, with us finishing the 56 km in a very decent time of 05:51:30\* with a sense of accomplishment for the weekend. And feeling less guilty about the massive brunch that followed the next day.

(\* I didn't include the time we lost due to the technical difficulties as I haven't heard of any roads giving an E7 error before. Official cut off is 7 hours for the race)



**Quote of the Month:** **Francois (“a scientist”)**

*“Die geos se lichen op Northern Buttress is so klein, ek gee nie 'n f\*k om nie.”*

**Song of the Month:** **Matchbox Twenty**

**Plush**

**Movie of the Month:** **The Count of Monte Cristo**

**Meals of the Month:**

- Leonard**                      Sunday lunch roast
- Francois**                     Restaurant style fillet
- Patrick**                        Ice cream cake & chocolate fudge sauce
- Sonja**                          Deep fried ice cream balls

**F-Ups of the Month:**

- 1) Cornelia (B.Eng electronic + B.Sc. IT)**  
Forgetting how to switch on a computer and therefore disassembling it
- 2) A-Team (PK + BC)**    Trying to burn down the base
- 3) A-Team**                    Trying to shock themselves to death

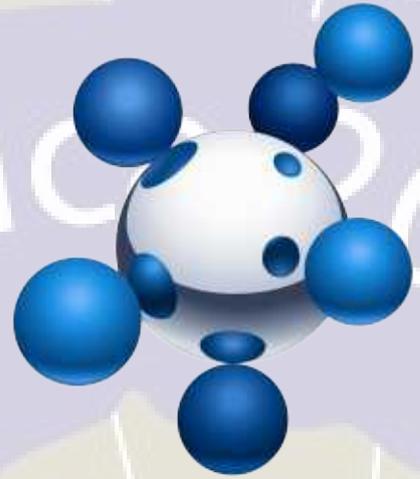
**Weather Statistics for 16 April - 15 May 2014:**

|                    | <b>Maximum</b>                  | <b>Minimum</b>               | <b>Average</b> |
|--------------------|---------------------------------|------------------------------|----------------|
| <b>Pressure</b>    | 904.0 (10 <sup>th</sup> May)    | 854.0 (18 <sup>th</sup> Apr) | 883.5          |
| <b>Temperature</b> | -8.7 (13 <sup>th</sup> May)     | -33.2 (3 <sup>rd</sup> May)  | -22.8          |
| <b>Humidity</b>    | 100% (23 <sup>th</sup> May)     | 22% (29 <sup>th</sup> Apr)   | 69%            |
| <b>Wind gust</b>   | 37.7 m/s (20 <sup>th</sup> Apr) |                              |                |
|                    | 73.3 knots                      |                              |                |
|                    | 135.7 km/h                      |                              |                |

# Sponsors

## Main sponsors

**SASOL**  
*reaching new frontiers*



CASTLE

**LITE**

## Gear



**AWESOME  
TOOLS**

**CityROCK**  
Mountain Mail Order  
Climbing Gym & Gear Shop

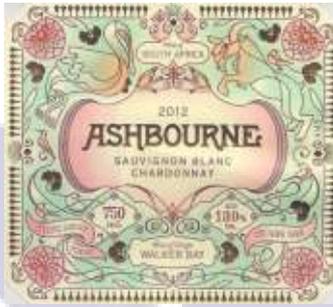


# Wine



Est. 1704

*Allesverloren*



# CREATION

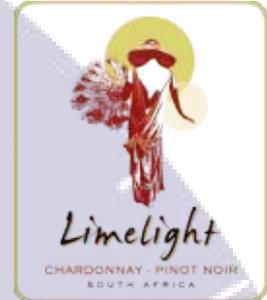
*Creating Wines of Distinction*

# Arctica 2014

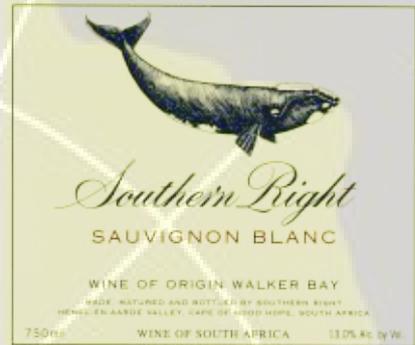


**DE WETSHOF ESTATE**  
SOUTH AFRICA

**SPRINGFIELD ESTATE**



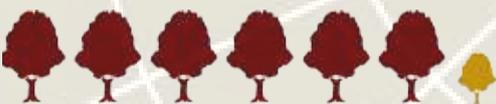
HAMILTON RUSSELL VINEYARDS



MAN  VINTNERS



**NEETHLINGSHOF**  
E S T A T E



**SEVEN OAKS WINE**



ROBERTSON - SOUTH AFRICA

**THUNDERCHILD**

PRO CLEMENTIA BENEFICIUM  
"In aid of humanity"



**VILLIERA WINES**  
STELLENBOSCH

## Food



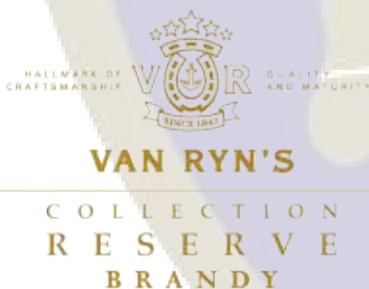
## Hot Beverages



## Comics & Board Games



## Brandy



## Music Instruments



## Toiletries



## Optics

