**POST EXPEDITION REPORT – ‘THIN ICE’ PROJECT**

**November 2018. Author: Tim Jarvis**

**EXECUTIVE SUMMARY**

A 7-man team of highly experienced climbers and cameramen proposed to cross South Georgia via the Shackleton Traverse over the course of 4 days during the period 20-27th November. The goal of this ‘Crossing Team’ (the Team) was to film the extent of the decline of several of South Georgia’s glaciers as part of a broader project to raise awareness of climate change and its impacts as part of a project called ‘Thin Ice’.

The Team were supported by One Ocean Expeditions, Inc. and the M/V Akademik Sergey Vavilov. The Vavilov commenced her voyage on November 17, 2018 in Stanley and sailed directly to South Georgia spending 9 days in South Georgia. Sean Brooks was Lead Guide for the Team, supported by a second highly experienced guide, Paul Aubrey.

The Expedition Leader on board the Vavilov was David Sinclair, a veteran of multiple voyages to South Georgia over the last 5 years and both polar regions since 2007. One Ocean Expeditions is a full member of IAATO and the Vavilov has visited South Georgia every year since 1995. The Master of the Vavilov was Captain Ionin, who has been Master for 4 seasons in South Georgia and has extensive experience involved in special expedition projects with One Ocean Expeditions.

Sean Brooks was Lead Guide (responsible for safety and leadership of the Team). Tim Jarvis was Project Leader for the Team, leader of the Thin Ice project and author of this post-expedition report.

The Team adjusted their original plans for the project based on forecast bad weather that would have prevented them completing the Shackleton Traverse in one continuous period. As such the project goals were achieved via 4 discrete trips ashore:

* A day spent on the Murray Snowfield and the Shackleton Gap on 21st November;
* A day ashore at Stromness on 23rd November;
* A day spent at Grytviken on 24th November filming in and around the whaling station; and
* 3 nights ashore in Fortuna Bay from the night of 24th-26th November (25th-27th days).

This change to the Team’s itinerary did not adversely impact the project as Thin Ice’s main goal was to document the decline of those glaciers seen by Shackleton in 1916. As such, time spent ashore at King Haakon Bay, Stromness, Grytviken and Fortuna Bay enabled these objectives to be successfully achieved.

**EXPEDITION OBJECTIVES**

The goal of the project was to document the extent of the decline of several of South Georgia’s glaciers as part of a project to raise awareness of climate change and its impacts – Thin Ice. South Georgia is particularly significant as the largest of the Atlantic-Pacific sub-Antarctic islands, lying south of the Antarctic Polar Front (APF). Isolated in the Southern Ocean, South Georgia is considered as a ‘sentinel’ of change: an area sensitive to regional climate, where future environmental change would be first detected.

Glaciers of principal interest include the Purvis, Esmark, Briggs, Crean, Fortuna and Konig Glaciers.

The Thin Ice project was designed allow a comparison of what Tim’s team filmed on the Shackleton Epic Expedition in 2013 as well as with other historical and current sources of scientific information to document climate change.

**PROJECT TEAM**

**Tim Jarvis - Project Leader**

Tim is an environmental scientist, author, adventurer and public speaker with Masters degrees in environmental science and environmental law. He is committed to finding pragmatic solutions to major environmental issues related to climate change and biodiversity loss and has undertaken unsupported expeditions to the world’s most remote regions. In 2013, Tim led the first authentic retracing of polar explorer Sir Ernest Shackleton’s “double” - sailing a replica James Caird boat 1500kms across the Southern Ocean from Elephant Island, Antarctica to South Georgia and climbing over South Georgia’s mountainous interior using the same rudimentary equipment, period clothing and technology as Shackleton.

**Miles Rowland – Director/cameraman**

Miles Rowland is one of Australia’s leading film makers with extensive experience as both Director, cameraman and second unit director for a wide range of formats. He has multiple gold awards from the Australian Cinematographer Society for advertising campaigns, longer format drama, documentary and travel documentary. He is a keen climber and mountaineer.

**Nick Robinson – Drone operator/videographer**

Nick Robinson, is one of the most experienced drone operators and videographers in Australia, with many years of experience and full UAV certification from the Australian Government Civil Aviation Safety Authority to operate UAVs. His many operating hours operating UAVs ensures he will demonstrate maximum control and safety in the potentially challenging environment of South Georgia. He has received two Australian Academy Awards and an Emmy nomination for his work and is Director of AAHD/Wild Pacific Media.

**Caspar Mazzotti - B cameraman**

Caspar is a distinguished editor and has a strong foundation in documentary television, often involving filming in very challenging environments. He has cut shows for all the major networks including National Geographic, Discovery, ABC, The History Channel and he’s worked on everything from big budget tourism TVC’s to long form 3D documentaries.

**Doug Gimesy – Stills Photographer**

One of Australia’s leading stills photographers, Doug was Australian Geographic Nature Photographer of the Year finalist in 2018, and Wildlife Photographer of the Year in 2016 amongst many other accolades. Initially trained as a zoologist, Doug later completed a Masters of Environment and then a Masters of Bioethics. These two qualifications really helped shape his sustainability thinking. He is also a governor of the [World Wide Fund for Nature (WWF) in Australia](http://www.wwf.org.au/).

**Sean Brooks - Certified Mountain Guide**

Sean is a Certified Mountain Guide: International Federation of Mountain Guides Associations. He has spent his working life in the outdoors guiding and instructing in the Southern Alps of New Zealand in both summer and winter. Sean has had several trips to Antarctica, primarily based at Scott Base with the New Zealand Antarctic Programme teaching survival skills and assisting scientists in the field. Sean knows South Georgia intimately, having completed the Shackleton Traverse before. Sean was lead guide for the Thin Ice project.

**Paul Aubrey**

Paul is a Certified International Federation of Mountain Guides Associations, Mountain Guide. He has a huge depth of experience as an international mountain and ski guide, with ascents of Denali, Aconcagua, Mt Vinson and in Europe and Canada. In New Zealand he has done several first ascents in the Southern Alps and for many years has been Director of Snow Safety at Cardrona Ski Area.

**PERMITTING**

The expedition application process for South Georgia was very detailed, robust and thorough. All the information required by the authorities was readily accessible on their website and clear to follow. For new visitors to South Georgia, the application process forces you to think clearly and understand just how remote and special this island is and it makes you ask all the right questions of your expedition.

The Thin Ice Project was subject to 3 levels of permits for the purposes of carrying out its objectives. All of these were successfully obtained from the GSGSSI and Air Safety Support International (ASSI) as relevant:

* A category 1 Regulated Activity Permit;
* An permit for Operation of a Small Unmanned Aircraft (SUA) issued by (ASSI); and
* An Expedition Permit (SGSSSSI).

**EXPEDITION IN DETAIL**

The Thin Ice project originally involved a traverse of South Georgia via Shackleton’s route from King Haakon Bay, up Shackleton Gap, across the Murray Snowfield, down the Tridents, across the Crean and Fortuna Glaciers and a traverse around Breakwind Ridge down to the Konig Glacier and in to Stromness. This route corresponded to the standard route that follows Shackleton’s original. The project’s main goal was to film glacier retreat along this route.

Forecast bad weather however resulted in the Team adjusting their itinerary, dividing parts of the original proposed crossing into 4 separate shorter trips ashore. Namely:

* A day spent on the Murray Snowfield and the Shackleton Gap on 21st November;
* A day ashore at Stromness on 23rd November;
* A day spent at Grytviken on 24th November filming in and around the whaling station; and
* 3 nights ashore in Fortuna Bay from the night of 24th-26th November (25th-27th days).

The section from the Tridents to Breakwind Ridge was not therefore able to be completed.

The team used standard show-shoeing gear and tents. Gear included snowshoes, boots, and poles.  Safety equipment included shovels, snow probes, and avalanche transceivers.  The guides carried a crevasse-rescue kit which included snow stakes, static rope, pulleys, harnesses, ice screws. The team had extensive outdoor experience and the majority are from a climbing and outdoor background. Tim Jarvis led the successful expedition to cross South Georgia in the footsteps of Sir Ernest Shackleton in 2013 (the Shackleton Epic Expedition).

Due to adverse weather, the Team were able to complete a day’s filming from King Haakon Bay up the Shackleton Gap onto the Murray Snowfield on 21st November. Having been dropped ashore via zodiac at Peggotty Bluff in the morning, the team knew that bad weather would prevent them reaching beyond the Tridents. As such, the team filmed for approximately 6 hours before returning to the Sergey Vavilov before the anticipated high wind speeds and poor visibility increased on the Murray Snowfield. A routine extraction back to the Sergey Vavilov occurred via zodiac at approximately 1600hrs with the Crossing team being in routine contact with the Sergey Vavilov at all times.

A second trip ashore was a standard visit to Stromness whaling station via zodiac with the passengers from the Vavilov. The team filmed in and around the environs of Stromness, in accordance with the exclusion zone around the station and all safety and environmental permit conditions.

The third trip ashore was to Grytviken where the team filmed around the whaling station, at Shackleton’s grave and above Grytviken. Again, this was s standard trip ashore via zodiac with the remainder of Vavilov’s passengers. The team filmed in and around the environs of Grytviken, again in accordance with all safety and environmental permit conditions.

A fourth visit ashore took place from 24th – 26th November with the team spending 3 nights at Fortuna Bay. This fourth trip ashore involved filming on the Eastern tributary of the Fortuna Glacier (the Turnback Glacier), and up to the snout of the Konig Glacier in Fortuna Bay. This visit ashore involved being dropped off on the western side of Whistle Cove by zodiac at 2100 hrs on 25th November.

**FIRST DAY’S FILMING, 21st NOVEMBER 2018**

The team set off from Peggotty Bluff around 1000 hrs having arrived by zodiac from the Vavilov at 0915hrs. (the Vavilov having anchored in King Haakon Bay). The Team consisted of Tim Jarvis, Nick Robinson, Caspar Mazzotti, Doug Gimesy, Miles Rowland, Sean Brooks and Paul Aubrey.

The weather as the Team set off was good, with clear visibility, little wind and temperatures of around 3 degrees Celsius. Good progress was made over rock terrain for about two kilometres up to the start of the glacier on the Shackleton Gap. The small pulk carrying camera gear was carried by the team over this rocky terrain without issue.

Once the Shackleton Gap glacier snout was reached, the Team fitted crampons and began to use ice axes. There was no need to rope up at this stage; the glacier was solid ice and all obstacles were clearly visible with nothing technical to overcome. The route taken up the Shackleton Gap was in an Easterly direction then swinging SE to pass the Southern side of the large Nunatak 54 08 38.29S – 37 11 47.51W towards the Murray Snowfield. It was at the point of transition between the Shackleton Gap and Murray Snowfield that the team roped together in their three distinct groups (although very stable and good snow conditions, the Murray Snowfield is a heavily crevassed glacier with many hidden dangers).

Filming with drone, 360 and conventional cameras too place from 1100 hrs to 1530 hrs. (The decision having been made to commence the return to the Vavilov via the pre-arranged plan and route back down Shackleton Gap to Peggotty Bluff at 1400hrs). The safety plan in place ensured that all team members stayed together at all times, roped up until they reached the bottom of the Shackleton Gap. Extraction back to the Vavilov was via zodiac. The weather had begun to deteriorate significantly up on the Murray Snowfield by the time the team left Peggotty Bluff but this caused no issue for extraction of the team from Peggotty Bluff.

All filming took place in accordance with the Category 1 Regulated Activity Permit Application completed by the team and extraction went very smoothly.

**SECOND DAY’S FILMING, 23rd NOVEMBER 2018**

A second trip ashore was a standard visit to Stromness whaling station via zodiac with the passengers from the Vavilov. The team filmed in and around the environs of Stromness, in accordance with the exclusion zone around the station and any wildlife that was present. The team consisted of Tim Jarvis, Nick Robinson, Caspar Mazzotti, Doug Gimesy, Miles Rowland, Sean Brooks and Paul Aubrey.

The weather was good, clear visibility, with relatively light wind. Filming with drone, 360 and conventional cameras too place from until approximately 1400 hrs. All filming took place in accordance with the Category 1 Regulated Activity Permit Application completed by the team followed by a routine zodiac journey back to the Vavilov.

**THIRD DAY’S FILMING, 24th NOVEMBER 2018**

A third trip ashore was a standard visit to Grytviken via zodiac with the passengers from the Vavilov. The team filmed in and around the environs of Grytviken and Shackleton’s grave. The Team consisted of Tim Jarvis, Nick Robinson, Caspar Mazzotti, Doug Gimesy, Miles Rowland, Sean Brooks and Paul Aubrey.

The weather was good, with clear visibility, and relatively light winds. Filming with drone, 360 and conventional cameras too place from until approximately 1600 hrs. All filming took place in accordance with the Category 1 Regulated Activity Permit Application completed by the team with a routine zodiac journey back to the Vavilov.

**FOURTH FILMING SESSION ASHORE 24th -26th NOVEMBER**

The fourth visit ashore took place from 24th – 26th November with the Team spending 3 nights at Fortuna Bay. The team set off from the Vavilov by zodiac at 2045 hrs on 24th November landing at Whistle Cove at 2100 hrs. The team consisted of Tim Jarvis, Nick Robinson, Doug Gimesy, Miles Rowland, Sean Brooks and Paul Aubrey. (Caspar Mazzotti remained aboard the Vavilov editing footage shot during the previous trips ashore).

A tented base camp (of 3 x 2-man tents) and a portable toilet area were established on the foreshore at Whistle Cove between the shingle beach and the steeper ground of Breakwind Ridge. The team used this same base camp for all 3 nights ashore. Wildlife approach limits were observed at all times as were all other aspects of GSGSSI Environmental and Safety Guidelines. All waste including human waste was removed from South Georgia at the end of the stay ashore. This first night ashore consisted of filming some time lapse shots with no other activity that night.

The following morning (25th November) the team trekked along the western shore of Fortuna Bay to the Eastern tributary of the Fortuna Glacier (the Turnback Glacier), leaving at 0700hrs on 25th November. The weather as we set off was good, clear visibility, little wind with temperatures sitting at around 6-8 degrees Celsius. Apart from the need to be mindful of fur and Elephant seals on the beach, the trek was uneventful. The team then spent from 1000hrs-1700hrs filming on the Turnback Glacier, on the terminal and lateral moraines and on the ice of the glacier itself. The whole team were roped together, wore crampons and used ice axes when on the Turnback Glacier. The glacier was solid ice and all obstacles were clearly visible with nothing technical to overcome although the extent of the retreat of the Turnback was duly noted. The team returned via the same route back to base camp without any issues or problems with the weather remaining largely unchanged all day.

On day 3, (26th November), the team set off from base camp towards the snout of the Konig Glacier at 0700hrs enjoying good, visibility, with little wind and similar temperatures to the day before. Good progress was made over tussock grass and rocky terrain for about 3.5 kilometres to within 500 metres of the snout of the Konig Glacier. Care was taken to observe wildlife approach distances particularly around the King Penguin colony in Fortuna Bay.

Meltwater in front of the glacier snout (and the fact that the team had drones and wanted aerial shots anyway), meant that the team did not bother trekking onto the ice of the Konig Glacier itself. Filming occurred on the dried moraines and meltwater areas in front of the glacier in Fortuna Bay. On completion of filming, the team returned to base camp via the same route.

The team were extracted on the morning of 27th November via zodiac back to the Vavilov that then set sail immediately. The extraction was routine.

**SAFETY PLAN**

The safety plan for this expedition was robust and adhered to at all times. In accordance with the plan, the Team adopted a very conservative approach. Although the original expedition aim was to complete the full Shackleton traverse, the main goal in fact was to gather footage of the retreating glaciers along Shackleton’s original route and film places of significance to his story.

In accordance with the plan, as weather conditions were deemed unsuitable in the interior of South Georgia for the time window of the planned traverse, the Team changed their itinerary to the 4 shorter visits ashore as outlined in this report. This ensured the safety of the Team while enabling the Team to capture the footage required.

**ENVIRONMENTAL PLAN**

The impact this expedition had on the environment was very minimal with our footprint being kept to a minimum at all times. All the rules laid down in the visitor to South Georgia guidelines were met, with great care being taken not to leave any sign we were there. All waste and rubbish was removed by the expedition and carried out on the Vavilov as planned prior to the expedition. The wildlife encountered was respected at all times and our distance was always kept. Tim Jarvis is very keen to ensure that the environmental impact on South Georgia over the last 100 years by both man and global warming is highlighted in order to support the good work the GSGSSI authorities are doing to combat these issues.

**SUMMARY**

The Thin Ice project set out to achieve its objectives of documenting the decline of South Georgia’s glaciers along Shackleton’s original route. Due to forecast bad weather, the Team adjusted their original plans for the project that would have prevented them completing the Shackleton Traverse in one continuous period. As such the project was divided into 4 discrete trips ashore:

* A day spent on the Murray Snowfield and the Shackleton Gap on 21st November;
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The Thin Ice team are grateful for the support they received from the GSGSSI and for the opportunity to visit this incredible wilderness area again.

For and on behalf of the Thin Ice Team

Tim Jarvis

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