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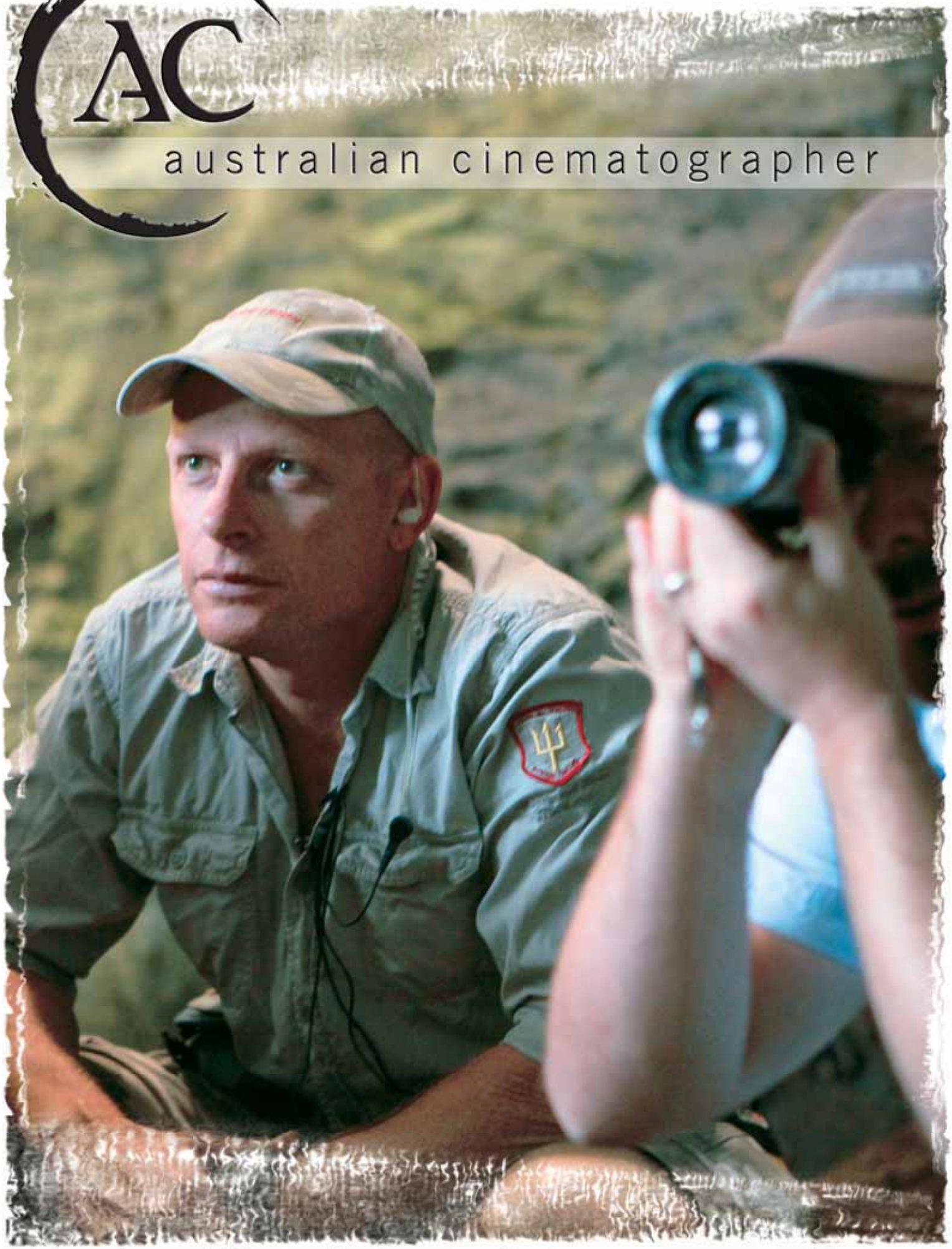
AC australian cinematographer



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ON SET

SANCTUM

DIRECTOR OF PHOTOGRAPHY JULES O'LOUGHLIN ACS

So, by now you've had some time to recover from being bombarded with the visual assault of awesomeness that James Cameron and Mauro Fiore ASC splashed across our cinema screens in all their 3D glory. There is no doubt that with the release of *Avatar* filmmaking has stepped up a gear and cinematography has entered the realm of science so technologically advanced that it gives us mere mortals a headache just thinking about how all these new toys work!

Jules O'Loughlin ACS. Photo Jasin Boland

With the recent release of big budget features that have decided to jump on the stereoscopic bandwagon, filmmakers and filmgoers around the world could surely hear James Cameron utter the words "You're doing it wrong." So it's reassuring to know that there are films being shot to meet the criteria of a newly-coined phrase True 3D, instead of employing mouse pushers to fill the void.

With that, Queensland has played host to James Cameron's newest project, *Sanctum*.

The story revolves around a diving expedition to explore some of the most remote and undiscovered underwater cave systems in the world, where the divers not only try to fumble through the pitch black of the abyss, but also battle the elements as Mother Nature bears down upon them. Aussie cinematographer Jules O'Loughlin ACS was the man given the challenge of shooting this ambitious 3D feature on a tight budget and an even tighter schedule, as he teams up with director Alister Grierson again.

"Shooting 3D in 2010 is a little like making a movie with the Lumiere brothers – we're at the pointy end of this new drive in stereoscopic movie making so the technology is at times very temperamental. It's a real journey of discovery," said Jules, speaking about the new 3D technology. "I spoke to Jim Cameron about two weeks before we started shooting and asked him how much time we could expect to lose with technical issues, issues relating purely to the 3D camera systems, and he said at least an hour a day, if not more. Well the beginning of the shoot was in that ball park but as the shoot has progressed, that time loss became less and less as we've discovered the issues and learnt to deal with them."

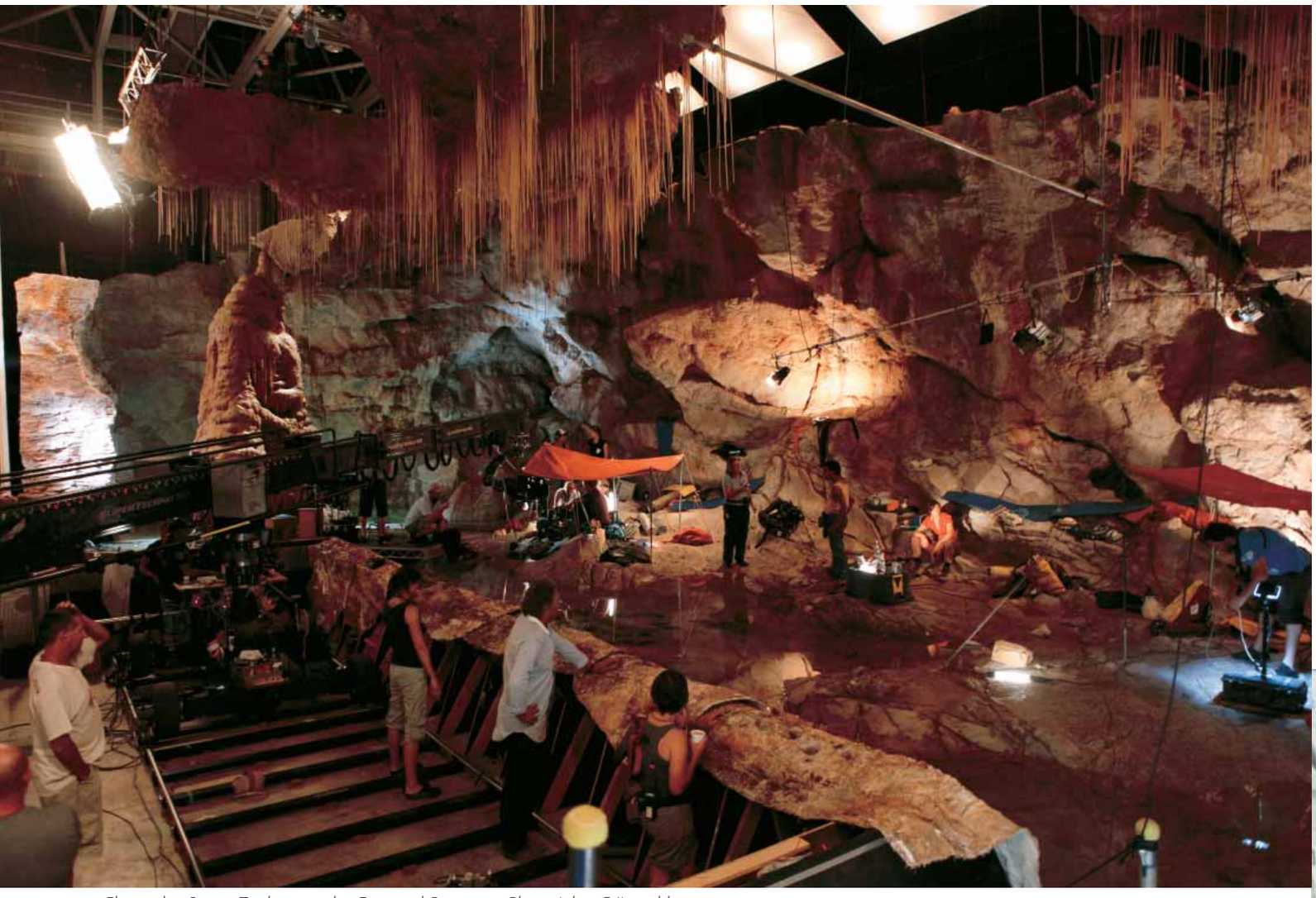
Producer Andrew Wight came to the decision that *Sanctum* be made in Australia with an Australian director and Australian crew. In his search for an Australian director Andrew met Alister Grierson and watched his first feature *Kokoda*. Andrew then sent *Kokoda* to James Cameron who after watching it was so impressed with the potential of this first-time director that he flew Alister over to the set of *Avatar*. When Alister arrived and saw all of the 3D technology at work, he suggested that they fly Jules over as well. "We had about four to five days on the set of *Avatar* and spent a lot of time with Jim. For a guy who was directing a $200m film, he was very generous with his time. Jim gave us the seal of approval and subsequently he has given us a lot of support and encouragement as well as a lot of freedom," explained Jules.

The 3D rigs on *Sanctum* were designed by Vince Pace and James Cameron and used on the film *Avatar*. They are the Cameron/Pace Fusion 3D cameras. We used two different configurations of these 3D rigs as well as a side-by-side rig on *Sanctum*. - the newer fusion beam-splitter F950 rig for dry work and the 950 side-by-side for underwater work. "The technology we are employing is new and it's cutting edge and with new technology comes a lot of teething problems. Many of these issues will get ironed out and due to the massive interest surrounding 3D moviemaking it's going to happen very quickly. We're at the crest of the wave, so to speak, and that wave is about to break," said Jules. "Jim Cameron had a lot of the same issues that we're dealing with, but I'd suggest that we've put these cameras through much more rigorous conditions than *Avatar* did – we've taken them underwater, we've had waterfalls pounding on them, massive amounts of water spray, extreme heat, humidity, fire, really rigorous handheld, aerial work, the lot - we've really put these cameras through the wringers."

The new beam splitter camera involves two F950 heads, with one mounted vertically bouncing off a 45° mirror and the other mounted horizontally shooting through the mirror with the main bodies of the cameras tethered to the head via fibre optic cables. "We have the ability to reduce our Interocular (the distance between the lenses) to zero if need be and the capability to pull IO and convergence dynamically in shot. Our A Camera, which has the vertical camera top mounted, is mainly deployed on the Lev Head with the 50ft technocrane and our B Camera, which has the vertical camera underslung, is ideally suited for steadicam or handheld. With the side-by-side rig, you're limited by the physical size of the lenses sitting next to one another so we're limited to around a 63mm IO. It's the Interocular that determines the 'Z-Space', which is the strength of the 3D effect but it's a balance of IO and convergence along with the composition of the shot that determines the quality of the stereo.

"I've been really impressed with the image quality of the F950s. I was a little bit worried about them early on because it's older technology, but it's been really good. I love film. All the features I've done previously have been on film because I just love working with it and I love the look – so I had my concerns about HD, especially using these cameras, but they've been outstanding. "Considering about 90% of *Avatar* was shot on the F950 cameras, and Cinematographer Mauro Fiore ASC managed to pick up the Academy Award for his efforts, there is something to be said for High Definition acquisition. I rated these cameras at 320 ASA, so for underwater work it's in the ballpark. With the beamsplitters, however, you lose a stop of light with the mirror so I'm now working with 160 ASA, which is a formidable challenge with this type of film. Most of this film is set inside a cave lit by head torches. It's a low light film shot with a big light camera. Balancing the look with the budgetary implications of 'more light' was a challenging dance both technically and creatively."

With two months of pre, there was surprisingly little time for camera tests. "We only got the camera gear very late out of the States, as there was a whole bunch of issues. The first time I had two functioning 3D cameras was 5:00 PM on the night before we started shooting. It came right down to the wire. A lot of the camera testing time involved simply getting the cameras to a functioning state."



Flying the Super Techno on the Forward Base set. Photo Jules O'Loughlin

Most of the shoot took place at Warner Roadshow Studios on the Gold Coast, where they had the use of two sound stages and the main tank facility. "It was very important to me that we had a very realistic look. As one of the first real live action drama productions to be shot in 3D, if not the first, Alister and I think that the film will have more impact if we stay away from an overly stylised treatment and give the film a feel more centred on realism. I term it cinematic realism. In addition to this, our 3D treatment should immerse the audience in the story, not thrill them with cheap 3D gags. This overall style is dictated by our desire for the audience to truly believe they are in a real cave system, not a movie set. To steal a Cameron phrase, we want to blow the audience through the back wall of the cinema!" Jules continues, "William Blake was the painter that signified for me both the colour and the tone of the film – so it was auspicious that I had all of this William Blake reference material and when I got to the production office in Queensland and was meeting with our scenic artist, Stephen Sallybanks, who is painting our cave sets, he had a William Blake book sitting in his book shelf. So I thought he must be the guy."

Speaking about how one lights a pitch-black cave in a realistic fashion, Jules explained, "All the light is motivated by what these characters take into the caves. This story is essentially a survival story about cave explorers trapped inside a cave system but at its heart it's a story about a father and son reconciling their broken relationship under extraordinary duress. When the cave floods and they are trapped and then forced to move deeper into the unchartered reaches of the cave in the hope of finding a new means of escape, their light begins to die. They start with generator power and HID lights and head torches and end up with only a watch light. Not only is *Sanctum* a physical and mental journey but it's a journey of light." Talking about some of the techniques he used to light the cave, Jules explains, "Through a lot of this shoot I've had 5 to 6 electricians on the floor with 24volt batteries on their backs wired to handheld par cans and using these bounced off small silver, gold or white reflectors. During a shot I would communicate to them over the radio about the growth, decay, direction and level of their individual lights as our characters moved through the cave sets. I've used the same techniques in the underwater work. It's been a very complex choreography of actors, cameras and electricians. Like our characters and like the cave itself, the light is constantly moving, and changing and driving the narrative. My Gaffer Peter Bushby and his team have done a marvellous job."

Speaking more about reference material for the film, Jules went on to say, "*Deliverance* was a reference film for us, because it's a film that is very cinematic, but it's also very real – you really do feel like you are with these guys on the river. Also *Silence of the Lambs* as far as camera movement and point of view. What's inside the frame – and then posing the question 'what is outside the frame?' and 'where is this frame taking us? - We didn't want to start a scene in wide, we wanted to start it in close and develop it and take the audience on a journey, not just in the confines of the story, but also with the camera." Jules said, "It's been a huge creative challenge, not just with the 3D technology but also with lighting a cave. "

Underwater shoots are notoriously slow – and with a combination of the limited budget, schedule and a new technology with a reputation for throwing a tantrum, everything about *Sanctum* suggested it was doomed to fail. "It's been a combination of a very clever director and an outstanding crew that we are still on schedule – we've never fallen more than a day behind which is pretty remarkable on any film, let alone a big film using this type of technology."

In addition to the tank, two of the sound stages were also utilised. "A lot of the set pieces have been recycled, but we've tried not to shoot the same cave set for a different location - so it's always been a concern - will one section of the cave be recognised when we return to it again." Jules continues, "Filmmaking is all about trying to stretch things, being clever with the resources you have. While this film has a $30million budget, at times it feels like a $10million budget. Money has been really tight but at the end of the day we have to deliver a film that looks $30m." With the film's original schedule cut from 70 days to just 60 days, it was always going to be a tough call to get the film shot on time. "Even if we were shooting 35mm this would have been a really tight schedule. So the problem is, if you lose an hour or two hours on a day because of a technical issue, you have to make that up somehow. On top of this we were piggy-backing stages and the schedule was super tight about when particular sets were finished and when we had to be on them shooting. We had to shoot that set out while another was being built and once done it was torn down or reconfigured to start another. There was no going back. We were constantly moving from one stage to another and I was lighting those sets when the paint was still wet. Rip shit and bust the whole time. Throw in the 3D and you now have a life-threatening scenario. Love it!"

Jules O'Loughlin ACS and Alister Grierson prepare to dive in the Main Tank

The Cauldron Set. Photo Jules O'loughlin

Operator Greg "Mango" Gilbert with the underslung Beamsplitter

We used two operators when shooting in the studios - A camera and Steadicam operator Greg 'Mango' Gilbert and B camera operator Ian 'Thistle' Thorburn, who was also responsible for Second Unit, and Simon Christidis the underwater operator. "[When in the tank] Alister and I dive the set every afternoon with Simon Christidis and talk through what we're going to shoot on the night. We then go top deck and gather around a model of our set with actors and crew and Alister talks through the night's work. With the help of small LED lights I then brief my underwater lighting team about the placement of lights and the type of quality and movement I required with those sources. The team then descends and Alister and I work from a monitor station, he with an open com system and me with an aquacom system with the technicians. We also communicate to Simon any changes to shots. He's very clued in to what we're after, which is great because we pretty much call the shoot from behind the monitors."

The set of *Sanctum* boasted a room, affectionately referred to as 'The Pod' where renowned stereographer Chuck Comisky spends his days watching 3D feeds from the cameras. "Chuck is probably the most experienced stereographer on the planet, so we're really lucky to have him," Jules explained, "He worked on *Avatar* and a whole bunch of other 3D and 2D films. In fact, he gave Jim Cameron his first job on a Roger Corman film. Chuck is totally clued in to how we want to shoot this picture with respect to the 3D so he watches our set ups and rehearsals and calls the IO through to our IO pullers. He knows we're going for immersive 3D not gimmicky 3D. We're really shying away from the gags, stuff flying off the screen towards the audience."

"You have to understand the technology that you're using. Whether it's 16mm film, 35mm film, The Genesis or the Fusion 3D camera system – once you know the limitations of the camera system and what it's capable of, then you work within the limitations of that camera. By all means push it to its limits but you've got to understand what you're working with. This is a very dark film, but there is another side to things, and that's the 3D. The 3D adds a whole new layer to the grammar of the filmmaking."

Sanctum is set for theatrical release on March 3, 2011.

Taking a meter reading next to the A Camera with Lev Head