



# Filming the unearthing of an ancient Pliosaur skull on the Jurassic Coast

**Joseph Hassell** captured the dramatic excavation of an ancient sea fossil on a sheer cliff for the BBC documentary, 'Attenborough & The Giant Sea Monster'.

## By Joseph Hassell

In July 2022 on Dorset's Jurassic Coast, fossil hunter Philip Jacobs was scouring a remote beach when he found something extraordinary: the snout of an ancient pliosaur. His find became the catalyst for an incredible undertaking, and a hit documentary.

Philip's find was a 50kg lump. It lay in a cove West of Chapman's Pool, only

accessible by foot and at low tide. The Herculean retrieval was given over to friend and expert Steve Etches, founder of Kimmeridge Bay's highly regarded palaeontological museum, The Etches Collection. Steve and staff strapped the fossil to a hastily modified ladder, carrying it a kilometre over unforgiving terrain to a four-wheel-drive truck. Instantly recognising its significance, Steve determined where in the cliff the snout had tumbled from and swore on the spot to dig out the rest of the skull, come what may.

The skull, if intact, lay halfway up a sheer 30m cliff; an exposed South face of sedimentary marine clay, eroding continuously, prone to slips and frequent rockfall. Here, some 4km East of Kimmeridge, the only terrestrial access

cut through a private estate, via steep, deeply rutted tracks. There was zero mobile phone coverage, no access to power, no shelter, nor shade. Given the location, Steve's pledge was more than ambitious, it was visionary.

## Opportunity knocks

News of the discovery was kept secret but for a select few. Paul Williams, self-confessed 'fossil-nerd' and producer at Bristol's BBC Natural History Unit (NHU) was one. Seeing the potential for a documentary, Paul shared the news with trusted development colleagues and the NHU began immediate discussions with Steve.

Determined to begin immediately, before autumnal weather made the unstable cliff



'Joseph Hassell films a close-up shot of Steve Etches.'

impossible, Steve would go ahead whether the BBC was ready or not, leading the NHU to take the unusual risk of filming Steve's dig without a greenlit commission - a potentially costly gamble. Even if the rest of the skull was found, could it be safely removed? No one knew. Undaunted, senior exec Mike Gunton chose to proceed. Suddenly, series producer Tom Jarvis and development exec Victoria Bobin needed to deploy someone to Dorset within a week.

More 'ob-doc' than 'blue-chip' at this stage, Tom was after a confident director with a good eye, adept at building trust with contributors, and no fear of heights. I was in Scotland, just wrapping a shoot that Friday evening when my phone rang; was I available on Monday? I couldn't believe my luck. I'd have just four days in the NHU office to absorb existing information, carry out further research, plan and equip. The more I learnt, the more fascinating it became.

Although I got my start in the NHU, latterly as a freelance shooting-producer-director broad interests have led me to film a wide array of subjects, travelling the

world filming architecture and medicine as well as wildlife. Some jobs, like climbing the Forth Bridge, abseiling off Rievaulx Abbey, or dangling above Cheddar Gorge, have involved ropework. For one BBC series, a career highlight, I spent six months 'embedded' night and day with the Royal Navy's 771 SAR squadron, flying and filming potentially hazardous, frequently serious helicopter rescue missions on land and sea. While I don't consider myself intrepid, I can work in settings others wouldn't be comfortable in, including a cliff face.

### Safety first

Location made safety paramount. In his hurry to get going, Steve had fortunately already engaged renown rope access specialists Tim and Pam Fogg, who've coincidentally worked on numerous NHU films. With their participation risk would be well mitigated. With Tim's advice, and my input, producer Johnny Gray pulled long hours on my behalf, drafting a thorough risk assessment. But a major headache arose. Although some of us had suitable (in Tim's case, numerous) emergency

medical qualifications, they were expiring or due for renewal. BBC Safety rightly insisted we hire a medic. Despite best efforts, *nobody* had availability.

At the very last minute, Emira Kursomovic, a consultant anaesthetist friend of Johnny's wife volunteered as our overqualified physician. Emira's 'busman's holiday' salvaged the entire enterprise; without her, the shoot wouldn't have happened.

### Kit & caboodle

Without a commission, there was no budget, just an urge to minimise departmental spending. Shooting in 4K wasn't a given, but my suggestion was agreed. Lobbying for a sound recordist was initially challenging, but soon persuaded of the false economy of going without, the brilliant recordist Sean Millar was hired.

The ideal camera package would be compact and light, without compromising quality. What I hastily set-off with wasn't it: Sony PMW-F55 camera; Arri Alura15-45 zoom, for cliff work; 85mm Arri-Zeiss Ultra Prime lens, for considered interviews; Canon CN7 17-120 zoom, for anything else. Classy glass, but not lightweight. Rigged for the cliff, the camera weighed over 10Kg which wasn't ideal. As a back-up, a tiny prosumer Sony PXW-Z90 camcorder came too, along with an array of Go-Pro's and assorted mounts.

I loved the focal range and image quality of the Arri Alura and form factor of the Sony F55, but after schlepping it up the cliff face just once Tim deemed it too hefty to be hauled up and down each day. Reluctantly, I had to switch to the 'emergency use only' Sony PXW-Z90. The tiny camcorder produced a surprisingly good image but had serious limitations, including field of view. If the adage regarding 'the best camera in the world' is true, the Sony Z90 in my hand was now it. Until the weekend, anyway.

For the long-term replacement I chose the Sony ILME-FX6-V with G-Master 16-35 and 70-200 zoom lenses. Although a more physically practical choice, I did miss the Arri Alura's longer and wider focal range. The compromises were compensated for by the Sony FX6's low weight and eye-tracking AF system. As I had with the F55, I fitted the FX6 camera with a lanyard, connecting it via a karabiner to a Petzl 'Shunt', a spring-loaded friction device attached to my rope above me. With this system the camera is suspended, and pulling against the lanyard creates stability through tension - and if dropped, the camera will hang there. Unlike the 'shoulder-perfect' F55, the Sony FX6's form-factor meant holding the top handle, and/or cradling it from below, and using

the LCD monitor without its loupe. I prefer a viewfinder, yet the FX6's LCD isn't awful in sunlight. Also, its small size allowed for close-up work that would have been physically tricky to accomplish with anything bigger. If I were to recommend a camera for a similar job, the Sony FX6 would likely be it: lots of features in a sensible package.

## Roped in

Heading to Dorset I wondered whether Steve's 'gruff' reputation was deserved or hyperbole, and how I'd fare filming him at close quarters in the weeks ahead. Our introduction coincided with a comprehensive rope access course for his team, run by Tim and Pam Fogg. Accompanying Steve were close friend and fellow expert Chris Moore and his son Alex, and museum media manager, Ash Hall. None had previous rope-access or climbing experience. For some it would prove challenging, but not for the irrepensible Steve.

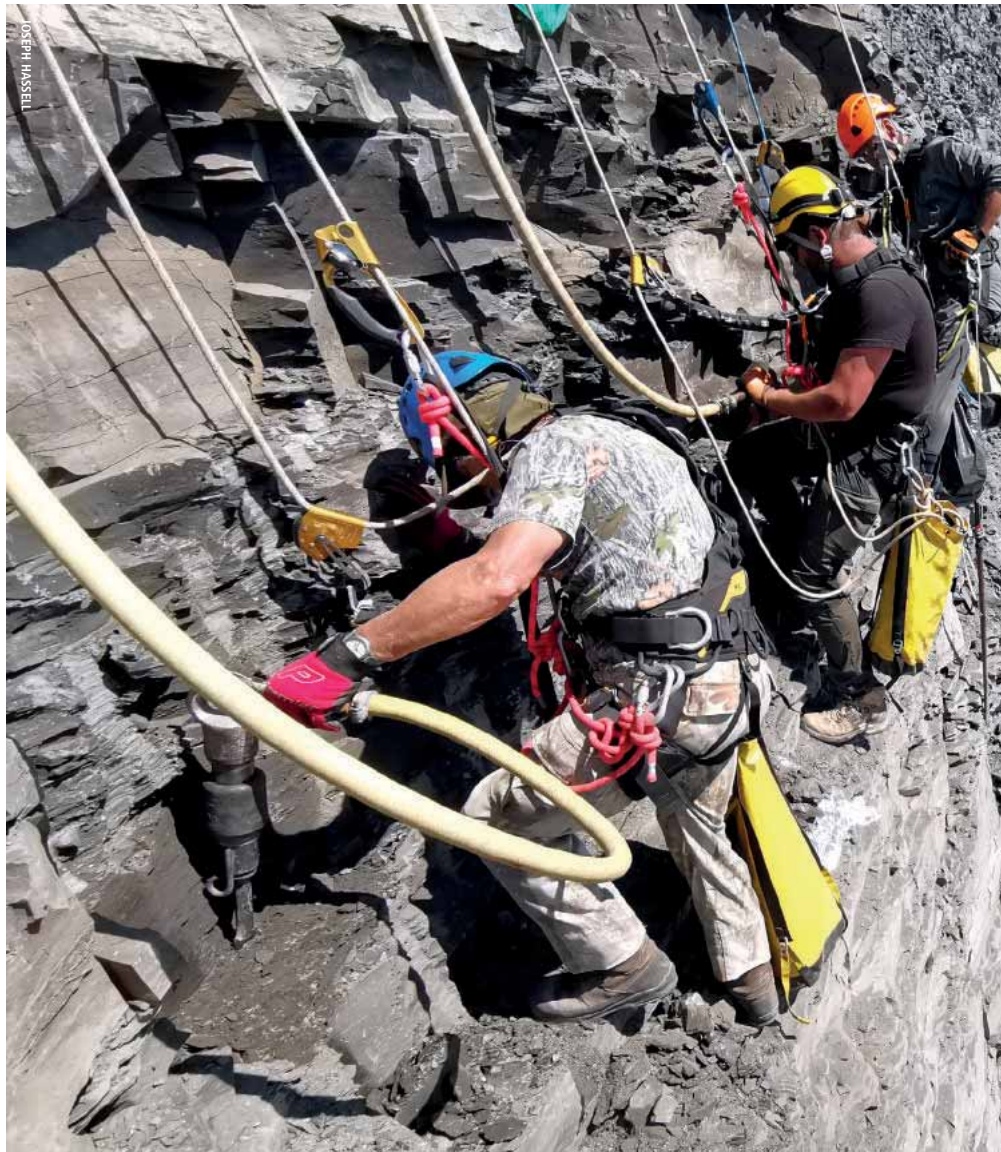
I wanted to capture the warmth and humour beneath the wiry 72-year-old's irascible façade. Entirely self-taught, Steve had evolved from plumber-cum-fossil-hunter to revered expert with honorary doctorate and CBE. My job was to reveal his character, the diamond in the rough; a mischievous, brilliant bloke of exceptional knowledge, courage and determination whom I came to admire enormously.

## Vertical learning curve

It was early August, and sunburn and heatstroke were added concerns on the cliff. Tim ran a safety briefing, as he'd do every morning henceforth. Alistair Rickman, ex-NHU Safety Lead and expert climber joined us. Donning harnesses, helmets and weighty hardware we waddled off the path for the first time. To mitigate rockfall, the safety team had netted the cliff above the dig site, so we'd abseil each day from a promontory further East.

My kit was pulleyed down, slowly. Once down, all kit and tools had to be carried 50m along the pebble beach to the face. Here, ropes anchored by steel spikes well beyond the cliff edge hung down. Unlike recreational climbing, we ascended these 'fixed ropes' not the face itself, using a Prusik technique whereby one's right foot 'stands' in a stirrup-like loop of rope, and one climbs by sliding a friction device up the rope, moving right hand and leg in synchronised steps. It takes practice, coordination and effort. Some, like Steve, find the rhythm easily, going up like a rocket. Chris Moore *didn't*, provoking cheeky 'encouragement' from Steve.

My camera bag was winched-up to my



'Tim, Chris, Alex and Steve guide Rob's sled into place, inch by inch.'



'Steve Etches and Alex Moore start work under Tim's watchful eye.'

position, and that first arduous, time-consuming process marked the end for the Sony PMW-F55 before I'd shot a thing. From leaving our vehicles to all four of us getting into position took an age that first day but would soon improve. We'd climb 15 metres, two to four times a day, five days a week.

Steve and Chris got their heavy pneumatic tools operating, breaking open the cliff, their air lines hanging down from a compressor above. Despite the netting overhead, if the lines or ropes were dragged across the face we'd be showered with small rocks – a lesson soon learnt with loud 'pings' off helmets.

We'd haul everything needed for the day down to the beach and take water and snacks up the cliff with us. But for a proper break and lunch, we'd descend again. Of course, eating and drinking lead to other needs. We could dart round the headland, fiddle with the harness and go 'in situ' or

take a half-hour round trip back up the cliff to a horrible, rented porta-loo, which I'm thankful I never required.

### Sir David's day

David Attenborough is a lifelong fossil collector and enthusiast, and as soon as he'd learnt of the discovery, he wanted to see it for himself. It was only our second morning, but one of the most important of the entire shoot. David would've been delighted, as would we all, if he could have scaled the cliff to inspect the work in situ, but at 96, he had to make do with a live feed from me. That is, if it worked. With the Sony F55 banished from the cliff, I was temporarily reliant on the Sony PXW-Z90 camcorder.

Extra colleagues came for the day, including producer/drone pilot Louis Rummer-Dowling, director Sally Thomson, and cameraman Robin Cox. Location assistant Zac Dyer came to back-up rushes,

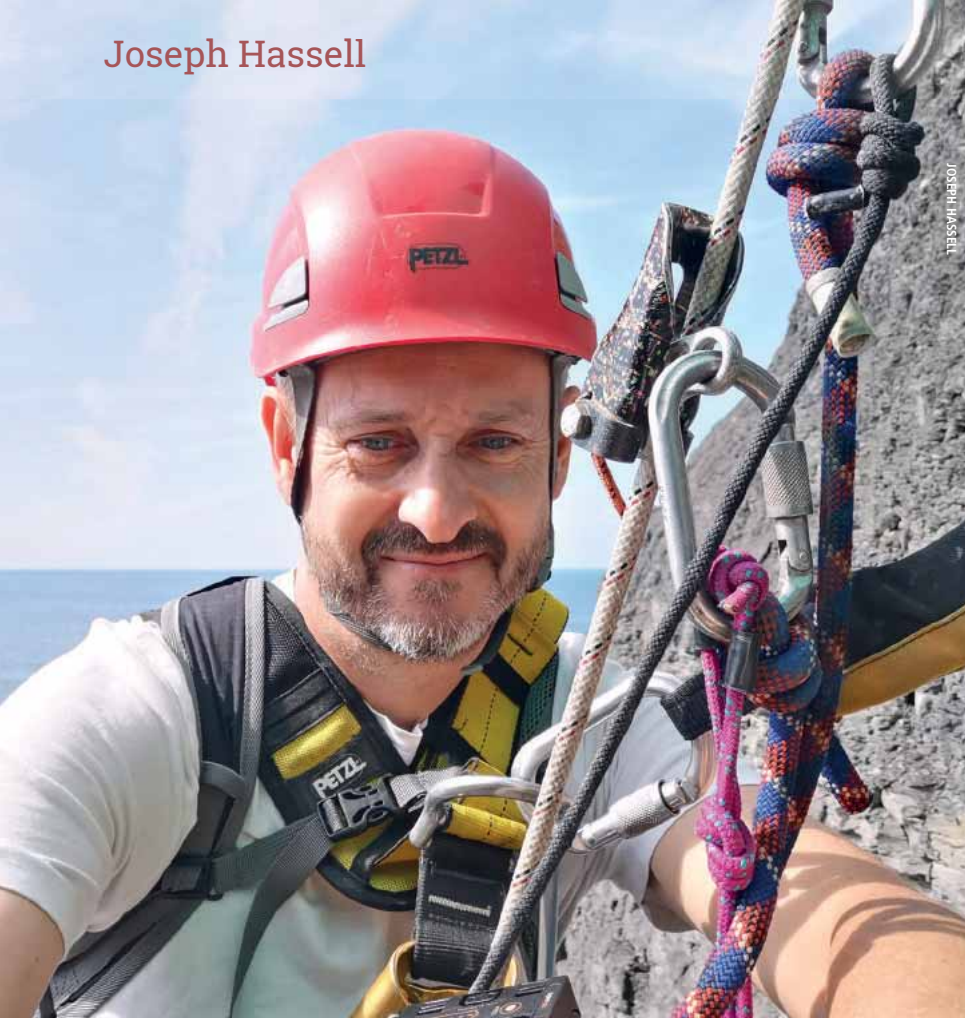
and proving invaluable, stayed on. Sally oversaw clifftop operations, where we'd set-up a large field monitor in the back of a Land Rover. Chris Moore, glad not to be on the ropes, joined David on the tailgate to discuss the work as it would (hopefully) unfold on screen. Fortunately, the picture from the tiny PXW-Z90, delivered via a monstrously long BNC cable, held up and David marvelled at the lengths Steve was going to.

With the sequence finished, I raced back from the cliff to the museum, joining Robin to cross-shoot David and Steve examining the snout fossil. I readied the F55 camera again while snatching bites of an overdue sandwich. It was only after we started rolling, while on close-ups of David, that I realised the Canon CN7 I'd just attached wasn't holding focus. In all the recent haste and long hours, I hadn't tested the back focus. My mind flashed to times I'd taught inexperienced colleagues of the need to check lenses after travelling and *before* use. I'd have to eat my words this time. I was forced to work hard pulling focus, but mercifully kept the image sharp. It's never happened to me before, and never will again; a cautionary tale for all.

### Stormy weather

The work of breaking open the cliff was deafening, filthy and physically demanding. Slowly, over the course of several weeks, the pliosaur skull was revealed, bit by bit. Chris became increasingly comfortable with the rope work and height. His son Alex put in some huge shifts, bringing down many tonnes of rock. Slowly, a deep crevice emerged, the inverted skull comprising its floor. Soon there was room to leave the pneumatic tools in situ each night, a welcome respite for the team.

The camera kit, of course, still had to be hauled down, along, and up at the end of each day, which despite having become slightly lighter never became any quicker. That is, except for August 17th, when the sky became threatening. By late afternoon thunder clapped overhead and lightning flashed offshore. Immediately Tim ordered everyone off the face. Wet ropes anchored to large steel spikes make the ideal conductors for a potentially lethal strike. I wanted to film the team making their retreat and so with Tim hurrying me, he and I were the last down. The heavens opened and there was little to do but shove kit into dry bags or cover it with tarps, doing what we could to shelter it and ourselves from the deluge. Getting off the beach became decidedly tricky, the Kimmeridge Clay like slick mud. The previously dry gully above our exit was filled with a torrent



JOSEPH HASSELL

'My homemade (pink) lanyard suspends the camera from a Petzl Shunt via karabiner.'

from the hills beyond, and what had been a mere trickle adjacent to the route became a raging waterfall. We could only escape one at a time, so I gathered shots of the newly formed cascade as Steve and Chris clambered out. We were dripping and bedraggled, but at least we'd avoided electrocution, or a landslide.

## Diy, dorset style

After a month's work, the crevice became a two-metre deep 'cave' exposing the entire lower jaw. Eons ago, the gigantic animal had drifted to the sea floor, belly-up. With the skull hidden beneath, Steve and Chris began the delicate task of undercutting the slab, in readiness to attempt extraction. If intact, as hoped, the mass of the huge fossil would easily exceed a tonne. Every option, from airlift to hovercraft was discussed and abandoned, largely due to expense. Taking a more cost-conscious approach was the only reality. Step forward local farmer and self-taught engineer Rob Vearncombe.

Rob, it transpired, can turn his hand to anything, producing an extraordinarily elegant and cost-effective solution to a hitherto impossible problem. He designed an ingenious 'self-levelling-steel-cage-on-skis' and filming him weld it was like visual playtime, and a break from lens cleaning every few minutes on the cliff.

## Moment of truth

Local volunteers equipped with heavy machinery mustered early at Rob's farm, and our team grew too. Camera operator Charlie Stoddart would shoot aerial coverage and second camera on the clifftop. The brilliant James Shearing had since taken over from Zac Dyer as DIT-cum-everything; he'd shoot third camera.

The assorted tractors and trailers were fairly dwarfed by 'the slew'; a forty-five-thousand-kilo long-reach tracked excavator, the operation's lynchpin. As the procession crept over the Dorset hills we captured the scene from the air. Having devised the exit strategy, Rob marshalled the troops as if born to it. Following an in-depth safety briefing, we all assumed our respective positions. This was it.

I deployed to the beach, as Steve, Chris, Alex and Tim guided the sled into position from the shore using a system of ropes and pulleys that Tim rigged, cleverly anchored by two one-tonne dumpy bags filled with shingle. Very slowly, the sled began its journey down the slope towards the cliff. The scaffold bar fixed to protect the lines and ropes running over the edge bent like a paperclip as the 500kg sled ran over it. I captured the moment the ten-metre-long skids went over with bated breath; they tipped from horizontal to vertical but, just

as Rob planned, the ply-lined cage remained perfectly level.

As the sled inched down the face, keeping it aligned with the fossil was essential. There was tension in more than just the ropes as the team wrestled with the sled. Steve's angst seeped through the lens with each soundbite I requested. A crossmember between the skids came within a hair's breadth of smashing the slightly protruding fossil. Tim barked into the radio. Everything stopped. Hearts were in mouths. The team put everything into it and lifted the front of the sled off the face, over the fossil, clearing it by just an inch. An inch was enough. The sled was in place.

I'd almost got dizzy panning handheld between the team and the sled, trying to capture every unrepeatable moment, but for the next stage I could shoot on sticks and the longer lens. Steve and Alex, watched over by Tim, climbed to the fossil site. I'd rigged Go-Pro's on their helmets and inside the sled to capture the close-up action, while I gathered angles from below.

Rob designed the container's door like a drawbridge to meet the fossil where it lay and added a winch motor at its rear. With a bit of brute force from Alex, a padded sling was placed encircling the fossil, so when Steve engaged the winch, the slab slid into the container like a one-tonne hand in a plywood glove. It was completely intact. With the trio safely back on the beach, the sled and its precious cargo were carefully hauled back up the face.

It had been twelve hours since we'd set out that morning, but barely five weeks from when work began. With the sled cresting the slope above the cliff I positioned Steve and Chris for some poignant closing comments, relaxing among tall grass bathed in soft evening light. *They'd done it.* To realise Steve Etches' dream was a truly heroic effort by everyone involved, and a privilege to film. For Steve himself, painstaking months removing millions of years of sediment from the skull lay ahead. My part in recording his exploits was at an end, but with the dig safely in the can, a commissioned co-production was all but guaranteed. *We'd done it, too.*

Article by Joseph Hassell.  
*Attenborough & The Giant Sea Monster*  
is available on BBC iPlayer.

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