

Quest

The Journal of Global Underwater Explorers



Vol. 25, No. 1 – February 2024

**PHOTOGRAPHER
PORTFOLIO:
VANESSA MIGNON**

SAMPLE

NEPTUNE'S TRAMCARS

19th Century Belgian steamship identified after 125 years

CAVE EXPLORATION 101

Tips and tricks for effective and safe survey strategies

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GUE's strong commitment to exploration and conservation sometimes requires high-tech tools such as submarines.

showed the degradation in water quality in a way that scientific measurements, data, and graphs never could. In light of this process, at least once per year. Many groups, consistently perform more elaborate documentation, further educational programs, such as GUE Documentation and Science Diver curricula. All these efforts, small and large, lead to a growing body of data that means changes to the environment that are often much easier to observe. This process and the resulting data support public awareness and the development of more sophisticated measurements where appropriate.

As a steadily growing initiative, more than 100 Project Baseline divers, under the banner of Project Baseline, are now active around the world in environments ranging from coast to tropical reefs and from shipwrecks to freshwater lakes. They also online meetings take place, coordinated by Project Baseline staff and volunteers who share their support each other in their global endeavors. Divers have also started to visit other projects, enjoying the friendship and hospitality of their teams while sharing resources and expertise on all things Project Baseline is GUE initiative but remains open to all divers, or even non-divers. As a volunteer endeavor, this project has many important roles to fill, whether that means taking documentation of the water's surface, acting in a supporting

an ambitious project, including a diving vessel and two submarines, able to operate to 300 m/1000 ft. With these assets, GUE spent the next two years in Florida and conducted the book a multi-site project that began in Florida and concluded in the Mediterranean. The vessel began her journey in Florida and sailed to the Bahamas, where participants could take on a variety of ecological and cave survey projects. The Project Baseline initiative then set sail across the Atlantic Ocean for the Azores to continue along the coast of Portugal, engaging with existing deep-sea research crews already underway for several years. All projects already underway with the University of Algarve in Portugal and to conduct more deep-sea survey work. This effort who were able to quickly assist themselves with the other divers, organize themselves into teams, and create project level with little or no preparation, after Portugal.

GUE loans made this way into the Mediterranean, where divers visited contemporary and ancient shipwrecks, culminating in the exploration of a 2300-year-old trading vessel off the coast of Sicily. GUE maintains a close relationship with the Italian military known as the Sestriere, and supports archaeological conservation initiatives across Italy. In this case, GUE divers were able to recover 16 artifacts from 130 m/360 ft. These artifacts included a range of amphora alongside one of the most exciting finds: an ancient coin hoard used for sacrifice by marauding fleets; an ancient coin hoard used for sacrifice by marauding fleets. GUE also accumulated a wealth of documentation, including video and hundreds of images, ultimately producing a full-scale digital replica of several dive sites, thereby developing

45 YET, THE SIMPLEST TOOL OFTEN PROVED TO BE THE MOST POWERFUL: TWO PHOTOGRAPHS, SEPARATED BY 10 YEARS.

RELIANCE UPON ARBITRARY RULES WHEN DETERMINING IMPORTANT PARAMETERS SUCH AS GAS PLANNING IS A RECIPE FOR DISASTER.

Get the most out of your diving gear with this comprehensive manual.

THE CAT FORMULA
CAT = C (consumption) x A (average depth) x T (time to surface)

CAT Formula example
Planning a recreational dive to 30 m/100 ft, while using a 12-liter tank filled to 220 bar. What is the SAC needed for this dive?

Metric
C = 40 Liters (20 Liters x 2 diver)
A = 2.5 ATA (30 meters ÷ 12 = 2.5 ATA)
T = 11 minutes (2 times from 30 m plus one minute at depth)

Imperial
C = 40 Liters x 2.5 ATA x 11 minutes = 1100 Liters. In their 12 L tank to safely reach the surface while sharing from one cylinder.

Read and prepared for this eventually will likely respond more comfortably. The GUE system focuses on helping the diver in late a safe rescue. Even if the out-of-gas diver remains calm and first breath is guaranteed to be an effective one, as it comes from a diver was just breathing from.

The first part of our regulator configuration is the direct feed to the wing inflator. This hose should be an appropriate length to match the compressed hose on the wing itself. In a double cylinder configuration, the hose is fed from the right post first stage. In the event of a leaking or free-flowing inflator, divers can shut down that valve with their right hand, and since both the compressed hose and the rear wing dump are on the left, divers can use their left hand to dump gas.

SINGLE TANK/DOUBLE TANK - SAME CONFIGURATION
The single tank diver and the double tank diver have exactly the same regulator configuration. The pressure gauge memory and favorably low airway pressure in the water manual is front of the diver on either what type tank is used.

The drysuit will also need a direct feed. This comes from the left post regulator and runs under the left arm and across to the back, or divers in cold water, a dedicated drysuit inflator hose used. Given the lack of a second stage to feed the drysuit inflator, the first stage requires an over-pressure valve, if the pressure builds. Nothing else is required on the regulator.

Finally, the submersible pressure gauge, or SPG, comes from the left post regulator on a 56-62 cm/22-24 in hose and is clipped to the hose near to the SPG. The SPG is fed from the bulkhead port to enable divers to gain some information about the value of their valves. If divers plan to check their SPG approximately

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EDITOR'S LETTER

Never stop exploring

This edition of *Quest* is dedicated to the spirit of exploration and delves into the tools, training, and mindset essential for the successful execution of exploration activities in challenging environments.

In his article on page 42, Kees Beemster Leverenz celebrates a significant milestone: the first GUE Technical Diver Level 3 course in many years. The Tech 3 course has long been an aspiration, with only a few conducted in the early years of the organization. It's fitting that the inaugural revamped Tech 3 course took place on the *Britannic* in Greece, a wreck intertwined with GUE's history, as some of the GUE founders made a pioneering exploration on this historic vessel in the early days of the organization. Kees concludes that one of the best parts was the opportunity to pick the brains of the seasoned instructors and getting a chance to share the knowledge and experience gained on numerous projects in the 100 m/300 ft and deeper range.

Leo Fielding's article on the exploration of the wreck of the *SS Belgique* in the English Channel, known for its iconic electrical trams, vividly illustrates the skills and techniques employed by deep wreck diving teams. See page 12.

This issue strives to maintain a harmonious balance between wreck and cave exploration, with the BEL team's article summarizing their insights and discoveries after numerous dives in Ox Bel Ha—yet another historically significant location seen from a diving perspective. Needless to say, uncovering over 10 km/6 mi of new cave tunnels imparts invaluable lessons in cave surveying, and the team generously shares tips and tricks. See page 24.

Without a doubt, the BEL team has been applying the gas management techniques and strategies explained in our cave diving series on page 64. The robust gas planning principles

taught in GUE's cave curriculum are an important factor in the safe approach to cave diving and exploration.

A common denominator in all articles, whether the subject is wrecks or caves, is the training involved. Professor Marcus Doshi teaches university-level stage lighting techniques—a subject very far from diving. But, as a seasoned educator and avid diver, he draws parallels between his teaching and dive training. He discusses the importance of addressing contradictions in teaching, being an ally to students, understanding threshold concepts, and utilizing effective assessments, emphasizing formative assessments and feedback. His goal is to stimulate student-centered teaching concepts to enhance training effectiveness and create a positive learning environment for students. See page 54.

As we immerse ourselves in the stories of exploration within these pages, let us not forget that the essence of exploration extends far beyond oceans or caves. It permeates every facet of our lives, urging us to push boundaries, challenge conventions, and continuously seek knowledge and understanding. Never stop exploring!

Jesper Kjøller
Editor-in-Chief
jk@gue.com



Editor-in-chief

// Jesper Kjøller

Editorial panel

// Michael Menduno

// Amanda White

Design and layout

// Jesper Kjøller

Copy editing

// Pat Jablonski

// Kady Smith

Writers

// Brad Beskin

// Kees Beemster Leverenz

// Leo Fielding

// Marcus Doshi

// Kirill Egorov

// Daniel Riordan

// Emőke Wagner

// László Cseh

// Bjarne Knudsen

// Fred Devos

// Todd Kincaid

// Chris Le Maillot

// Jarrod Jablonski

Photographers

// Kirill Egorov

// Vanessa Mignon

// Jesper Kjøller

// Guy Trees

// Emőke Wagner

// László Cseh

// Bjarne Knudsen

// Kees Beemster Leverenz

// Steffen Scholz

// Marcus Doshi

// Derk Remmers

// Bori Bennett

// Fred Devos

// Ivo Chiarino

Quest is published quarterly by
Global Underwater Explorers
18487 High Springs Main Street,
High Springs, Florida 32643
www.GUE.com

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The BEL team discovered 10.1 km/6.2 mi of new tunnels and five cenotes in a year, mapping 52 km/32 mi of passages since 2019. This article covers their exploration challenges and techniques.

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She is an award-winning wildlife photographer and trip leader based in Australia. She is known for her genuine love for animals and interest in marine megafauna.

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Last year divers beta-tested the revamped GUE Technical Diver Level 3 course. Join GUE Instructor Kees Beemster Leverenz in Greece to explore the legendary *Britannic* wreck, showcasing the course's focus on meaningful underwater exploration.

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Meet Marcus Doshi, a Northwestern University stage design professor and avid diver. In this article, he bridges teaching and scuba training, enhancing both through pedagogical insights.

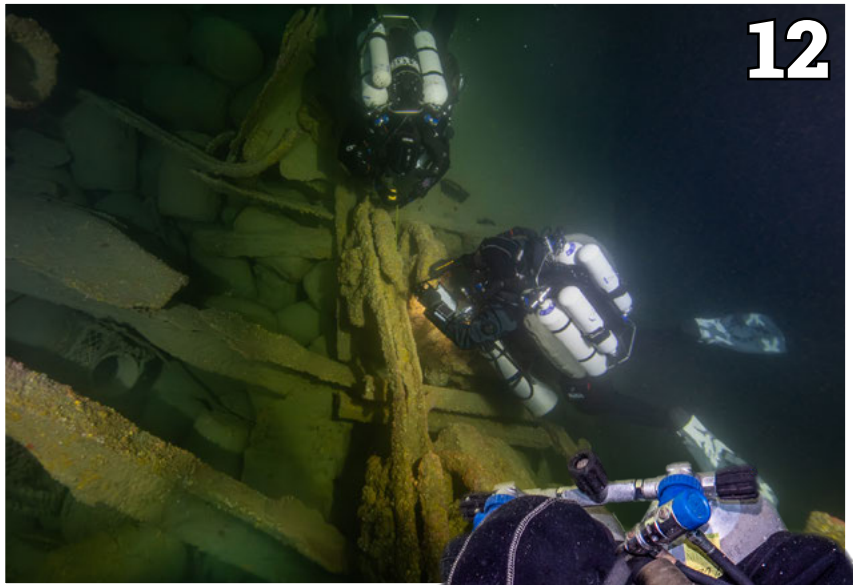
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Gas planning is crucial for dive success, safety, and efficiency, considering penetration, emergencies, and decompression. Complexity varies with certification, plan, conditions, tanks, and volume/pressure differences. Our cave diving series covers planning steps for class or adventures.

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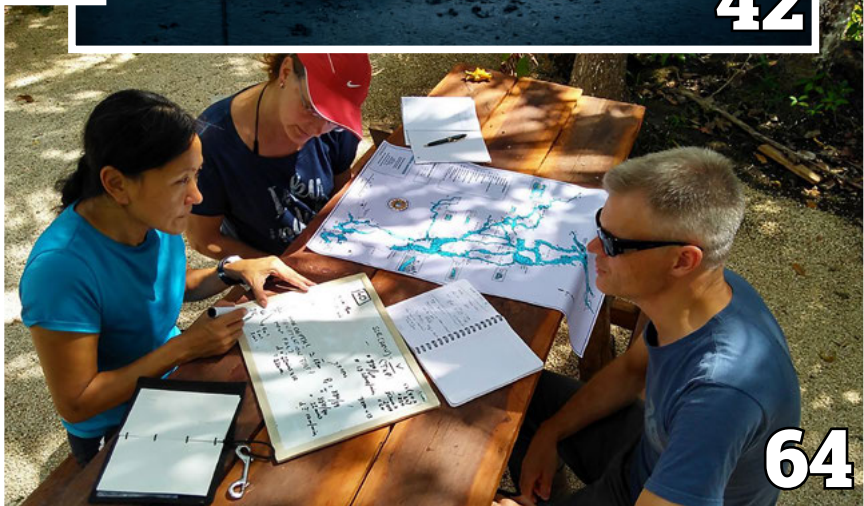
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COVER PHOTO
STEFFEN SCHOLZ



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QC CORNER

A BRIGHT FUTURE

TEXT BRAD BESKIN// PHOTOS SJ ALICE BENNETT & DOROTA CZERNY

Since his early days at Scuba Camp Brad has been attracted to thrilling underwater adventures. Discover how the guidance of GUE's pioneers, including Jarrod Jablonski, shaped his path and learn why leadership excellence remains at the heart of the GUE experience.

Greetings, *Quest* readers. I hope your year already is filled with awesome adventures, including great diving. Reports from my side of the globe show incredible conditions in Florida's caves, and I simply cannot wait to get back to High Springs to enjoy them. I hope the same for you in your corner of the globe.

At GUE's 25th Anniversary Conference and celebration, we took several trips down "memory lane." Perhaps my favorite was the slideshow by Jarrod Jablonski and Rich Denmark showing some of the earliest photographs we have of our most tenured instructors. Many of these were worth a few laughs...or perhaps even gasps. Hair color may have changed (or, for some, disappeared and even reappeared in previously unknown places), but the faces remain unchanged. I saw in the eyes of our young leadership that

same spark you'll notice when they tell old dive stories around a fire pit, when they teach Fundamentals to an aspiring explorer, or when they introduce you to their family. It is the same spark we see in Jennifer Thomson and Harry Gunning, our outgoing and incoming NextGen Scholars (respectively)—an eagerness to unravel the world and decode its secrets.

I was humbled to be included in their presentation. I have often said that while my teenage peers idolized superstar athletes like Jordan, Griffey, Jr., Sanders, Agassi, and Gretzky, my heroes wore red and black TLS drysuits and drove Gavin scooters into endless water-filled holes in the ground. To find myself in same room as those who defined my passion for diving through twenty-five years of relentless hard work was powerful. To call them friends is, frankly, still somewhat overwhelming.

Brad has made significant progress since his early days of filling tanks at the local dive shops 25 years ago.



PHOTO DOROTA CZERNY

Scuba Camp

Admittedly, I'm not an instructor and my involvement with GUE was relatively limited until assuming the helm of the Quality Control mechanism. Nevertheless, at risk of self-indulgence, I'd like to share with you my journey to GUE. To avoid burying the lede (even more so), my point in doing so is what I found to be the most important takeaway from the Conference: the values that served as GUE's foundations in the 90s are the same values we cultivate today. There is a congruence that ties us to GUE's progenitor leadership—a congruence that will carry us forward as we continue to pursue excellence.

I grew up in Virginia Beach, Virginia. Twenty-eight years ago (I was age twelve), my parents enrolled me in "Scuba Camp", a two-week immersive program through my local dive shop. I emerged with an SSI open water certification (contingent on parent/guardian supervision, of course).

My first dives were in the shallow sections of what is now Lake Phoenix. My second were on the islands of the Chesapeake Bay Bridge Tunnel—a true exercise in Braille diving. But the lack of visibility didn't matter; being underwater captivated me.

As if fate had determined it, my first dive trip followed shortly after: a fourteen-hour bus ride to Florida's cave country with my mom. We dove Devil's Den and Blue Grotto, snorkeled with manatees, and let the Manatee headspring blast us down river.

I was hooked. From that point forward, I spent almost every waking free moment at LDC. I vacuumed the pool, dusted the shop, emptied the cat litter (because of course there's a shop cat), organized the fill station, and annoyed the you-know-what out of the staff. No, Kyle, some things don't change. As I grew older, I helped fill tanks, sell gear, and even run the dive boats—anything to garner experience and learn more about diving.

The shop supported a growing group of would-be technical divers. It was what you'd

expect from the U.S. east coast in the mid 90s: scary, with way too much brass and bungee and not enough planning or control. We had little standardization, clung to the anchor line for stability, and kept our deco on our wrists. To our credit, our tanks were manifolded, long hoses were properly routed, and the gas had some helium in it. And the experienced divers on the team were diving—for example the Billy Mitchell Fleet wrecks—in the 60-120 m/200 to 400 ft range with remarkable success. We thought we were hot; amusingly, I recently found a video of us all diving together, and it turns out we weren't so hot, after all.

Immortality complex

By age sixteen, I had scraped together enough shop credit from my chores to cobble together a set of doubles with a backplate and wing. The configuration was imperfect. But, only mere rumblings of this thing called GUE had made

its way to Virginia by that time. I would spend my allowance and part time shop earnings on what bit of helium I could manage, along with deco gas and boat fees. I would lie to

my parents about how deep we were going, and often leave an old computer on the line at 30m/100 ft for some cover when my mom asked to see the readout.

Summers spent as boat crew meant five to six dives a day, four to five days a week. Most of these were solo (even at night, miles offshore), and many were hot drops with the anchor chain wrapped around my forearm. I am truly lucky to be alive—and for no lack of trying to put myself in absurdly dangerous positions—with both eardrums intact. To be certain, this is a condemnation (not a glorification) of the practice, especially in light of the standards I now enforce through my role. It was foolish teenaged naiveté fueled by an immortality complex.

My friend Tom Sawicki was the only GUE-trained diver I knew at the time. He gently coaxed me away from my recklessness, suggested im-

“To find myself in same room as those who defined my passion for diving through twenty-five years of relentless hard work was powerful.”

Brad manages to carve out time for cave diving adventures in destinations like Mexico, Florida, and Sardinia.



PHOTO SJ ALICE BENNETT

provements in configuration, and impressed upon me the importance of team dynamics. He offered a refreshing dose of control to what always seemed out thereof. “Where’d you learn this?”, I’d ask. “Jarrod Jablonski”, he said.

Fundamentals first

Then, Jarrod came to visit. Our rag-tag group of anchor line clingers invited him to speak to and dive with us for the weekend. He kindly obliged, and I volunteered to be his chauffeur for the weekend. That he still speaks to me only shows how gracious he is; I don’t think I gave him a moment’s peace in the car with my incessant questions.

His visit was life-changing for me. Frankly, we all expected dogmatic criticism and a heavy-handed condemnation of our practices. This was, in our defense, the reputation of the day. It shows how little we knew about Jarrod or GUE. As is true today, Jarrod didn’t need (or try) to tell us where we’d veered astray. Rather, he showed us the difference, which was as plain as his perfect trim and impeccable control juxtaposed to our need to cling to the anchor line. He answered countless questions, made suggestions only upon solicitation, and was consummately kind, supportive, and encouraging. We wanted to be a team, we just didn’t know how, and he gave us credit for trying. He embodied



the gold standard for how GUE leads the way toward safer, elevated diving today.

I dropped him off at the end of the weekend, said goodbye, and asked “what do I do now?” He answered: “Work on your fundamentals, Brad. The rest will follow.”

Hard work

Indeed, Fundamentals followed in 2001 at Lake Phoenix. The experience was formative, to say the least. At the time, it wasn't really a graded course, but I'm confident none of us swam out with anything akin to today's technical pass. It showed us the bar, and we began working toward it. After months of hard work on fundamentals skills, I enrolled in Cave 1 with Tamara Kendel.

To date, I am not sure I have ever seen anyone move in the water like Tamara. It was magical. Tamara set what has always been the gold standard for me in GUE education and training. She was kind but firm, demanding but reassuring, and demonstrably exemplary in every fashion.

These themes remain paramount to me as I work with GUE instructors. Excellence in leadership is not dogmatic or condemning. Rather, it is demonstrative, supportive, and benevolent. It shows the way with “do as I do” and leaves little for only “as I say.” It walks the walk, and mostly leaves the talking to those who are oblivious to how lacking their skills truly are.

“Leadership excellence is the ability to recognize potential and create an atmosphere of empowerment and support. A key aspect of this

is encouraging [the] practice self-management through a strong sense of self-awareness and understanding of the importance of collaboration and teamwork.” Hofmann, Leadership Excellence, Forbes (Mar. 30, 2023).

Bright future

I have enjoyed the privilege of diving with many of you. I mark as friends, dive buddies, and mentors stellar instructors and stellar divers. To me, each of these friends and mentors embodies the gold standard Jarrod, Tamara, and many other originals set—leadership by doing, relentless personal improvement, and a desire to bring people into the fold. Without this kind of leadership, I would likely still be clinging to the anchor line...or worse. It is a priceless gift GUE has afforded me.

But the best part of GUE is how pervasive this quality is, especially in our instructor cadre. I read each and every bit of substantive student feedback that follows a GUE course. From that data, I am confident in and proud of the way each of our instructors throughout the globe embodies that standard. It is, at risk of cliché, a commitment to leadership excellence.

GUE's future is bright. We continue to evolve as an organization, and we continue to challenge the status quo. Faces may age, but the light never dims.

It remains an honor and privilege to serve GUE and you. My best to you for spectacular diving in 2024. ■



Brad Beskin

Brad Beskin has been diving actively for approximately 29 years. He first became involved with GUE by taking Fundamentals in 2001, and then Cave 1 with Tamara Kendel in 2003. He is now a proud GUE DPV Cave diver and is actively working his way through

GUE's technical curriculum. When he is not diving, he earns his living as a civil litigator in Austin, Texas, and he also finds time to act as Director of Quality Control and the Chair of the Quality Control Board for Global Underwater Explorers.

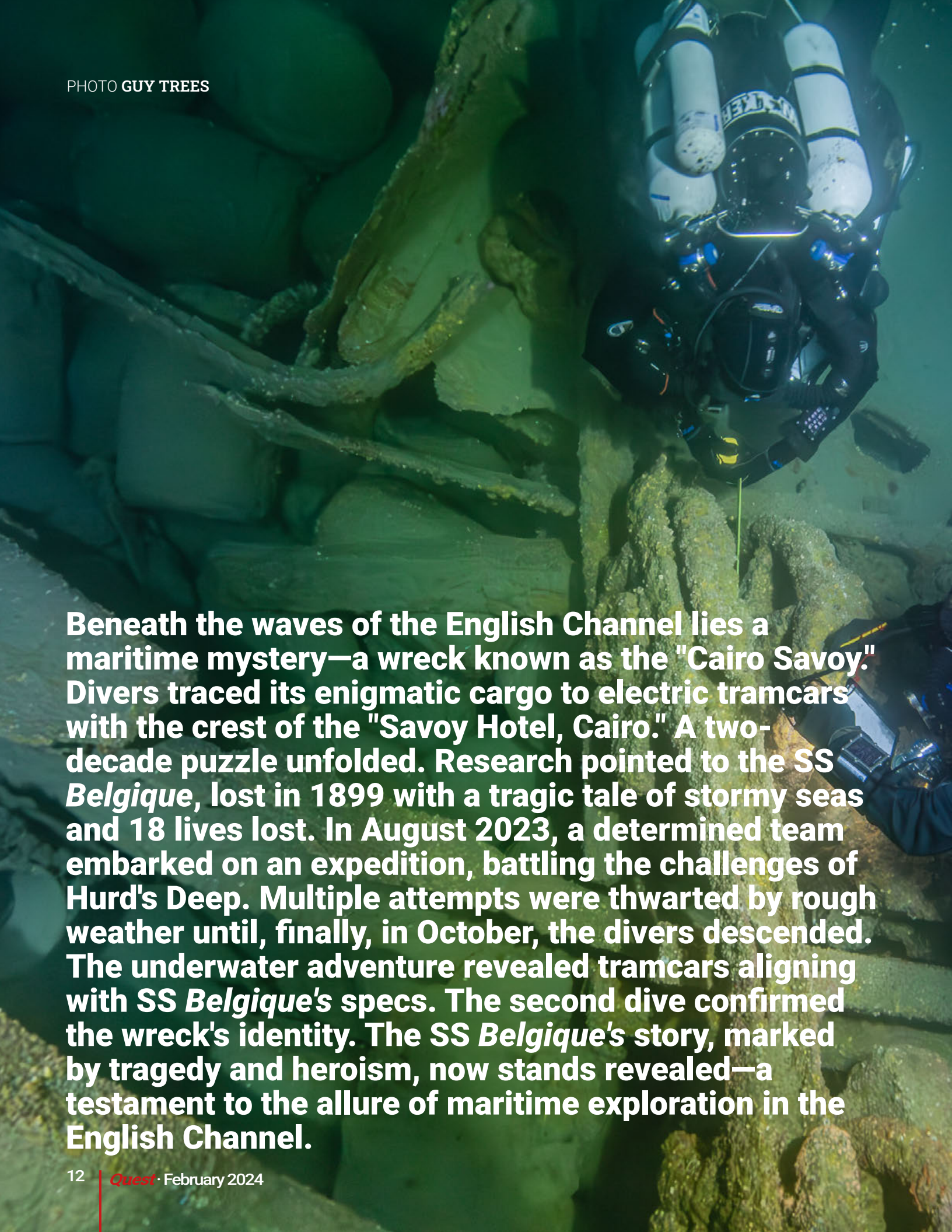
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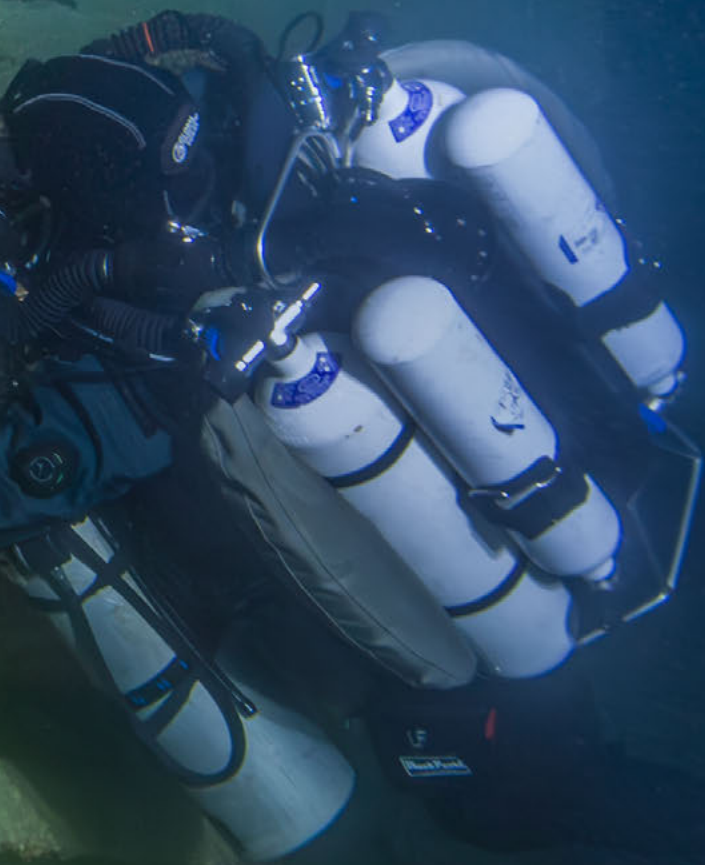


Beneath the waves of the English Channel lies a maritime mystery—a wreck known as the "Cairo Savoy." Divers traced its enigmatic cargo to electric tramcars with the crest of the "Savoy Hotel, Cairo." A two-decade puzzle unfolded. Research pointed to the *SS Belgique*, lost in 1899 with a tragic tale of stormy seas and 18 lives lost. In August 2023, a determined team embarked on an expedition, battling the challenges of Hurd's Deep. Multiple attempts were thwarted by rough weather until, finally, in October, the divers descended. The underwater adventure revealed tramcars aligning with *SS Belgique's* specs. The second dive confirmed the wreck's identity. The *SS Belgique's* story, marked by tragedy and heroism, now stands revealed—a testament to the allure of maritime exploration in the English Channel.

NEPTUNE'S TRAMCARS

19th Century Belgian steamship identified after 125 years

TEXT LEO FIELDING
PHOTOS GUY TREES



Richard Walker and Leo Fielding survey the truck of an electric tramcar that sits in the port mid-ship area of the SS *Belgique* about 20 meters aft of the main boilers. ▶

Where on earth can you dive a wreck with a cargo of electric tramcars? As a result of Britain's exalted maritime heritage plus two world wars, the English Channel is strewn with thousands of wrecks carrying all manner of exotic cargo. Some remain "unknowns" and others take years to finally identify.

The wreck, nicknamed the *Cairo Savoy*, was first located and dived around two decades ago by British skipper and diver Ian Taylor of *SkinDeeper*. The wreck lies to the southwest of the Hurd's Deep canyon in about 80 m/262 ft of water.

Mystery has surrounded the wreck's identity ever since. Her nickname was based on her cargo that included ornate crockery stamped with the crest of the Savoy Hotel, Cairo.

The ongoing puzzle over the circumstances of her loss, and the challenges posed by her remote resting place and relative depth, enticed many an intrepid diver to visit. Indeed, few wrecks had woven themselves as tightly into the local lore of diving in this area of the Channel. Nevertheless, while some suspected that the *Cairo Savoy* might be the *SS Belgique*, evidence remained elusive.

The ship and her loss

The *SS Belgique* (ex-*Mount Hebron*) was a 2,560 GRT, well-deck, single-screw, schooner-rigged steamer with two masts, two main boilers, a donkey boiler, and a triple expansion engine built in Belfast in 1889.

On the night of November 10, 1899, the *SS Belgique* was on a voyage from Antwerp, Belgium, to Alexandria, Egypt, when she foundered in a strong gale blowing WSW, to the southwest of the Hurd's Deep canyon. It was reported that 18 lives (including that of the captain) were lost out of a total crew of 26. The grim events were reported in the British and Belgian press, including in the *Lincolnshire Chronicle* of November 17, 1899:

"She started in weather, which grew worse as she went down the Channel... On board were

ten electric tram-cars for Alexandria, and in the storm they broke loose from their lashings and swept the deck, smashing hatches and bulwarks and everything else. Then the steering gear went wrong, and the ship fell towards the sea."

"She started rolling, and the water was pouring down the broken hatchways," said Edmund J. Backeljauw, the second officer, "...At eleven o'clock at night there was 12 feet of water in the hold, and the captain ordered one boat out, with myself, the third officer, the third engineer, and thirteen hands to man her. We left her at half-past eleven, and the water had then increased to 17 feet. We could see the Casquet light clearly, being about six or seven miles away."

*"It was a terrible night. Five of our sixteen men died from exhaustion [Note: this may be a mis-translation of "exposure"] and we had to drop their bodies overboard. It was between half-past twelve and one on Saturday that we sighted the St. Kilda. When she got close and threw a line there was a jerk which threw three of our men out, two being drowned, and the other killed between the boat and the ship's side. When we got on board, the third engineer told us that a quarter of an hour after we left the *Belgique* he saw her disappear to the waves. There is no doubt, I think, that the captain, the chief and second engineers, and the seven other hands went down in the ship. We lost all our belongings, but were glad to escape with our lives."*

Captain John McCarte of the *St. Kilda* testifies to the utterly exhausted condition of the Belgians when he picked them up. *"We threw lifebuoys and lines to the men who were jerked out of the boat,"* he said, *"but they were too exhausted to save themselves. Mr. Ward, my chief mate, jumped into the boat, which was half-full of water, and put bowlines round some of the men, and thus we hauled them on board."* The survivors are warm in their praise of the *St. Kilda's* captain and crew, and especially of Mr. Ward, who *"jumped into their boat in a gale of a wind."*

Research

Fast-forward to the near-present. In August 2023, our team was in the midst of planning an expedition to dive unknown and lesser-visited wrecks when my phone buzzed with a WhatsApp mes-

Pre-breathing the rebreathers before another 80 m/262 ft dive in the English Channel.



sage from Andy Colderwood: *"I'm sure I have told you about the Cairo Savoy. That is a great dive and we need to prove what she is!"*

Sure enough, I was hooked. I spent the following weeks poring over old newspaper reports and ships' archives. Wreck research can be like solving a puzzle where you put together seemingly unrelated pieces of information to build a bigger picture of what happened.

Initial clues to the ship's identity were spotted in the *SS Belgique's* port of destination (Alexandria, Egypt), her date of loss (1899), which was consistent with the opening of the Savoy hotel in Cairo in 1898, and the link between footage of what had been previously thought to be the trucks of small railway carriages with the cargo of electric tramcars carried by the *SS Belgique*, which all generated interest in investigating further.

Wreck research can be like solving a puzzle where you put together seemingly unrelated pieces of information to build a bigger picture of what happened.

Fellow British divers Ian Taylor, Al Wright, Jos Greenhalgh, and Andy Colderwood provided intel and sketches of the wreck from their previous dives that proved invaluable in planning further work. We located blueprints of the *SS Belgique* to cross-check the dimensions of

known features on the wreck.

Specialist input on 19th Century Belgian tramcars was provided by Mr. Roland and Philippe Dussart-Desart, editors of *Tramania* and *Tramway Review*, and Mr. Yves-Laurent Hansart, author of numerous books on Belgian trams. The team located documentation confirming that the electric tramcars had been two-axle cars equipped with Thomson-Houston electric motors and controllers ordered by Les

Tramways du Caire in 1898.

Tasks were assigned. We agreed that our first dive on the wreck would focus on the tramcars, and the second dive would focus on the wreck

itself. I lost count of how many hours were spent outlining the picky little details that can make the difference between success and failure. On the first dive, Richard Walker, Guy Trees, and I were to survey and photograph the tramcars; Andy Colderwood, Toni Norton, and Stephen Elves were to search for evidence of any manufacturer plates fitted to the tramcars; and Tom Aucott and Duncan Simpson were to measure the tramcar motors against the dimensions of a nose-suspended G.E. 800 motor, which was the type of motor typically fitted onto electric tramcars operated in Cairo at the relevant time. On the second dive, Richard, Guy, and I were to survey the propeller and rudder; Andy, Toni, and Stephen were to survey the engine cylinders; and Tom and Duncan were to survey the two main boilers.

Hurd's Deep canyon

To visit the *SS Belgique*, divers must prepare to meet the specific challenges posed by conditions around the Hurd's Deep canyon.

The Hurd's Deep canyon cuts a great slice nearly 180 m/590 ft deep and 113 km/70 miles long through the middle of the English Channel, just south of the Eastbound shipping lane, which is one of the busiest shipping lanes in the world.

The unpredictable nature of this stretch of water is in large part due to its tidal range, the change in seabed depth created by the canyon itself, and its exposure to the prevailing weather that rolls in from the south-west.

Movement of water into and out of this canyon can create a treacherous sea state. While many seas around the world experience strong tides, few are as unpredictable as here, where the set and drift of the tidal stream may behave differently at different depths in the water column.

In addition, Alderney itself lacks any support for technical diving operations. Whatever is needed for a multi-day expedition—sofnoilime, suit inflation, drop sets, cameras, lighting, scooters, and so on—has to be transported in and out on the boat. While this adds complexity to the planning, it also adds to the allure of the adventure.

Efforts to reach the wreck

Initially, the wreck seemed reluctant to let us visit without paying our dues. On August 26, 2023, a multi-day expedition set off, but rough weather prevented diving. Instead, the team took the opportunity to check out the shipwreck exhibition in the Alderney Society Museum, plus one or two local pubs! On September 23, 2023, a further expedition was canceled due to rough weather, this time without us even leaving port. With the nights drawing in and the end of the season fast approaching, it was far from clear whether we would be able to dive the wreck this year at all.

Finally, on October 9 and 10, the weather cooperated. An area of high pressure swept in over the Channel and opened up a window to allow diving to go ahead. It was on!

As the team grabbed passports, packed cars, and headed for the coast, an advance group gathered in the Ming Wah Chinese restaurant in nearby Weymouth for crispy aromatic duck with pancakes and beef fried noodles.

The first day of diving

So it was that the weather gods smiled brightly as the first day dawned and the sea was calm. We placed those jumping first nearest the gate. A long journey, plus time to scope the site, meant an early start. With decreasing hours of autumn sunlight, we planned to overnight on the island rather than attempt a return day-trip.

After about three and a half hours of travel, we were on site. Placing a shot line in 80 m/262 ft of water is never easy, and the tide in Hurd's Deep was going to make it even trickier, even though we were sure of the wreck's position.

On this day, there was a tidal range of 2.5 m/8 ft, which was a low neap by Hurd's Deep standards, where the mean spring range is 6 m/20 ft! However, it still made for strong tides and we expected to have no more than about half an hour of slack water. This meant that we needed to be ready to jump in as soon as conditions allowed.

With the shot in and everyone ready to go, the first team of Richard Walker, Guy Trees, and myself jumped in. After pausing at about 6 m/20 ft for a quick bubble check, we descended.

As we made our way down the line, the half-knot or so of tide forced us to proceed hand-

The truck of an electric tramcar that sits in the bow area on the port side of the SS *Belgique*.



PHOTO GUY TREES

over-hand. At about 60 m/200 ft, the wreck came into view. Leaving a strobe on the shot line, we regrouped. As our eyes became accustomed to the lowered light levels, the visibility opened up to an impressive 15 m/50 ft or so.

The shot had landed amidships, just aft of one of the two main boilers. The wreck sat more or less upright on the seabed. Her main axis lay partly across the tide, with her bow broadly NE and stern SW. After a quick check of the compass, we set off towards the stern following the port rail.

After a couple of minutes' swimming, the eerie outline of a tramcar loomed out of the shadows. Richard and I quickly set to work with measuring tape and wetnotes while Guy took photos, and then we swapped roles with Richard and I taking over offboard lighting duties.

As I worked, I became gradually but distinctly aware that somebody appeared to be rapping in my ear. "Look at the situation they got me facing/I can't live a normal life, I was raised by the street," the voice insisted. I asked myself where this voice might be coming from, and for a

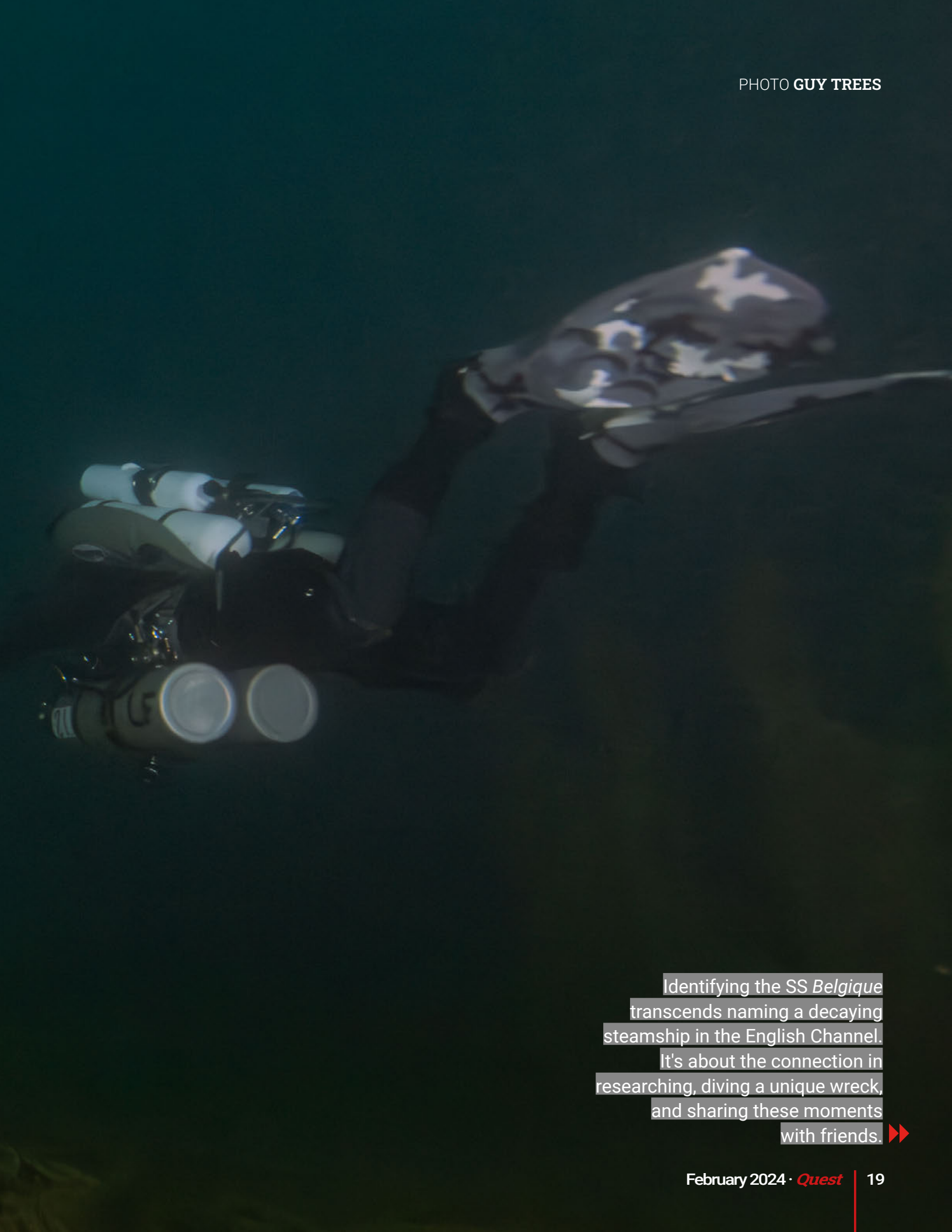
split-second started to question my own sanity. How much helium had I added to my diluent? Could this be the rapture of the deep? In fact, the submersible loudspeaker that Guy had brought to make deco pass more agreeably had self-activated with the pressure and begun playing "Gangsta's Paradise" by Coolio!

With this new soundtrack to our dive, we swam on towards the stern where we found another better-preserved truck of a tramcar and finally the single-screw four-blade propeller that we had hoped to measure on the second dive. A surge of relief washed over me as we seemed to be not only meeting but now exceeding our goals for the dive. After about 35 minutes on the wreck, we gave the turn-around signal and returned to the shot.

Deco ran to plan with a relatively balmy water temperature of 17° C/63° F and before long we rejoined the boat on the surface, with Guy's rap festival being replaced by Duncan Simpson's drone buzzing overhead shooting video.

Back on the boat, the divers who were visiting the wreck for the first time could scarcely con- ▶▶

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Paradise” by Coolio!**



Identifying the *SS Belgique*
transcends naming a decaying
steamship in the English Channel.
It's about the connection in
researching, diving a unique wreck,
and sharing these moments
with friends. ▶▶

tain their enthusiasm. Everyone was comparing notes on their findings. While, unsurprisingly, we did not locate any manufacturers' plates on the tramcars, it was nevertheless apparent that they had front and rear-axle electric motors as expected. The atmosphere was, well, electric!

Island life

Once all the gear was secured, we headed in towards Braye Harbour on Alderney. The weather was blissfully calm and the sun washed orange light over the evening sky. By 6:30 pm, we had arrived at our accommodation at the Harbour Lights Tavern, dropped bags, and fired off reports to Roland and Philippe Dussart-Desert in Belgium. The pieces of the puzzle were falling into place.

The ground floor of the tavern hosts the only French restaurant on Alderney, Le Pesked, which is owned and run by Brittany Chef David Ollivrin. At supper, all thought of diving faded as the group launched into a three-course dinner of Burgundy snails in garlic butter, French onion and cider soup, braised lamb with harissa, and bouillabaisse of Provençal seafood, followed by crepe Suzette and baked meringue.

The second day of diving

Overnight, the clouds had gathered and a fresh breeze was waiting for us when we emerged onto the pontoon. A quick review of the weather told some of us that, once we left the shelter of Braye Harbour, it would be as well to be fully suited for the choppy ride out to the wreck. We were about to encounter one of Hurd's Deep's many challenges!

Within minutes of leaving Braye Harbour, the Sea Leopard—our 11 m/36 ft, twin-engined South Boat Catamaran renowned for its sea keeping—was offering a rollercoaster ride rivaling anything Disney could have envisaged. Eyes squinted uneasily at the horizon as if seeking reassurance that conditions might improve. Rigs were lashed tighter. Shelter was sought. Dark oaths were muttered. Happily, reassurance was provided by seasoned skipper Al Wright. "It's the 'Alderney race.' We'll be through in a sec!" Al called as he put the hammers down. Sure enough, just as our intrepid gang began huddling like penguins in a snowstorm in a manner

that suggested they might be content to call it a day, the sea flattened off and it was all systems go again.

Buoyed by this sudden reversal in our fortunes, it was the turn of Andy Colderwood, Toni Norton, and Stephen Elves to jump first, while Rich Walker, Guy Trees, and I took care of installing the lazy shot. As we had jumped tides and were now diving the high-water slack, the visibility seemed less spectacular than the previous day, and the overcast sky meant less ambient light at depth. The shot was slightly off the port side of the wreck, and her rusted steel heel cut an imposing sight towering about six or seven meters above the sea bed and surrounded on all sides by inky-black water.

While Richard, Guy, and I set about taking photos of a well-preserved truck, Tom Aucott and Duncan Simpson measured the diameter and length of the two main boilers; and Andy Colderwood, Toni Norton, and Stephen Elves inspected the engine cylinders. We also took time to venture further in the direction that we had not swum on the previous dive revealing more of the bow area.

Time spent at 80 meters in the English Channel is at a premium. As the tide was now on the ebb and starting to run, we made our way back to the safety of the shot after about 25 minutes on the bottom. The only casualty of the dive was Andy Colderwood's reel, which he had charitably donated to line off to the wreck and was never retrieved (sorry, Andy!).

As we headed home to Portland fueled by Freda's homemade cakes and hot drinks, the mood was upbeat. Seasoned divers had renewed their acquaintance with the wreck after many years, and a fresh generation of divers had discovered her appeal for the first time.

Documentation

The dives had proved remarkably productive. We managed to take measurements of the gauge, wheelbase, wheel diameter, motor case, gear case, axle bearings, and chassis of the trucks of the tramcars, which matched what we had expected to find.

We had also measured the diameter and length of the two main boilers, and the diameter

“ The only casualty of the dive was Andy Colderwood’s reel, which he had charitably donated to line off to the wreck and was never retrieved (sorry, Andy!).



A couple of hours’ deco gives ample time to reflect on the dive and plan the work ahead.



“ We believe that the SS *Belgique* may be unique in being the only shipwreck recorded to have sunk with a cargo of electric tramcars. ”

of the single-screw four-blade propeller, which all matched measurements shown on blueprints of the SS *Belgique*. After 125 years, the mystery of the wreck’s identity had been finally solved.

Back ashore, Philippe Dussart-Desert managed to create a 3D model of the truck of a tramcar from Guy’s photos. To our knowledge, at 80 meters, this tram was and is the deepest artifact 3D modeled by recreational divers in the English Channel.

The wreck today

We believe that the SS *Belgique* may be unique in being the only shipwreck recorded to have sunk with a cargo of electric tramcars. We are aware of three instances of accidents at sea involving the loss of electric tramcars. However, in the other two instances, the tramcars were merely lost overboard in isolated events with the ships otherwise continuing to their ports of destination.

The SS *Belgique* today remains intriguing, challenging, and under-visited. The grim loss of over two-thirds of her crew, the heroism shown by Mr. Ward, the chief mate of the *St. Kilda* who jumped down into the SS *Belgique*’s waterlogged lifeboat in a gale in the middle of the night to save the survivors, the unusual variety of cargo including state-of-the-art tramcars and ornate

crockery, and their role in Belgium’s then-growing industrial links with Egypt, all form part of her story.

Identifying the SS *Belgique* has not just been about putting a name to a slowly decaying steel steamship in a far-flung corner of the English Channel. As ever, the best part has been the great sense of connection found in researching and diving a unique shipwreck, and being able to share the experience with a group of friends old and new.

The future

We hope that the successful completion of this project might encourage further interest in expeditions in the English Channel. There is still much to explore, even for those of us who have been doing this for some time. We look forward with excitement to more opportunities for adventure on the high seas!


In the meantime, thanks to everybody who played a part in piecing together the story behind the SS *Belgique*, her crew, and her cargo, particularly to Ian Taylor of *SkinDeeper* who first located and dived the wreck, as well as to Al and Freda Wright of *Sea Leopard* and to Ed Gollop of *SkinDeep* who took us safely there and back. ■



Leo Fielding

Leo is a GUE diver based in London who has been diving actively for over 15 years. From the dark corners of Welsh mines to the expanse of Hurd’s Deep, he is an avid wreck, mine, and cave diver. He is passionate about organizing expeditions to locate and identify

wrecks in the more remote parts of the English Channel. Ever since watching the classic diving film *Le Grand Bleu* as a teenager, he has been motivated both by the pursuit of adventure with good friends and the importance of helping to build a safer diving community.



The team hit the water on the first day of diving.

FACT FILE // SS BELGIQUE

DIVE TEAM

Leo Fielding, Richard Walker, Guy Trees, Andy Colderwood, Tom Aucott, Duncan Simpson, Toni Norton, Stephen Elves, John Kendall, Rachael Kendall, Joe Colls-Burnett, Joe Tidball, Steffen Scholz, Neil Powell, Liam Colleran, Jos Greenhalgh, Greg Marshall, and Luke Sibley.

SUPPORT DIVERS

Aithne Atkinson and Jacob Broughton-Venner.

HISTORIANS

Mr Roland and Philippe Dussart-Desart, and Mr Yves-Laurent Hansart.

SKIPPERS

Ian Taylor of *SkinDeeper*, Al Wright of *Sea Leopard*, and Ed Gollop of *SkinDeep*.

CREW

Freda Wright, Alexandra Eyles-Owen and Jacqui Colderwood.

GUE PREMIUM DIVE CENTERS

Area 9 Mastery Diving – Kralendijk, Bonaire

➔ www.masterydiving.com



Base1 – Sardinia, Italy

➔ www.baseone.it



Deep Dive Dubai – Dubai, UAE

➔ www.deepdivedubai.com



Dive Centre Bondi – Bondi, NSW, Australia

➔ www.divebondi.com.au



Duikcentrum de Aalscholvers – Tilburg, Netherlands

➔ www.aalscholvers.nl



Eight Diving – Des Moines, WA, USA

➔ www.8diving.com



Exploration Diver – Hangzhou, China

➔ www.facebook.com/qiandaolake

Extreme Exposure – High Springs, FL, USA

➔ www.extreme-exposure.com



Islas Hormigas – Cabo de Palos, Spain

➔ www.islashormigas.com



Living Oceans – Singapore

➔ www.livingoceans.com.sg



Plongée Nautilus – Quebec City, QC, Canada

➔ www.plongeenautilus.com



Scuba Academie – Vinkeveen, Netherlands

➔ www.scuba-academie.nl



Tec Diving – Luzern, Switzerland

➔ www.tecdiving.ch



Tech Korea – Incheon, South Korea

➔ www.divetechkorea.com



TECH KOREA
TECH CAVE CCR EXPLORATION

Third Dimension Diving – Tulum, Q. Roo, Mexico

➔ www.thirddimensiondiving.com



Zen Dive Co – Los Angeles, USA

➔ www.zendive.com

zen dive co.

Zero Gravity – Quintana Roo, Mexico

➔ www.zerogravity.com.mx



GUE DIVE CENTERS

Buddy Dive Resort – Bonaire

➔ www.buddydive.com



China Dive Club – Hainan Province, China



Dive Alaska – Anchorage, AK, USA

➔ www.divealaska.net



Diveolution – Kessl-Lo, Belgium

➔ www.diveolution.com



Faszination-Tauchsport – Sauerlach, Germany

➔ www.faszination-tauchsport.de



Innovative Divers – Bangkok, Thailand

➔ www.facebook.com/innovativedivers



KrakenDive – Tossa de Mar, Spain

➔ www.krakendive.com



Living Oceans Malaysia – Kuala Lumpur, Malaysia

➔ www.livingoceans.com.my



Moby Tek Dive Center – Pahang, Malaysia

➔ www.moby-tek.com



Paragon Dive Group – Arizona, USA

➔ www.paragondivestore.com



Scuba Adventures – Plano, TX, USA

➔ www.scubaadventures.com



Scuba Seekers – Dahab, Egypt

➔ www.scubaseekers.com



Tauchservice Münster – Münster, Germany

➔ www.tauchservice.info



Tech Asia – Puerto Galera, Philippines

➔ www.techasia.ph



Unique Diving Center – Shanghai, China

➔ www.uniquediving.cn



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