I

June 2014
Mojave Desert, California

It was a myth, the man decided, an old wives' tale. Often he had heard how the desert's broiling daytime temperatures gave way to freezing cold at night. But in the high desert of Southern California in July, he could testify, that wasn't the case. Sweat soaked the underarms of his thin black sweater and pooled in a damp mass around his lower back. The temperature was still at least ninety degrees. He glanced at his luminescent watch, verifying it was indeed two in the morning.

The heat didn't exactly overwhelm him. He'd been born in Central America and had lived and fought guerrilla campaigns in the region's jungles his entire life. But the desert was new to him, and he simply hadn't expected the nighttime heat.

He gazed across the dusty landscape to a conglomeration of glowing streetlamps. They marked the entrance to a large open-pit mining complex spread across the hills before him.

"Eduardo should nearly be in place opposite the guard station," he said to a bearded man lying prone in a nearby sandy depression.

He was similarly clad in black, from combat boots to the thin stocking cap pulled low over his head. Sweat glistened off his face as he sipped from a water bottle.

"I wish he would hurry. There are rattlesnakes around here."

His partner grinned in the dark. "Juan, that would be the least of our problems."

A minute later, the handheld radio on his belt chirped with two static transmissions.

"That's him. Let's move."

They arose and put on light backpacks. Lights from the mine buildings were sprinkled across the hillside in front of them, casting a pale glow over the barren desert. They hiked a short distance to a chain-link fence that encircled the complex. The taller man knelt and rummaged through his pack for a pair of wire cutters.

"Pablo, I think we can get through without cutting," his partner whispered, then pointed to a dry wash that ran beneath the fence.

The sandy ground was soft in the middle of the creek bed, and he easily pushed some of it aside with his foot. Pablo joined him in scraping away the loose soil until they had excavated a small hole beneath the fence. Pushing their packs under it, they quickly shimmied through.

A low blend of rumbling noises filled the air, the mechanical bedlam of an open-pit mine that operated around the clock. The

two men stayed clear of the guard station, to their right, and made their way up a gentle slope toward the mine itself. A ten-minute hike brought them to a cluster of aged buildings criss-crossed with large conveyor belts. A front-end loader at the far end was shoveling piles of ore onto one of the moving belts, which transported it to a hopper on stilts.

The two men were headed to a second cluster of buildings farther up the hill. The mine pit blocked their way, forcing them to cut through the operations area, where ore was crushed and milled. Clinging to the shadows, they darted along the perimeter, then worked their way along the back of a large storage building. Reaching an exposed area between buildings, they moved quickly, striding past a semiburied bunker to their left. Suddenly a door flung open at the center of the building ahead of them. The two men split up, Juan ducking to the side and scrambling behind the bunker while Pablo sprinted ahead toward the side of the building.

He didn't make it.

A bright yellow beam snapped on, blinding him.

"Hold it right there or you'll regret taking that next step," said a low, gravely voice.

Pablo stopped in midstride. But as he made an exaggerated stop, he deftly withdrew a mini automatic pistol from his left hip and concealed it in the palm of his gloved hand.

The overweight security guard walked slowly toward him, keeping his flashlight pointed into Pablo's eyes. The guard could see the intruder was a large, well-proportioned man, over six feet tall. His coffee-colored skin was smooth and pliant, in contrast

to black eyes that burned with malignant intensity. A lighter band of flesh crossed his chin and left jaw, the souvenir from an ancient knife fight.

The guard saw enough to know he wasn't an accidental trespasser and stopped a healthy distance away, clutching a .357 Magnum.

"How about you put your hands on your head and then you can tell me where your friend went."

The rumble of a nearby conveyor drowned out Juan's footsteps as he sprinted from the bunker and plunged a knife into the guard's kidney. Shock registered on the guard's face momentarily before his whole body tensed. A wayward shot erupted from his revolver, whistling high over Pablo's head. Then the guard fell, his body kicking up a swirl of dust as it struck the ground.

Pablo thrust his gun forward, expecting additional guards to rush to the scene, but none came. The gunshot had been lost amid the rumbling of conveyor belts and the pounding of the rockcrusher. A quick radio call to Eduardo confirmed there was no activity at the front gate. No one else in the facility had realized their presence.

Juan wiped his knife clean on the shirt of the dead man. "How did he spot us?"

Pablo glanced toward the bunker. For the first time, he noticed a red-and-white sign on the door proclaiming DANGER: EXPLOSIVE MATERIALS. "That bunker houses explosives. It must be under surveillance."

Blind luck, he cursed to himself. The explosives bunker wasn't marked on his map. Now their whole operation was jeopardized.

"Should we blow it?" Juan asked.

They had been ordered to disrupt the facility but to make it look accidental. That had suddenly become a tall order. The bunker explosives could be made useful, but it was too far from their actual target.

"Let it be."

"Do we leave the guard here?" Juan asked.

Pablo shook his head. He unbuckled the guard's holster, then pulled off the man's shoes. He searched the guard's pockets and retrieved his wallet and half a pack of cigarettes. He stuffed those, along with the .357 Magnum, into his backpack. A growing pool of blood was dampening the ground around his feet. He kicked some loose sand over the blood, then grasped one of the guard's arms. Juan grabbed the other, and they dragged the body into the darkness.

Thirty yards away, they reached an elevated conveyor on which melon-sized chunks of ore whirled by. With a labored heave, the men swung the guard's body onto the moving belt. Pablo watched as the guard was carried up the conveyor and deposited into a large metal hopper.

The ore, a mixed fluorocarbonate known as bastnasite, had already passed through an initial crusher and sorter. The guard's body joined a second round of pulverization that smashed the ore to baseball-sized pieces. A tertiary crushing repeated the process, pounding the rocks into a fine gravel. Had anyone examined the rough brown powder that accumulated off the final conveyor, they would have noticed an odd red tint that marked the guard's last remains.

Though the crushing and milling were important stages in the mine's operations, they were less critical than the secondary

complex up the hill. Pablo eyed the lights of several buildings in the distance, where the milled ore was leached and separated into a handful of mineral components. Spotting no moving vehicles in the area, he and Juan took off at a quick clip.

The men had to skirt the eastern edge of the open pit, jumping into a culvert when a dump truck rumbled by. A short time later, Eduardo alerted them that a security guard was making the rounds in a pickup truck. They ducked behind a mound of tailings, then lay frozen for nearly twenty minutes until the truck returned to the front gate.

They moved toward the two largest buildings in the upper complex, then veered right and approached a small shack that fronted a towering propane tank. Juan took the wire cutters and snipped an opening in the surrounding chain-link fence. Pablo slipped through, circled the big tank, and knelt before its fill valve. Removing a small plastic explosives charge from his backpack, he attached a detonator cap and placed it beneath the valve. He set the digital timer for twenty minutes, activated it, and scurried back through the fence.

On the ground a few feet away, Pablo scattered the guard's shoes, gun, and holster. The wallet came next, still containing its cash, then the rumpled pack of cigarettes. It was a long shot, but a superficial investigation might finger the guard for accidentally igniting a leaky tank—then being vaporized by the blast.

The two men scurried toward the next building, a large metal structure containing dozens of mechanized vats filled with leaching solutions. A small group of graveyard shift laborers monitored the vats.

The two intruders made no attempt to enter the building; in-

stead they targeted a large pen storing chemical agents alongside one wall. In less than a minute Pablo attached a second timed charge to a pallet of drums labeled SULFURIC ACID, then escaped into the darkness.

They made their way to a second extraction building a hundred yards away, taking their time as the timers counted down. At the rear of the building, Pablo found the valve for a main water line. Monitoring his watch until just before the detonations, he twisted the valve, shutting off water to the building.

A few seconds later, the propane tank ignited with a boom that reverberated off the nearby hills. Night turned into day as a fiery blue glow enveloped the landscape. The top portion of the tank blew off like an Atlas rocket, screaming into the sky before crashing into the nearby open-pit mine in a ball of flame. Burning shrapnel flew in all directions, peppering buildings, cars, and equipment within a hundred yards of the tank.

The debris was still falling when the second detonation launched a mountain of barrels filled with sulfuric acid into the first extraction facility. Screaming workers fled the interior as the projectiles shredded the ore-leaching vats, releasing a nasty soup of toxic chemicals. Smoke billowed as the doors were flung open and the occupants staggered out.

Juan and Pablo lay in a ditch near the second building, dodging bits of raining debris as they watched a nearby door. At the sound of the explosions, a few curious workers poked their heads outside to investigate. Seeing the smoke and flames from the extraction facility, they called inside to their coworkers, then sprinted to the other building to help. Pablo counted six people rush out before he rose and moved toward the door.

"Stay here and cover me."

As he reached for the door handle, it twisted from the other side. He jumped back from the opening door as a woman in a lab coat burst out. Her eyes focused on the nearby smoke, she never noticed him behind the door as she nervously followed after her coworkers.

Pablo slipped through the door, stepping into a brightly lit bay filled with dozens more extraction tanks. He turned left and moved to the far end of the building, where large storage tanks lined the wall. He studied their labels, then approached one of the larger tanks. KEROSENE. He tore away a bleed hose from its base, then opened its brass drain valve. A torrent of the liquid flooded across the floor and filled the bay with a gassy odor.

Pablo grabbed a bundle of lab coats from a rack and scurried through the building, stuffing them into all the floor drains. The thin liquid spread quickly, nearly covering the concrete floor. The arsonist made his way back to the door, then pulled a lighter from his pocket. As kerosene trickled past his feet, he leaned down and ignited it, then jumped from the building.

With a low volatility and high flash point, the kerosene didn't explode, instead igniting in a river of flame. As fire detectors erupted throughout the building, ceiling-mounted sprinklers kicked on—but only for a second, as the disrupted water supply ran dry. Unabated, the fire spread.

Pablo didn't look back as he ran to his partner in the gully.

Juan looked up and shook his head. "Eduardo says the front gate sentry is on his way."

Across the grounds, sirens and alarms wailed. But no one had yet noticed the swirl of smoke from the roof of the adjacent

building. At three in the morning, no one at the facility was prepared to deal with multiple fires, and municipal firefighters were thirty miles away.

Pablo wasted no time watching the incineration. He nodded at his partner, then sprang off to the east. Juan had to scramble to catch up. They crossed the dirt road that led to the front gate moments before an approaching vehicle drew near. The terrain beyond the road turned to open rolling desert, and they dove to the ground as the first security vehicle roared by. Another chain-link fence appeared a short distance away. They cut a gap just big enough for one to slip under while the other pulled up the mesh.

In forty minutes of steady hiking, they reached the main highway two miles away, draining their supply of bottled water. They paralleled the highway east a short distance until spotting a black four-door pickup truck parked near a culvert, neatly hidden from easy view. Eduardo, the third partner, sat behind the wheel in a worn polo shirt, smoking a cigarette.

The two men dropped their packs and pulled off their black hats and sweaters, replacing them with T-shirts and baseball caps.

"Congratulations," Eduardo said. "It appears you have succeeded."

For the first time, Pablo looked back at the mine facility. Billowing clouds of smoke hung over the complex, illuminated by streaks of orange flame that leaped from several sources. The mine's firefighting equipment was woefully inadequate to deal with the fires. By all appearances, the inferno was still spreading.

Pablo allowed himself a half grin. Except for the appearance of the watchman, everything had gone according to plan. The

two main extraction facilities, the heart of the complex, would soon be reduced to charred wreckage. Unable to process ore, the entire operation would grind to a standstill for at least a year, maybe two. And if they were lucky, it might all go down as an unfortunate accident.

Juan followed his gaze, watching the pyre with satisfaction. "Looks like we set the whole state on fire tonight."

The distant flames glistened in the big man's eyes as he turned to Juan.

"No, my friend," he said with a wicked grin. "We have set the whole world on fire."

2

Sweat trickled down the President's neck, dampening the collar of his starched white shirt. The mercury was hovering near triple digits, unusual for June in Connecticut. A slight breeze off Block Island Sound failed to cut the humidity, leaving the riverside shipyard a sweltering hothouse. Inside a massive green assembly bay known as Building 260, the air-conditioning fought a futile battle with the afternoon heat.

The Electric Boat Corporation had begun building diesel marine engines on the site along the Thames River in 1910, but ultimately submarine construction became the company's bread and butter. The Groton shipyard delivered its first submarine to the Navy in 1934, and had since constructed every major class of U.S. underwater warship. Nearing completion inside the green building stood the imposing hull of the *North Dakota*, the latest fast attack submarine of the Virginia class.

From a scaffold stairway that led from the *North Dakota*'s conning tower, the President stepped heavily onto the concrete floor with a grunt. A large-framed man who hated confined spaces, he was thankful the interior tour was over. At least it had been cooler inside the submarine. With the economy a mess and Congress mired in another deadlock, visiting a shipyard seemed like the last priority on his agenda, but he had promised the Secretary of the Navy he would go boost the morale of the ship workers. As a small entourage flocked to catch up with him, he suppressed his irritation by marveling at the sub's dimensions.

"An amazing feat of construction."

"Yes, sir," said a blond-haired man in a tailored suit who hung at the President's elbow as if attached by a string. "She's an impressive feat of technology." Assistant Chief of Staff Tom Cerny had specialized in defense issues on Capitol Hill before joining the administration.

"She's slightly longer than the Seawolf class boats, but downright minuscule compared to a *Trident*," said the tour guide, a chipper Electric Boat engineering manager. "Most people are used to seeing them in the water, where two-thirds of their bulk is hidden from view."

The President nodded. As it lay on huge supporting blocks, the three-hundred-and-seventy-seven-foot-long hull towered over them.

"She'll be a great addition to our arsenal. I thank you for giving me the opportunity to see her up close."

A granite-faced admiral named Winters stepped forward.

"Mr. President, while we were happy to have you preview the *North Dakota*, she was not the reason we asked you up here."

The President took off a white hard hat affixed with the presidential seal, handed it to the admiral, and wiped a bead of sweat from his forehead.

"If a cold drink and a touch more air-conditioning can be worked into the bargain, then lead on."

He was escorted across the building to a small door guarded by a uniformed security man. The door was unlocked, and the presidential group led in one by one, their faces captured by a video camera above the sill.

The admiral flicked on a bank of overhead lights, illuminating a narrow bay that stretched nearly four hundred feet. The President saw another submarine in a state of near completion, but this vessel was like nothing he had ever seen before.

Roughly half the size of the *North Dakota,* it sported a radically different design. Its unusually narrow jet-black hull tapered sharply at the bow. A low, egg-shaped conning tower rose just a few feet above its top deck. Two large streamlined pods were affixed close to the stern, almost in the shape of a dolphin's tail. But the most unusual feature was a pair of retractable stabilizers, shaped like triangular wings, that stretched from either side. A pack of four large tubular canisters clung to their undersides.

The design reminded the President of a giant manta ray he'd seen while fishing off Baja California.

"What on earth is this thing?" he asked. "I wasn't aware we were building anything other than the Virginia class boats."

"Sir, this is the *Sea Arrow*," the admiral said. "It's a prototype

platform developed under a secret R & D program to test highly advanced technologies."

Cerny turned on the admiral. "Why wasn't the President informed of this program? I'd like to know how it was funded."

The admiral stared at the aide with the warmth of a starving pit bull. "The *Sea Arrow* was built with Defense Advanced Research Projects Agency and Office of Naval Research funding. The President is presently being informed of its existence."

The President ignored them and strode along the vessel, peering at the odd appendages along the hull. He studied a concentric circle of small tubes that sprouted off the bow, then made his way aft, noting the sub had no propellers. He gave Winters a questioning look.

"All right, Admiral, you have my curiosity. Tell me about the *Sea Arrow*."

"Mr. President, I'll pass that task to Joe Eberson, who heads up the project. You met Joe earlier. He's DARPA's director of Sea Platforms Technology."

A bearded man with studious eyes worked his way to the front of the group. He spoke in a measured tone with the hint of a Tennessee accent.

"Sir, the *Sea Arrow* was, or is, being built as a multigenerational leap in undersea technology. We're bypassing the traditional development process by integrating a range of cutting-edge technologies and advanced theories directly into the construction. We started with a planned number of technical features that were purely at the conceptual stage. Through the crash efforts of numerous independent engineering teams around the country,

I'm happy to report we are very close to fielding the most advanced attack submarine in history."

The President nodded. "So tell me about all these odd appendages. She looks like some flying creature from the Jurassic age."

"Let's start at the stern. You'll notice she has no propeller." Eberson pointed at the rounded pods. "That's what these two external cases are for. The *Sea Arrow* will be powered by a shaftless propulsion system. The *North Dakota*, as you saw, uses a nuclear reactor to power a traditional steam turbine, which in turn drives a shaft-mounted screw. On the *Sea Arrow*, we've gone to an external drive system, which will be powered directly from the reactor. Each of these two flared pods will contain a permanent high-intensity magnetic motor that drives a pump jet propulsion system." Eberson smiled. "Aside from drastically reducing noise, the design frees up a tremendous amount of interior space, which has allowed us to shrink the vessel's overall size."

"What are these permanent magnet motors?"

"They're an evolutionary, if not revolutionary, advance in the electric motor, made possible by recent breakthroughs in material sciences. A mix of rare mineral elements is synthesized to create extremely powerful magnets, which are then wound into high-performance, direct-current motors. We've invested a great deal of research in perfecting these motors—and believe they will revolutionize the way our future warships are powered."

The President peered through a baffle on one of the pods and saw light shine through from above.

"It looks empty inside."

"We haven't actually received and installed the motors yet. The first is due in next week from the Navy's research lab in Chesapeake, Maryland."

"You sure they're going to work?"

"While we haven't fielded motors of this size, we are confident from our lab tests that they will provide the predicted levels of performance."

The President ducked beneath one of the extended stabilizers, then glanced up at a pair of barrel-shaped protrusions fore and aft of the conning tower.

Eberson followed in his steps, narrating as he walked.

"The wing-shaped extensions are retractable stabilizers for high-speed operations. They automatically withdraw into the hull when speeds drop below ten knots. The tube-shaped box is a torpedo canister, capable of holding four fish on each stabilizer. The canisters can be reloaded quickly when the stabilizer is retracted into the hull."

Eberson pointed to the two barrel-shaped objects above them. "Those are subsurface Gatling guns. They're similar to those used on surface ships, which shoot depleted uranium pellets at rapid fire for last-ditch missile protection. Ours have been developed to fire underwater, using compressed air, for last-ditch torpedo suppression. Of course, we're banking that most enemy torpedoes will never come near us."

He followed the President as he stepped toward the hull.

"The conning tower, you'll note, is of a slipstream design to accommodate high speed."

"Doesn't look like she'll allow for much of a periscope."

"The *Sea Arrow* doesn't actually have a periscope, at least not in the traditional sense," Eberson said. "She utilizes an ROV-type video camera that is deployed on a tethered fiber-optic cable. It can be released from a depth of eight hundred feet to give the crew a high-definition picture of what's going on on the surface."

The President continued on to the tapered bow and reached up to stroke one of the small tubes that jutted forward like a thin lance. "And this?"

"That's the key link that will really make her go," Eberson said. "It's a secondary upgrade we hope to implement, based on a technological breakthrough from one of our contractors in California—"

Admiral Winters cut him off. "Mr. President, why don't we take a quick tour aboard, then we have a short presentation to show you that should answer all your questions."

"Very well, Admiral. Though I'm still waiting for my drink."

The admiral hustled the group through a quick tour of the interior, where they found a streamlined interior that contrasted with the *North Dakota* in its sleek modernity and scale of automated systems. The Commander in Chief remained silent as he viewed the high-tech command center, the small number of plush crew's quarters, and the odd assortment of padded seats with full safety harnesses that were positioned about the vessel.

After the tour, the President was led to a secure conference room, where he was finally given a cold drink. His normally jovial demeanor had turned hard, echoed by his aide Cerny.

"All right, gentlemen," the President bellowed. "What exactly is going on here? I see much more than some test platform for

new technologies. That's a seaworthy vessel on the verge of launch."

"Sir," the admiral said, clearing his throat. "What we possess with the *Sea Arrow* is a complete game changer. As you know, there has been a recent surge in the threat to our naval forces. The Iranians have acquired a host of new subsea technologies from the Russians and are working feverishly to add to their fleet of Kilo class subs. The Russians themselves have dramatically kicked up their shipbuilding efforts, with the help of oil revenues, to replace their aging fleet. And, of course, we have the Chinese. While they continue to claim their military expansion is strictly for defensive purposes, it's no secret that they've been rapidly expanding their blue-water fleet. Sources expect their Type 097 nuclear sub to go operational any day. That all makes for growing threats in the Pacific, the Atlantic, and the Persian Gulf."

The admiral looked the President in the eye and gave him a grim smile. "On our side of the ledger, we have a continually shrinking fleet as the cost of each new deployed vessel skyrockets. At a cost of over two billion dollars each, we all know there's just a limited number of Virginia class subs that can be squeezed out of an ever-tightening budget."

"The national debt is still out of control," the President said, "so the Navy will have to take its medicine, just like everybody else."

"Precisely, sir. Which brings us to the *Sea Arrow*. Eliminating the lengthy research-to-production cycle and piggybacking on some economies of scale with the Virginia program allowed us to construct her at a fraction of the *North Dakota*'s cost. As you

can see, she has been built in utmost secrecy. We intentionally built her alongside the *Dakota* to divert attention and allow for delivery of components without suspicion. We hope to secretly launch her for sea trials when the *North Dakota* is publicly commissioned."

The President frowned. "You've done a splendid job of keeping her under wraps so far."

"Thank you, sir. As Dr. Eberson mentioned, what we have before you is the most technically advanced submarine ever built. The shaftless propulsion drive, the external torpedo tubes, and the torpedo suppression system are all state-of-the-art technologies. But there's an additional element to her design that truly sets her apart."

Eberson had already loaded a disk into a projection player.

On a whiteboard, video footage appeared of the open stern of a small boat bobbing about a mountain lake. Two men lifted a bright yellow torpedo-shaped device from the deck and placed it over the side. The President could see by its winged appendages that it was a mock-up of the *Sea Arrow*, operated by remote control.

"That is a scale model," Eberson said. "She was built to the exact configuration and uses the same type of propulsion system."

As the model was launched, the image switched to an onboard camera view. A row of tracking meters superimposed at the bottom of the screen indicated the model's speed, depth, pitch, and roll.

The model submerged a short depth into sage green waters and began accelerating. A flurry of lake sediments rushed past

the camera as the tiny submersible gained speed. Suddenly, a surge of small bubbles filled the screen, obscuring the image. The video remained a snowy blur as the model continued to accelerate. The President's mouth dropped as he watched the speed gauge roll into triple digits. Eventually the model slowed and returned to the surface, where it was retrieved before the video clip ended.

Silence filled the room for a moment before the President spoke in a low voice. "Am I to understand that this model attained an underwater speed of one hundred and fifty miles per hour?"

"No, sir," Eberson replied with a smile. "She attained a speed of one hundred and fifty knots, which would be on the order of one hundred and seventy-two miles per hour."

"That's impossible. I've been told naval propulsion technologies can't get past seventy or eighty knots. Even the *North Dakota* only manages thirty-five."

"Didn't the Russians develop some kind of torpedo that can run over a hundred knots?" Cerny asked.

"Yes, they have the *Shkval*," Eberson said, "which is a high-speed, rocket-powered torpedo. A similar principle is in play with the *Sea Arrow*. It's not the propulsion that allows the high rate of speed but rather supercavitation."

"Forgive my lack of engineering know-how," the President said, "but doesn't supercavitation have to do with disturbances in the water?"

"Yes. In the case here, it involves creating a gas bubble around the object traveling underwater. The bubble frees up the water's drag, allowing for much higher speeds. The array of

tubes on the *Sea Arrow*'s prow will be part of the supercavitation system we hope to deploy. Combined with the high-power magnetic motors, we fully expect to match those kinds of speeds—without the range limitations the Russians have with their rocket torpedoes."

"Perhaps," Cerny said, "but there's a substantial difference between a torpedo and a two-hundred-foot submarine."

"The differences mostly come in the way of control at high speeds," Eberson said. "The *Sea Arrow*'s Jurassic wings, as the President described them, will aid in providing stability. The supercavitation system itself will more directly affect control by manipulating the size and shape of the gas bubble. It's an untested theory on a vessel this size, but our supplier of the system is confident in its capability. I will actually be monitoring a final sea trial of their model next week."

The President sat, rubbing his chin. Finally, he looked at the admiral with a knowing gaze. "Admiral, if she works as advertised, what exactly does it mean?"

"The *Sea Arrow* will put us twenty years ahead of our nearest adversary. The Chinese, Russian, and Iranian buildup will be effectively neutralized. We'll have a weapon at our disposal that is nearly invulnerable. And with just a handful of *Sea Arrow*s, we'll be able to defend every corner of the globe on almost immediate notice. What it really means, sir, is that we won't have to worry about the safety of the seas for the balance of our lifetimes."

The President nodded. The heat and humidity seemed to disappear from the room, and, for the first time all day, he smiled.

3

The customary Southern Californian early-morning gloom hung over the marina, the air damp with a misty drizzle. Joe Eberson hoisted himself from behind the wheel of a rental car and eyed the parking lot, then moved to the trunk, retrieving a tackle box and fishing rod. Both had been purchased the night before, shortly after his flight from the East Coast landed at San Diego's Lindbergh Field. Flipping on a battered bucket hat, he ambled into the sprawling marina at Shelter Island.

Eberson ignored the buzz of an E-2 Hawkeye surveillance plane taking off from the Coronado Naval Air Station across the harbor as he made his way past dozens of small sailboats and powerboats. The playthings of weekend hobbyists, Eberson rightly suspected, most of these pleasure boats seldom left their

slips. Spotting a forty-foot cabin cruiser with a large open rear deck, he stepped alongside. The boat was pushing its fifth decade, but its gleaming white hull and polished brightwork revealed an owner who had long provided it loving care. A gurgle from the stern indicated the engine was already warming at idle.

"Joe, there you are," said a man who stepped from the cabin. "We were almost ready to leave without you."

With his slight build, thick glasses, and white hair worn in a flattop, Dr. Carl Heiland looked every bit the electrical engineer. His eyes danced and he grinned easily, exhibiting a near-constant state of high energy even at six in the morning.

Short on sleep and exhausted from his cross-country flight, Eberson oozed the opposite sentiment. He gingerly climbed aboard and shook hands.

"Sorry I'm late, doctor," Eberson said, suppressing a yawn. "I took a wrong turn out of the hotel and didn't realize it until I pulled up to SeaWorld. I think even Shamu was still asleep."

"It gave me time to get everything aboard." Heiland nodded toward a mixed box of crates strapped to the bulwarks. "Here, let's stow your tackle next to our gear." He reached for Eberson's fishing rod, then caught a glimpse of his hat. He burst out laughing.

"You angling for brook trout today?"

Eberson pulled off his hat and examined the worn crown. A scattered band of brightly colored freshwater fishing flies encircled it. "You did say fishing attire."

"I doubt anybody else noticed," Heiland snorted, then called into the cabin, "Manny, go ahead and take us out."

A dark-skinned man in cutoffs appeared and untied the deck lines. Moments later, he was behind the wheel, piloting the boat into horseshoe-shaped San Diego Harbor. They dodged an incoming Navy amphibious ship before clearing the channel and entering the Pacific. Manny kicked up the throttle and set a course to the southwest, rolling through a light swell stirred by an onshore breeze. Soon Eberson begin to feel queasy, and he ducked past Manny to grab a seat in the main cabin.

Heiland poured him a mug of coffee and joined him at the galley table. "So tell me, Joe, how are things back in Arlington?"

"As you know, we just spilled the beans to the President. Nevertheless, we're under the usual squeeze of trying to accomplish more with fewer resources. We'll be lucky to avoid a big budget reduction next year, I'm afraid."

"I figured it was only a matter of time before the ax fell in our direction. Glad I've got five years' worth of work under contract."

"You needn't worry, Carl. Your firm's work is of utmost importance. As a matter of fact, I've got approval to proceed with the Block Two retroactive upgrade—if you can prove operational ability. I assume that's why you called me out here on short notice?"

Heiland gave him a cagey look. "That's some riverboat gambling on your part. You haven't even field-tested the Block One system yet."

Eberson shook off a bout of nausea to return Heiland's smile. "Carl, we both know it's going to work."

"Did you source the propulsion components?"

"Yes, though there are some material issues going forward."

He looked at Heiland with an expectant gaze. "But we're more interested in the Block Two mods."

"We've had some similar materials issues, but I think we've made the breakthrough that we've been chasing after."

Eberson smiled broadly. "That's why I jumped on the first plane from Washington. I know you like to keep things light and tight."

"Given the secure nature of the project, I don't like to draw attention to our field tests. Seemed to work for Block One, so that's why we're just keeping it to a little fishing trip today." He looked again at Eberson's hat and smiled.

"We've done our best to keep a lid on things at our end. Of course, you haven't exactly given us much in the way of specs."

"The fewer eyes around, the better."

Eberson took a swallow of coffee, then leaned across the table.

"Do you think we can really get to the theoretically predicted levels?"

Heiland nodded, his eyes sparkling. "We'll find out shortly."

A few minutes later, Manny cut the motor, signaling they had arrived at their test site. They had crossed into Mexican waters, almost twenty miles from shore and well off the path of the average San Diego day sailor. The water was too deep to anchor, so the boat drifted while Heiland went to work.

Ignoring a long rectangular case strapped to the bulwarks, he opened several smaller cases that contained a pair of laptops, some cabling, and connectors. Setting the computers on a low bench, he knelt and began configuring them.

Manny poked his head out from the wheelhouse. "Doc, there's a freighter coming up on us."

Heiland glanced over his shoulder. "She'll be well past us by the time we're ready to go." He returned his attention to the computers.

Eberson took a seat on the large crate and watched the ship approach. A midsized freighter, it seemed of recent build, by its streamlined design and lack of rust. Dark gray in color, the ship almost had a Navy look about it. The bridge windows caught Eberson's attention. Tinted black, they gave off an odd, almost menacing look.

A few crewmen in coveralls on the main deck worked behind a large container. As the ship drew closer, he could see they were adjusting a large dish-shaped object mounted on a platform amidships. The dish was painted a drab green and turned toward the sea, rising several feet into the air like a hardened sail. The men on deck soon disappeared, and Eberson noted the ship seemed to be slowing.

"Carl, I'm not sure about this ship." He rose uncomfortably to his feet.

"We've got nothing for them to see," Heiland said. "Why don't you pick up a rod and make like you're here to catch a tuna."

Eberson grabbed one of the boat's rods from a rack and cast a weighted hook over the side, not bothering with any bait lest he actually have to fight a beast from the deep. As the freighter pulled alongside a short distance away, he tossed a friendly wave toward the blacked-out bridge.

A burning pain shot through his hand, quickly tracking down his arm to his torso. He dropped his arm and shook it, but the sensation was already spreading across his body. In seconds, it

felt like a thousand red ants were biting his flesh. The fire shot to his head, where his eyes seemed to boil in their sockets.

"Carl—" he cried. The words came out in a raspy gurgle.

Heiland felt the same burning sensation on his back. Spinning around, he processed two scenes at once. One was the dying Joe Eberson, still clutching the fishing rod as he fell to the deck, his skin glowing scarlet. The other was the freighter's shield-like device, directed at him from a few dozen yards away.

Ignoring the burning that seared through his body, he staggered to the cabin. Manny was already on the deck, gasping a last breath as blood dribbled from his nose and ears. Heiland stepped past his longtime friend as his own pain became amplified. His entire body felt inflamed. Somewhere in his consciousness, he wondered why his skin wasn't falling off in chunks. A single urge drove him forward as he lurched to the pilot's seat. His head felt like it was going to explode as he reached under the console, his burning fingers grasping a pair of hidden toggles. He tripped them both, then took his last breath.

4

"Are you going to get wet with me?"

Loren Smith-Pitt stared at her husband. Just seconds ago, it seemed, he had risen from the pilot's seat and tossed an anchor over the side of their rented speedboat. Yet now he sat on the transom, clad in wet suit and dive tank, anxious to explore the depths below. Loren could only marvel at how the sea acted like a magnet to the man, drawing him in with an unseen force.

"I think I'll stay here and enjoy the sunshine and the clear Chilean sky," she said. "With Congress back in session on Monday, I could use a healthy dose of fresh air."

"For Capitol Hill, earplugs might be a better choice."

Loren ignored her husband's quip. A congresswoman from Colorado, Loren was only too happy to escape the partisan bickering of Washington, if only for a few days. Free from the pressures of work and an intrusive media, she felt more relaxed in

another country. Dressed in a skimpy two-piece bathing suit she would never wear at home, she flaunted her curvaceous but firm body, kept trim through yoga and daily runs on a treadmill.

Stretching across the boat's bench seat, she hung a leg over the side and dipped her toes in the water. "Yikes! That water is cold. I'm going to stay warm and dry up here, thank you very much."

"I won't be gone long." Her husband stuck a regulator between his teeth, stared admiringly at his wife for a moment, then fell backward into the blue Pacific. He playfully kicked a spray of water onto his wife with a fin before he disappeared under the surface.

Toweling herself off, Loren tracked her husband's air bubbles for a few minutes, then gazed across the horizon. The afternoon air was crystal clear, the sapphire sky nearly matching the color of the ocean. They'd anchored the red speedboat a half mile off the Chilean coast, opposite a small beach called Playa Caleta Abarca.

A towering Sheraton Hotel stood on a rock cliff nearby, its outdoor pool crowded with sun-worshiping tourists. A short distance to the south lay Valparaiso, Chile's colorful and historic seaport long known by sailors as the "Jewel of the Pacific." Ancient buildings climbed the steep hills ringing the city, reminding Loren of San Francisco. She noted a large white cruise ship, the *Sea Splendour*, anchored in the bay, shuttling passengers ashore to visit the beaches of Viña del Mar or to trek to Chile's capital city of Santiago, sixty miles southeast.

A gentle swell rocked the speedboat as Loren turned her gaze to sea. A small yellow sailboat passed by, then tacked north toward an approaching freighter, its triangular sail fluttering. She

leaned back on the padded seat, closed her eyes, and luxuriated in the warmth of the sun.

Sixty feet beneath her, Dirk Pitt had just shaken the ocean's chill that permeated the country's coastal waters due to the Humboldt Current. His breath rate eased as he slowed his descent. The visibility was good, about forty feet, allowing him clear view of a rocky bottom anchored with thick seaweed. Kicking his fins lazily, he glided over a coral-strewn ledge crowded with brightly colored urchins and starfish. A small school of jack mackerel eyed him for a minute or two, then darted away.

The sea relaxed Pitt in a way nothing else could. To some it was confining, but Pitt found the ocean depths produced in him an odd feeling of release that seemed to heighten his senses. It was an experience born decades ago, when he spent the better part of his youth exploring the coves along the Southern Californian coastline, free diving and bodysurfing. The allure was like that of flying, which had led him to the Air Force Academy and flight school as a young officer.

But the draw of the sea enticed him to leave the flight line and a promising military career to join a newly created federal organization, the National Underwater and Marine Agency. Created to study and protect the world's oceans, NUMA was the perfect home for Pitt, allowing him to work on and beneath the sea, all over the world. After years as its Special Projects Director, he now found himself heading the agency, which only fortified his sense of stewardship of the world's oceans. Loren often joked that she still competed with Pitt's first love, his mistress called the sea.

Pitt's quest for underwater discovery, along with a love of

history, had led him to discover dozens of shipwrecks. But this afternoon, the object of his search was considerably smaller. Eyeing a thick ridge of jagged rocks that stretched into deeper water, he swam over and surveyed its crevices. After several minutes, he found what he was looking for. He plunged an arm between two boulders and pulled out a spirited brown spiny lobster that weighed almost five pounds. He eyed its long, waving antennas for a moment and then stuffed the crustacean into a mesh dive bag and began a search for its twin.

Above the noisy rhythm of his regulated breathing, a faint tapping rippled through the water.

He held his breath to hear better. The metallic rapping repeated a familiar cadence—two short raps, two long raps, then two short raps. It wasn't exactly the Morse code distress call of SOS, which used three dots and dashes, but Pitt guessed the intent was the same. He could not determine its direction, only that the source was nearby. It had to be Loren.

He kicked toward the surface, angling for the position of the speedboat. He spotted the anchor line and approached it, swimming hard, surfacing a few yards behind the boat. Loren was leaning over the transom, pounding a spare diver's lead weight on the stern drive housing. Engrossed in her signaling, she didn't notice him emerge.

"What's wrong?" he shouted.

She looked up, and Pitt saw a desperate fear in her eyes. Lost for words, she simply pointed behind him. He spun his head around—and was engulfed in a massive shadow.

It was a ship, a massive bulk carrier, bearing down on them barely a hundred feet away. The speedboat bobbed in the direct

path of the ship's broad, high bow, which pushed an ominous mountain of white foamy water in front of it. Pitt cursed the fools on the bridge, who were either blind or asleep.

Without hesitation, he kicked and stroked furiously to the boat until he could reach an arm over the side.

"Should I start the motor?" Loren's face was drawn. "I was afraid to try while you were underwater."

Pitt saw the anchor line was still set, running up into a small locker on the bow. Behind him, he heard the deep rumble of the ship's engines as its towering hulk advanced. It was too close. Any slip in cutting the anchor line or a delay in starting the motor and their boat would be smashed to bits, with them in it.

With the regulator back between his teeth, he shook his head at Loren and waved for her to come closer.

She hurried to the side and reached to help him aboard.

Instead he reached past her hand and hooked his arm around her waist.

Before she could react, she felt herself being jerked over the side. She yelped as her body hit the cold water. Kicking and floundering, she gasped for a last breath of air. The towering mountain of steel was now just yards away.

Then she was snatched like a rag doll and disappeared beneath the rippling surface.