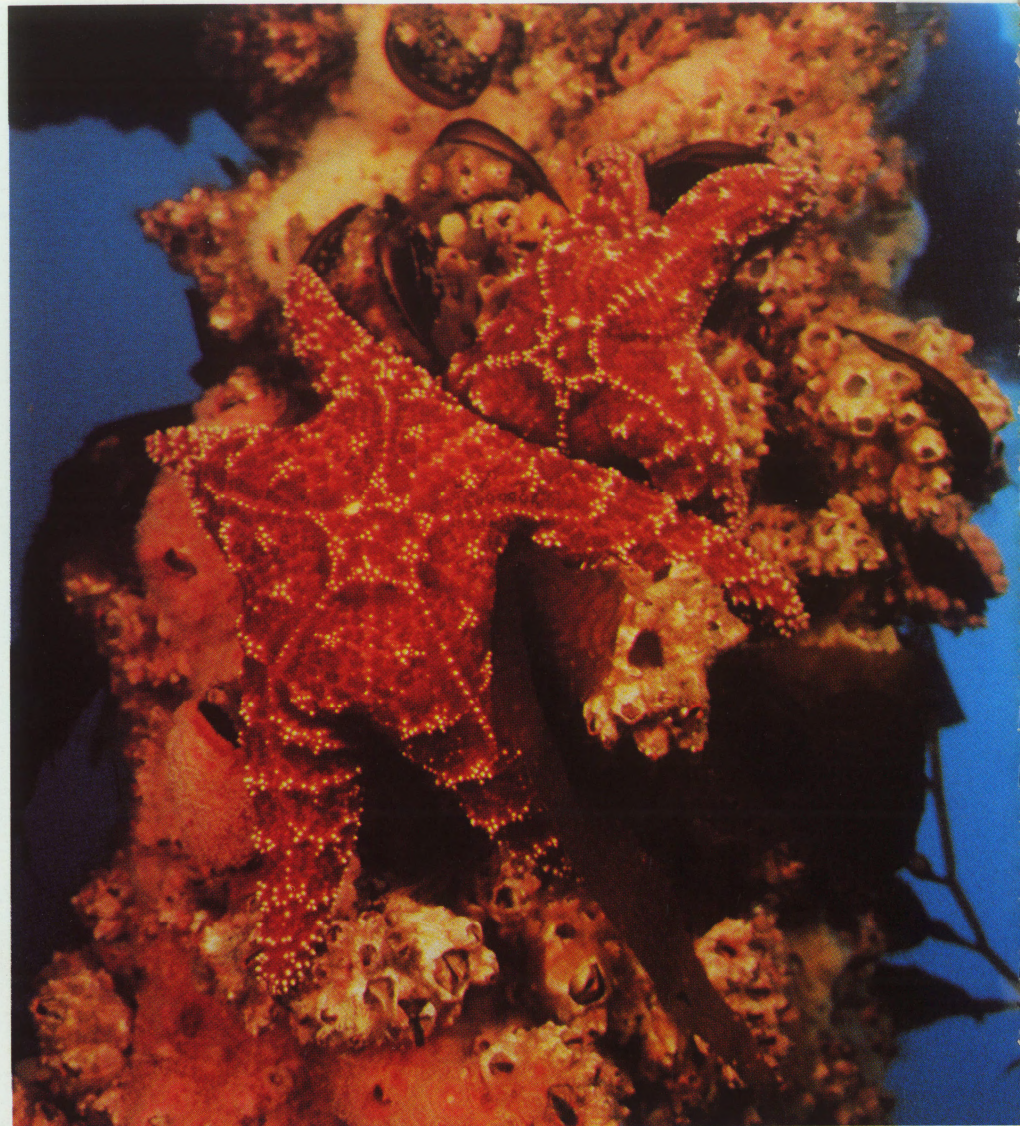


"... a small amount of smothering..."

Article: Hillary Hauser  
Photography: Bob Evans



The prolific undersea life (left) that normally grows on the artificial reefs which are created by offshore oil platforms is a vivid contrast to the solitary crab (right) searching through drill mud for remains of dead or dying animals. Chevron's platform Hilda (below) is silhouetted against the late afternoon sun.

It was about 10 o'clock at night when we pulled up on the *Haik* to Platform Hilda for a dive. The full moon provided the only light by which we assembled our tanks and other dive paraphernalia, and over the side we jumped. Bob Evans, Erica, Andy McMullen, Chris Swann and I reached for each other, held hands and in a loose semi-circle drifted down — into absolutely black water. Then, because we behaved very strangely in those days, we turned off our lights and let each other go so that we could wave our hands around to make phosphorescent fireworks in the water with our fingers.

Erica suddenly grabbed my hand in the dark, and I felt her trembling like a scared leaf. This was not the kind of dive she was used to making, nor was she that fond of the dark.

We turned our lights on again and sunk to the bottom. Hilda, a Chevron oil platform about two miles off the coast of Santa Barbara, California, is in 90 feet of water.

At the bottom, we saw what we had come to see: the night life. It was busier than Studio 54 — every crab who was any crab had crawled out from the nooks and crannies of the great steel reef, and all of them were dancing. But mainly, they were eating anything that didn't move.

Bob got his camera and began to take pictures. We had been recording the underwater life of not only Hilda, but of many other oil platforms in the channel, but we had never before documented what happens at night.

Our observations were published as early as 1974 in numerous oil company

magazines, one of which trumpeted the headline, "Go with Hillary Hauser and Bob Evans on a fascinating underwater excursion to the depths below an oil production platform situated in the Santa Barbara Channel."

Our articles appeared in Exxon, Chevron and Texaco company magazines, and we made a video movie that oil companies often showed at various presentations. A picture of me swimming underneath a platform appeared in national magazines like *Newsweek*, with the news that I was a school teacher having fun inspecting schools of fish, and I also appeared in a national television commercial as an "environmental reporter" concerned about the effects of platforms on sea life. That commercial ran for well over a year.

What we saw, and what we said, is that the platforms function as magnificent artificial reefs, which they do. We described mussels, barnacles, starfish, sea perches, rockfish, sculpins, cabezons, scallops, hydrozoans, club anemones, sea cucumbers and soft corals, all having a wonderful time making babies.

We petted giant mola molas, big ocean-going sunfish that came into the platform area to investigate the goings-on. I remember leaving my fingerprints on the side of one of them, which had such a buildup of underwater dust on its silvery sides that it was like rubbing a chalkboard.

We described how local mariculture firms were installing experimental abalone habitats underneath one of the platforms, and we reiterated time and time again how open-ocean mariculture on





the platforms was (and is) a good idea, because of the artificial reef phenomenon of the structures.

Under contract to Chevron, Bob and Andy planted 3,000 baby starfish around the bottom of the platform to control mussel growth on the legs of one of the platforms. Oil companies consider mussels a nuisance, since the prolific growth and buildup of these shellfish on platform legs creates a hazardous drag against the ocean currents.

That the oil companies wanted to rid themselves of mussels got Bob, Andy and their friend Rick Williams started on a plan to harvest the mussels for edible seafood, because by now, people were ordering mussels by the dozens in restaurants and at fish markets. *Moules mari-niere*, mussel spaghetti, mussels Rockefeller. I remember well the first time we collected mussels from one of our first steel reef excursions — long before any one had thought of harvesting or eating mussels from an oil platform. We brought them home, invited our friends over, and we steamed the mussels in wine, garlic and some other things.

We joked about calling 911 and then eating, because there was this stigma about oil and seafood, but it wasn't necessary. We ate all the mussels in a memorable meal that counted among the best seafood any of us had ever eaten — and none of us passed out.

Mainly, we had fun diving. As strange as it feels to put these words down today, we thought oil platforms were more interesting to explore than the nearby Channel Islands. There was more life in one square foot of vertical reef than we had found in any reef horizontal. Bob and Andy logged over 700 dives on the platforms, and they knew them well.

The only hazard I ever encountered from all this petro-exploration was from swimming too close to the zincs that hung down on thick wire strings. Oil companies put them there to discourage corrosion caused by salt water, and occasionally, as I'd swim around the legs of one of these giant erector sets, I'd get a strong metallic taste in my mouth. That was a signal that the fillings in my teeth were dissolving, but the problem was simply solved by swimming away doubletime.

But there was another hazard we had not yet encountered: drill mud.

In July 1978, Bob and Andy went back to Platform Hilda and this familiar underwater territory had become strangely different.

There was a deep layer of drilling mud and patches of "weird, white stuff" all over the bottom, as Bob noted in his ship's log. There were dead crabs and urchins, some decaying rockfish, and hundreds of dead sea cucumbers spread over the bottom on one side of the platform.

The starfish project was wiped out. "They were gone — 3,000 of them," Bob told me. "But what was really strange was that the crabs had crawled out on top of the mud and they had died. They hadn't suffocated, because they were, on top of the stuff. Crabs feed on dead things, and whatever they had eaten had killed them."

Bob and Andy recorded the scene with video and still cameras, and they collected three jars of the "stuff" and debris from the bottom.

On August 21, 1978, Bob and Andy attended a meeting of the International Society of Petroleum Industry Biologists in Los Angeles, where they were scheduled to show one of their films depicting the underwater environment of the oil platform.

During the symposium they invited oil company representatives to view the videofilm they had made of the underwater desolation they had seen at Platform Hilda. They also told the officials that they had collected jars of drilling mud samples and said they thought the drilling mud situation called for study.

Then, nothing happened.

"They were more interested in which company it was that had dumped the mud," Bob recalled. "They weren't interested in taking a close look at it."

"I'm not saying that drilling mud is or isn't bad," he added, "but the way they reacted to it, and what they did afterward, made me stop and think about the whole thing."

Andy wasn't about to let the matter drop. Right after he had collected the samples with Bob, he developed an eye infection that reoccurs to this day. On September 22, 1978, he wrote directly to

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the White House (to Jimmy Carter, who was president at the time), and relayed the information about the dive and about the Los Angeles meeting with oil industry representatives whom he described as "apathetic."

Before long, Bob and Andy were contacted about the letter. Copies of it had filtered down from the White House to state and local agencies, oil industry presidents, regional heads and finally ended up at local oil company offices.

In November 1978, Chevron asked for and received from Bob the jars of drilling mud, the photographs and the videofilm Bob had shown in Los Angeles. The oil company then contacted Bob to go out and take additional samples of the mud he and Andy had seen. Bob made repeated trips to Platform Hilda over a period of two months, making collections and turning in more samples to the oil company at the end of each trip.

Then, he never heard from anyone.

In 1981, I began to work for the *Santa Barbara News-Press* as a reporter on marine subjects. I heard that the Environmental Protection Agency (EPA) was holding public hearings on a proposal to issue a blanket permit allowing oil companies to dump wastes — including drill mud — into federal waters off California. (State waters are from the shore to three miles out; federal waters are beyond three miles.)

By law, drill muds from oil operations in both federal and state waters must be hauled ashore and disposed at a toxic waste dump — unless an oil company gets a permit to dump them at sea. To get a permit, the oil company must present its case at various public hearings.

The blanket permit being sought in the EPA hearings would eliminate the specific permits and hearing procedures required.

I decided to go to the hearings and began to do a little research.

Drill mud (more correctly called drilling fluid, since it doesn't resemble the mud one finds in one's back yard), is a clay-based (barite) fluid used to lubricate the drill bit, circulate the drill cuttings to the surface, help seal the well wall, and control pressure in the well.

Lubricants and other substances are added to the mud and include arsenic,

cadmium, chromium and mercury — all highly toxic.

At the hearing, oil company representatives said the substances are "harmless when dumped at sea," and that the studies they had funded corroborated this. The studies were the backbone of the environmental impact report (EIR), included in the hearing records.

Since Bob and Andy's report about Platform Hilda did not match what oil industry studies were saying about drill muds, I decided to see what had happened to their samples and film.

I called the local Chevron office and scheduled an appointment with the officials there.

The Chevron officials first acknowledged that the mud Bob had seen under Platform Hilda was the same material that would be dumped under the proposed blanket waste discharge permit being considered by EPA.

When I asked what had happened to Bob's report, the samples and the film, Chevron's area supervisor said his company had given them to "some local agency — who checked it out and determined that it looked good."

"Governor Brown and the higher-ups knew about it," the area supervisor said.

I learned that the state Lands Commission functions as the "landlord" of oil installations in state waters, and that oil companies are required by law to report their mishaps and violations to this agency.

So, I called the state Lands Commission, to see what the agency knew about the Platform Hilda incident.

A commission engineer in the Lands Commission's Long Beach office told me they did receive a report — Andy's letter of the mud dumping incident. He also said his agency "sent their own people to investigate."

What they found from their investigation, this engineer told me, was that "the material in question (was) a pile of old drill cuttings that had been there prior to 1969."

(Bob and I had our most pleasant underwater explorations of Platform Hilda after 1969 and we never saw a "pile of old drill cuttings." I figured the engineer picked 1969 because this was the year in which the state clamped down on oil

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drilling in the tidelands area and required drill mud to be hauled to a toxic waste dump on land.)

Continuing on, I asked the Lands Commission engineer what "their own people" found when they went to investigate.

The engineer said his agency made its determination from a videofilm supplied to them by Chevron, which he presumed to be Evans' film. From that film, he said, they determined that they were looking at a pile of old drill cuttings.

He said, "There was damage to the marine life down there," which he described as "a small amount of smothering from when the mud was deposited."

The engineer, I realized, was referring to an escape clause in the permit that allows an oil company to dump drilling muds at sea. While the permit states, "The discharge shall not contain harmful concentrations of substances which are toxic or otherwise detrimental to human, animal, plant, bird or other aquatic life," the exception to the permit states:

"...if degradation of bottom life is due to the smothering effect of large amounts of mud rather than a toxic substance in the mud, this requirement does not apply."

The Lands Commission engineer said Andy's letter had spurred the regional Water Quality Control Board to act — the Board required Chevron to weld a plate over the downpipe, "so that no future incident could occur."

To me, this seemed like a strange directive, if what Chevron did ("a small amount of smothering") was within the law.

I telephoned the regional Water Quality Control Board, and an engineer there told me his agency had written Andy that it had issued a permit for Chevron to discharge drilling waste "under certain conditions." However, what Bob and Andy had observed "appeared to be a violation," the engineer said.

Although discharge violations must be reported by the oil company to the state Lands Commission and the regional Water Quality Control Board, the engineer said the first time the Water Quality Control Board heard about the Platform Hilda incident was through Andy's letter to the White House.

He said a major requirement of the Chevron permit was that the oil company

monitor itself. "They hire their own people for this," the engineer said. "They use their own labs or use a commercial, certified lab. This is a main condition of the permit — that they monitor themselves."

He said the Water Quality Control Board does inspect offshore operations.

I pressed to see what these inspections consisted of.

The engineer said inspectors are periodically sent to the platforms "to go through the requirements with the operators."

But, I said — does *anyone* take a physical look at what the oil companies do?

The engineer said aerial inspections are made — a procedure he said is effective in picking up surface oil slicks.

But, I said, what about underwater — the areas that cannot be seen from the air, like 90 feet underneath Platform Hilda? Does the agency hire divers?

The Water Quality Control Board, he answered, does not use divers for inspection purposes. Instead, it *relies on the public* for information.

For example, the engineer said, when his agency received a copy of Andy's letter to the White House, it responded by writing Andy for more information.

"We basically said that what he had observed appeared to be a violation and we asked him to send us more information," the engineer said. "He didn't follow up on it."

"We certainly rely on the public," he continued. "That is our biggest source of information."

When I asked Andy about this, he told me he recalled the situation vividly. "They threw the burden back on me," he said. "It's like your house is being burglarized, you call the police, and they say, Well, could you bring the burglar in?"

Andy said he believes that because taxpayers are paying for bureaus such as EPA, the state Lands Commission and the regional Water Quality Control Board, these bureaus should be doing the monitoring and not the public. (I also wondered how the public is supposed to know what is going on in 90 feet of water, two miles from shore.)

I wrote a story based on the information I had gathered, and my narrative included the frustration Bob and Andy felt. The

*"It's like your house is being burglarized, you call the police, and they say, Well, could you bring the burglar in?"*

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article appeared in the November 22, 1981, issue of the *Neus-Press*.

Soon afterward, Bob's ongoing feasibility study of mussel harvesting beneath the oil platforms came to a halt; he was no longer welcome to dive beneath Platform Hilda or anywhere else.

"We were blacklisted," Bob said.

In 1982 — not long after my story was published — the regional Water Quality Control Board formed the Oceanographic Technical Advisory Committee (OTAC), a three-member panel that was to formulate a plan by which all drilling mud studies would be conducted.

However, by June 1985, OTAC had not completed a plan.

One OTAC member, a biologist with the California Department of Fish and Game, cited a number of problems. One, he said, was that no data existed on the condition of marine life in the area before oil drilling.

"You don't know whether you're looking at the impact of the substance on the animal, or something that's wrong with the animal before," the biologist said.

He figured it would take five years (until 1990) for OTAC to get its testing and monitoring programs in place.

By now, a number of oil companies were increasing their drilling activities in federal waters off Santa Barbara. In 1985, they were again seeking a blanket permit to dump an estimated 900,000 tons of drilling muds into the sea.

Again, public hearings were scheduled.

At the hearings, oil company officials continued to insist that sea life can withstand the dumping of drilling muds. They said the muds cause poisoning and smothering, but that these reactions are only temporary and that the marine animals quickly recolonize. Most of the muds drift down-current, they said, and the offensive elements are dispersed in such a way that they are not hazardous.

By this time, there were university scientists who got into the argument.

Dr. Daniel E. Morse, a professor of molecular genetics and biochemistry at the University of California Santa Barbara, was among the vocalists. He said his own laboratory studies on the effects of drill muds on marine life had proved that adult animals exposed to drill mud for short

periods of time could probably live, but that the young larval animals die.

Drill mud, he said, blocks a chemical triggering that tells larval animals when and where to drop out of the plankton into a suitable habitat. Without this signal, entire generations of abalone, lobsters, mussels, scallops — and other marine animals that now make up the California fisheries — could fail to materialize.

"What they (oil companies) don't tell you is that the sea life that survives where drilling muds have been dumped are worms and things of that nature," said Morse. "Hundreds of different worms could be described as a 'rich biological community,' but is that what society wants?"

Morse said he is skeptical of assurances from industrial producers who state that their methods of toxic waste disposal are safe.

"These assurances are made with absolutely no basis in fact, and these things are coming back to haunt us," he said. "What we face when we've learned of the magnitude of these mistakes is that the available data is shockingly incomplete. These studies are inappropriate, but are repeatedly xeroxed and reroxed and included in EIR after EIR. If they are traced back, they rest on anecdotal evidence, most of which was funded by the producers of the toxic wastes."

The OTAC/California Fish and Game biologist I'd talked to earlier said he suspected Morse's laboratory tests with drill muds and larval animals were probably inaccurate because the amounts of drilling muds used in the tests were probably "too high."

"Laboratory conditions have to approximate what happens in the ocean," the biologist said. "Scientific testing is not the real world of oil company operations."

Morse, however, said his studies revealed toxic effects of drilling muds at concentrations, "10,000 times lower" than used in studies that ignored the sensitive larvae.

As a result of the 1985 hearings, one oil company was given a permit to dump wastes and drill muds into federal waters — with the proviso that OTAC monitor the biological developments.

The results of OTAC's monitoring

*"What they don't tell you is that the sea life that survives where drilling muds had been dumped are worms and things of that nature."*

*The question of drill muds being dumped at sea will continue to surface and resurface. . . what leaves me worried is what doesn't surface.*