Voices

THE SHALE GAS REVOLUTION FROM THE VIEWPOINT OF A FORMER INDUSTRY INSIDER

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ABSTRACT

This is an interview conducted with an oil and gas worker who was employed in the industry from 1993 to 2012. He requested that his name not be used. From 2008 to 2012, he drilled wells for a major operator in Bradford County, Pennsylvania. Bradford County is the center of the Marcellus shale gas boom in Northeastern Pennsylvania. In 2012, he formed a consulting business to assist clients who need information on the details of gas and oil drilling operations. In this interview, the worker describes the benefits and difficulties of the hard work involved in drilling unconventional gas wells in Pennsylvania. In particular, he outlines the safety procedures that were in place and how they sometimes failed, leading to workplace injuries. He provides a compelling view of the trade-offs between the economic opportunities of working on a rig and the dangers and stresses of working long hours under hazardous conditions.

Keywords: gas drilling, worker safety, drilling rig, shale gas, hydraulic fracturing

Since the shale gas and tight oil boom began in the United States, considerable press has been given to job creation, but little has been written about the health and safety of gas and oil field workers. One exception is an investigation by the

1 Tight oil is a light oil that is extracted from low-permeability formations such as shale or sandstone.
Houston Chronicle [1] that studied 18,000 work-related injuries in the oil and gas industry in Texas over the last 6 years. The overall conclusions were: “Work in Texas’ oil and gas fields involves long hours, extreme weather, and physical contact with dangerous machinery under the best of circumstances. But the dearth of safety standards, the lack of government inspections, and shoddy practices followed by many oil and gas companies have left a toll of badly injured workers” [1]. According to the article, the U.S. Occupational Safety and Health Administration (OSHA) investigated only about 150 of these cases and judged that 78% might have been prevented with safer procedures and/or equipment. This may be only the tip of the iceberg, given that only those injuries that were reported were included in the article. In another recent report [2], the mortality rate for workers in the mining and oil and gas extraction sector in North Dakota—booming with tight oil production since 2008—is more than six times the national fatality rate for this sector (104 per 100,000).

We interviewed four former workers and one current worker in the oil and gas industry about health and safety issues, job and safety training, and workers’ rights. We include here an interview with one long-time, experienced employee of the oil and gas industry, who grew up in a family that had a long history of working for the industry. His explanations and answers to our questions are consistent with the four other interviews that we conducted.

NS: Why did you decide to work for the fossil fuel industry?
DRILLER: My father and basically a lot of my relatives—that’s what they did was oil and gas. I was almost predestined to be in oil and gas. My father made a strong reputation in the industry and I have one uncle that is a high-ranking member of a major operator. If you are from West Virginia, a lot of the better-paying jobs are based around energy, either coal or oil and gas.

NS: Have you worked for both major and minor operators? And what is the difference?
DRILLER: Yes. A difference is the play itself. The smaller operators were drilling conventional wells, and that requires much smaller pieces of equipment. You don’t even have to have a fluid system, you can have just your air compressors, the rig, your generators, and you can just air-drill a vertical hole. When you start getting into the unconventional drilling, then the bigger drilling companies from down south that had the more sophisticated equipment—a lot bigger rigs, they were engineered a lot better—they start getting involved. What happened was when they came north they either absorbed the smaller operators and bought them out or they put them out of business. Or they would allow them to drill the top hole because that’s all their rig could handle. Then the major operator would bring the much larger rigs in to drill the horizontal.
NS: Is there a difference in safety concerns with smaller versus larger operators?

DRILLER: Yes, there is a good probability that the smaller company can’t afford the equipment that the bigger company can. It is more about the equipment that they use and the shortcuts that they might take. When all of these larger companies moved up here, it made it a very competitive market.

NS: What jobs have you done?

DRILLER: I worked on the production side for a couple companies back home, and then when the drilling boom started to take off, I worked on a service rig and a swabbing unit (units used to either service or clean the well—that is, draw fluid from the well that suppresses the gas and allows the well to flow better); maintenance, basically. As the drilling boom grew, it was a good way for people to get jobs; it paid a lot better. If you work say for a swab unit you might have made 12 bucks an hour but on a drilling rig you made 20, so naturally you are going to want the better money, the better positions, the economic stability. So, I’ve worked all the positions on the rig with the exception of tool pusher or company man. A lot of times, I would turn down advancement because if you are a derrick hand [a term used to describe a position on a drilling rig that varies from rig to rig], you are responsible for your job, that’s it. Once you are a tool pusher, you are responsible for the lives of all of your men and based on their level of experience, that can be hard on the nerves. If you get a lot of inexperienced hands and especially on the bigger unconventional rigs, then it reflects on you if your hands get injured and if a guy gets killed, then you have that on your conscience. It was as easy for me to kill someone as opening the wrong valve or starting a pump at the wrong time, that’s how easy it was.

As I progressed, you know, I had been injured a number of times and I started feeling the pain. I was being nudged by the supervisors to take the position of driller or assistant driller only because they didn’t have the experienced people and they needed someone with more experience. I found myself a lot of time in the last few years working with guys that didn’t have the experience level that I had but they were my boss. They always have the dangling carrot. An onsite consultant can make 1,500 to 2,000 dollars a day, and most of these guys have no education; I’ve seen some that have had a hard time with reading and writing. That’s the dangling carrot, when you come in they tell you, “Guys, there’s always room for advancement—some of you won’t make it but those that do will skyrocket.” It’s true there was always the potential for advancement, but it was how much were you willing to sacrifice for that. That’s why you had such a competitive type of atmosphere there.

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2 Tool pusher in this context refers to the rig manager who oversees all operations on a drilling rig. A company man is the representative of the oil and gas company that has overall responsibility for the well site.
The big injuries started to come. I was working for a drilling company, it was just when the boom started taking off and it was extremely hard to find capable people and keep hands. What happened was we were shorthanded and the tool pusher came to me and I was working a 12 and 4 schedule at the time (12 days on, 4 days off). I was having to double over because we didn’t have enough employees—I was working more 16-hour days than 8-hour days. He asks if I can stay through (if I could add hours to my shift); I’d already worked 16 hours. We were laying down drill pipe and that is one of the hardest jobs on the rig. Each 30-foot section of drill pipe, you’re down over a mile and a half deep, had to be pulled out, broken down, laid down, and put in the appropriate place. He told me that he needed me to stay on tower; although he legally could not make me stay, but he said that if I would stay, he would give me some additional hours and I’d have the next day off. I was anxious to get the extra day off and I was getting an additional 8 hours of pay. It was illegal but it happens a lot. Well, on the 23rd hour, I was so fatigued and we had gotten down to the drill collars. Laying down the drill collars is one of the most dangerous operations because they are so heavy—anything that they hit, they will destroy. The collars would slide down a ramp and slam into a post, then we took a 5-foot bar and rolled them into a tub away from the drilling pipe. I took a 5-foot bar and started to roll it but the guy on the other end let it shift the other way and what happened was the drill collar shifted the wrong way and I tried to get it to go the way it was supposed to. It was a simple mistake by an inexperienced guy, but the weight of the drill collar came down [and] hit that 5-foot bar and the 5-foot bar come up and caught me in the neck. I was unconscious for 30 or 40 minutes they said, the paramedics arrived and started working on me and when I came to I was really alarmed. My brain was scattered and I didn’t know what happened. I said, I am OK, and then I just fainted again. I was taken to the Allegheny trauma center and the next morning I woke up and they told me that I would have to stay for observation.

You have to understand the mentality. When I was burned another time on my finger, I just sprayed alcohol and peroxide on it and put triple antibiotic on it; so nothing could get down in the wound I took a gauze and put on it and wrapped it with electrical tape. It you don’t get back out to work, what happens is you just cost every man on the crew their safety bonus, including the driller, so there is incentive not to do that, economic incentive. You are affecting the economics of not just you, but the whole crew. This is a horrific story but a friend of ours, he was an older gentleman who thought he was having a heart attack. He was told, “suck it up, old man, we aren’t losing our bonus, let’s get this hole made.” I mean this guy is having chest pains and this kid looks at him and says “suck it up, old man.” No empathy, and that is a lot of the mentality out there.

NS: Does the company make any effort to change the mentality?
DRILLER: As an example, when the one corporation that I worked with came to Bradford [Pennsylvania], we wasn’t greeted with open arms by the community.
So their big thing was “be a good neighbor.” They pulled us all in, all the higher-ranking guys, and said “we want you to start opening doors for ladies at the store, to conduct yourselves as gentlemen, not use a bunch of profanity,” because that week the newspapers in Towanda reported that the police said that the crime rate tripled just from us coming to town. Because of the constant flow of traffic from down south, Texas and Oklahoma, lots of methamphetamine abuse, a lot of whiskey-fueled roughnecks out in the bars. I chose not to partake in it because I have a family and I was looking more to the economics, but some of the younger guys, now all of a sudden they’ve got money and the lifestyle is that everyone has a $50,000 huge monster truck. They wanted to clean their image up in the public eye. So they started implementing curfews at the housing facility, tightening up on security to fix their public image first and foremost because they wanted to be embraced by the community rather than told to get out. So once they thought that they had accomplished that by paving enough roads, they’d tell us to tell people that we spent $90 million on the roads around here. And if they have any hard question, refer them to this 800 number at the corporate office.

After that, they thought that their image was OK and we hit just a really rough patch. A guy got killed. He had gone to their training camp for 6 weeks, which is a basically a recruiting method. They get tax incentives to recruit out of the military, guys that are coming home from the Gulf, and it’s called Troops 2 Roughnecks and they have these safety courses. So they would come up after doing the safety, but that’s lip service because the rig management was not going to take the cut in productivity so they wanted everything to be done the way it had been: efficiency, faster, faster, faster, more production. As the accidents started to happen because of the lack of experienced guys ... there is no replacement for experience in oil and gas. You can go to safety classes from day to night for a year, it’s not going to replace being out there and having firsthand experience: knowing where to stand, when to stand there, when not to stand there, what to watch for. Experience is the only thing that will keep you safe.

So we had a bunch of accidents: the one guy wrecked a truck coming down through Towanda and it took them 2 or 3 days to find the other passenger (he was in the river near the road). Both died, they worked on our rig. Another young man who had just gotten out of the safety training ... he was on a rig move when they were getting ready to lay the derrick over, and they saw that there was a handrail out of place. The tool pusher told him to hurry up and get up there and get that. It was about 30 feet off the ground, so they hoisted him up there. He put a harness on, and they were saying hurry up so we can lay this thing over, we’re paying for all this stuff. They were hurrying him and when he got up there, he yanked the handrail off, lost his balance and fell forward and died. When the accidents happen and people get maimed and hurt, they step the safety up and they start sending guys out to give us classes in safety. Most of the guys are reluctant to go to the classes because they are so fatigued from a day’s work. Sometimes they would make us go to the classes after 12½ hours on
tower—backbreaking work. You work for 12½ hours, it takes you an hour to get back to the housing facility (they drive you in a van), then they said “wait, we have a 2-hour safety class.” Why, half those guys were so tired that they’d fall asleep during the safety class. It was bad timing. When OSHA [U.S. Occupational Safety and Health Administration] started looking at them and all these deaths started hitting the newspaper, of course they are going to put a show on and start hiring some safety consultants and they’re going to send those guys out and give us advice as to how to better do things and when the OSHA guy walks away, the company man and the tool pusher says, “Let’s go, boys, you know what to do, let’s go.” Because it is about production inevitably—how can we drill this well faster?

NS: Most of the injuries that you have described so far have had to do with inexperience or being fatigued. Did you have any issues with the chemicals that you handled?

DRILLER: No one out there tells you about stuff that has latency. That is the last thing they are going to do is tell you that something that you are handling will take you out in 20 years or 10 years or cause you some kind of ailment, or you can potentially drag this home to your family. A position that I worked a lot was derricks, and the derrick hand mixes a lot of chemicals. He mixes all the chemicals, that is, the drilling fluid. Drilling muds use a lot of caustic soda [sodium hydroxide], you can hold it in your hand and it is perfectly dry, it doesn’t activate the caustic; if your hand gets wet, it activates the caustic soda and it’s very corrosive, it will eat a hole right through your hand, and that is used in a lot of water-based drilling fluid.

NS: Are these drilling fluids used after the air-drilling stage when you have cemented off the aquifer or are they used to drill through the aquifer?

DRILLER: Air drilling is something that is predominantly done in West Virginia and Pennsylvania; we are very familiar with air drilling up here. But down south, they have always spudded in from top to bottom on fluid; you know they never used air down there. So when they came up here, what happened is these guys didn’t have air-drilling experience and because it is so much different than drilling fluid, it was like speaking Greek to them, they were just lost. At first they had a lot of problems. They didn’t want to listen to anyone, they wanted to compile their own historical record of what worked in the Appalachian Basin and then use that. Well, there was a pipe retrieval specialist that comes out when you get stuck in the ground and he came out and tells us that he hasn’t had any sleep in a week. He said that out of 13 rigs for this company, nine are stuck in the ground right now. The excuse that they used was the porosity and the formation: “We think that drilling in with bentonite and fluid would be far better than drilling in on air especially around the water zones, so we’re going to use fluid vs. air.” And really what it was—when you have nine out of 13
rigs hung in the ground and you are paying by the day for the drilling rig and not only is it not drilling but it is stuck, with a very expensive string of pipe stuck in the ground—it was just a lack of experience with air drilling. Well, then they come out and say, “Stop, we’re going to do it like we do it down south, we’re going to spud in on fluids. And my first question to my supervisor was “how many coal seams do you got in Oklahoma?” It is so easy to fracture and cause these big cavities in a coal formation. When we got started, we would lose volumes of fluid down-hole every day. I would notice at the end of the day—man, we have lost a hundred barrels. I calculated from that that 60 to 70 barrels were lost into the formation, which would be the water aquifer. That is why you find a lot of weird stuff, like barium, in the aquifer. You would get down to total depth on that string (about 700 feet) and now they are going to pump cement into it. As long as they see the cement come back to the surface, then they think that is sufficient. But cement is lost into the aquifer along with the drill fluids, and the cement might not set up right.

NS: You are describing the early days of the gas boom in Pennsylvania. Later, did they switch to air drilling?
DRILLER: No, when I left, as far as our rig, they were much more comfortable with fluids. As of 2012, they were still using aqueous drilling fluid. Even if they only use bentonite, all of the containers and all of the lines that they use for aqueous drilling fluid are also used with oil-based drilling fluid. So it is not like they have a separate system with aqueous fluid and you always have to use wetting agents and viscosity agents.

NS: Getting back to the chemicals, how were you exposed when you were doing the mixing? Did you notice any health problems at the time you were mixing the chemicals?
DRILLER: When we used calcium carbonate, it was more skin irritation. When we used caustic soda, and the caustic soda got on you, it was a hole. I’ve seen it eat through steel-toed boots. A lot of the stuff that I identified that we used had endocrine blockers, even the soap that we used for air drilling. Unfortunately, what would happen is that I would bring my bag of coveralls and rig clothes home, and this stuff would be caked with those chemicals. I bring it home and my wife washes it and she was having to dump Mean Green [a degreasing cleaner] and cans of Coke into the wash to break the grease.

DRILLER’S SPOUSE: The Coke helped some, but no matter what, I would have to rewash his clothes twice but his clothes would still be grimy and greasy, you could never get them clean no matter how many times I washed them or how many chemicals I put in (Dawn, Mean Green, Pine-Sol). I went through so many wash machines, and I didn’t realize that that is what was tearing my wash machine up.
NS: How about you as the person that was actually washing the clothes, did you have any skin irritation or respiratory problems?

DRILLER’S SPOUSE: I noticed that my throat had gotten worse over the years, deep, scratchy, sore, my taste buds are gone. I was using the same washing machine for our clothes, towels, and everything. My daughter’s got skin irritation and pigment changes on her arm, she gets real bad rashes, both my kids get nose bleeds and both have skin irritations. They both have asthma, it’s like they have all the same things but so do their friends whose fathers work in oil and gas, they all seem to have the same symptoms going on. I didn’t put it together until I met with other mothers who described the same symptoms. In our town, a lot of girls in the 7th and 8th grade have had their appendix out.

DRILLER: My hands were always stained with drilling fluid. No matter how good gloves you wore, it would eventually seep in and penetrate your gloves. Usually we would use a device to contain the fluid, but sometimes it would just spray and get all over you—into your mouth. We didn’t have any mask or face protection on the rig floor. They did require safety glasses.

I can say that I have had skin irritations at times from mixing stuff like CalCarb, which is, I think, calcium carbonate. Caustic soda, I’ve seen caustic soda burns right on location where we have had to dump white vinegar or citric acid solution on this guy because we couldn’t wait for the paramedics to get there. It would keep eating until we got it deactivated. I’ve witnessed a lot of major injuries. Working derricks, you have this thing that’s called a “hopper” and that’s where you’re dumping the chemicals in; some chemicals you can’t just dump in, it has to be done over time. You’ll put a small diamond-shaped hole in the bottom of the bag and it will siphon in while you might be dumping the Bayrite [a clay-based drilling mud gelling agent], and you have to mix these combinations of chemicals. Then you get off tower and your whole nose—even with the respirator, and you were covered with it from head to toe—and your nose, especially that Hibitol [a solution of concentrated hydrochloric acid with corrosion inhibitors], it was the worst. That stuff would clog your nose off. We wore a mask, but although they had respirators, we couldn’t wear them because the derrick hand always has to be on alert. If he blows a swab, that is his responsibility.

NS: What is a swab?

DRILLER: The swab is the piston that creates the 1000 or so psi per pump. If you blow one, fluid shoots like a geyser with hundreds of pounds of pressure behind it and it sprays everywhere and that’s something that they never tell the general public. When it blows, you might lose 100 barrels before you even know it and it runs out on the ground. Every [well site], I don’t care what they say, every well site using fluid, you are going to blow swabs, it’s common. They would at first spread this plastic down. Essentially, it became an ice skating rink. I saw this happen: my buddy took off running because we blew a swab, and
they had plastic laid on snow with these little berms and he had a 48-inch pipe wrench on this shoulder. It was just like hitting ice when you have plastic and snow, his feet went out from under himself and he fell down backwards and hit his head on the pipe wrench. After a bunch of injuries like that, they started putting down these dura-mats on top of the plastic. They are just squares and they fit together. There are openings at each of the four corners and along the edge of each one. That’s where the fluid would seep to. Then when you skid a very heavy piece of equipment off the back of a truck, it would just shred the plastic. When we would rig down to move to another location, there was always drill fluid laying on the ground. They had the rig hands squeegee it up and they had these vacuums to suck it up, but you can’t account for what is already in the soil.

At first, the DEP [Pennsylvania Department of Environmental Protection] auditors were kind of tough on us. If they’d find a little pile of chemicals, it would be a spill, but then they started backing down. And then it got to the point that there was no surprise inspections. They’d say: “I’ll be there the third Monday,” you know, “I’ll be there at 9 a.m. sharp,” and the first thing he has to do is go to the onsite consultant. So when you knew the auditor was coming, it was all hands on deck, get it cleaned up and sparkling. If you can’t clean it up, cover it up.

**NS:** When you were injured, what was the attitude of the doctors that treated you?

**DRILLER:** In my area, we’ve talked to some doctors about it and they are very reluctant to go up against the oil and gas. But what happens is if you have a hand [man] that comes in with a flesh injury or broken bone and that safety man’s with him in the hospital, then they know it is a comp [compensation] case. They make more money off oil and gas. These doctors do anything to appease the safety man, who usually asks for drug testing because of the accident. That’s so that they can avoid liability, they can say “Oh, that guy was on drugs” or something like that “so we’re not responsible, he must have been high or something.”

**NS:** At the major company that you worked for, were you ever informed about your health or safety rights?

**DRILLER:** They would tell you [at major operation safety meetings] that any one man, if you see something unsafe, you have the authority to shut the job down. Because we were all required—especially during rig moves when you got 30 huge trucks and cranes swinging stuff around, guys moving all around with heavy equipment—previous to the day [of rig moves], you would always have to conduct a major operation safety meeting. They would tell the guys, anyone out here has the authority to shut a job down. The first time one of the inexperienced hands would go and do a shutdown on them, he would either go down the road [get fired] or they’d find something a week later to fire him for or they would pacify him and say, “You don’t understand how this operation
works, it’s not that unsafe, we’ve done this before.” Actually, I shut some
trucks down but they backed me on that because we had some bad accidents
and I had no problem being somewhat of an ass to the drivers. For all their
bravado, I could match it. The trucking companies were from Oklahoma and
you get paid by getting these loads to places fast. Well the terrain in Oklahoma
is flat and straight, Pennsylvania in Bradford is not like that. The truck drivers
were using just thin 3/8 [3/8-inch] chain to bind down these permitted loads.
They told me, well listen, make sure these guys have ½-inch chains. So I posted
up at the gate where the trucks would come out and the last thing a trucker wants
to do is to back that bad boy [truck] up and take those chains and binders off
and put the other ones on. It would get to the point where we were almost fighting
because I wouldn’t back down, and, in that, I was supported by the company
because it was a contractor versus us, the corporation didn’t want the liability.
If they come along with a mud pump on the back of that truck around a curve
and those 3/8 chains snap and there’s a woman, like happened in West Virginia,
with her two children in the back coming down the road, and that chain snaps
and that pump comes off and crushes them. That’s what happened down there
off of Route 50. Because of the sake of production and getting these loads
moved, they are willing to take that chance. I bet if you asked that lady now or
if you asked that truck driver that took the lives of two small children was it
worth it, he would say no.

NS: Are the contractors and supervisors open to taking action on safety
concerns?

DRILLER: For the most part, if you went to one of our two tool pushers, they
were pretty decent about implementing safety because it affected their bonus
and if they got reprimanded more than once or twice then they could lose their
job. The guy that is over the whole job is the on-site consultant, the company
man. He is not a part of the corporation, he is an independent contractor. Although
he is not employed by the company, he is over the entire operation and is
responsible for drilling that well. He is the one that sets the pace.

NS: Why is the company man an independent contractor and not part of
the company?

DRILLER: If you think about it, that independent contractor has to keep
a 5 million dollar liability insurance policy at all times and he is hired for
each job (not as an employee but an independent contractor). But produc-
tion means everything, so if he doesn’t succeed in getting these wells
drilled in a certain frame of time and all the other guys around him are, or
he’s not out-competing them, then he is not getting the bonuses and the
raises. It is kind of a setup for failure because the same rules don’t apply
to him as apply to us. We were the drilling company and he is there to oversee
the gas well. When something happens, the gas company can say, well, we
are going to have to sue him and that’s why he has that 5 million dollar
liability insurance policy.
**NS:** Is there a worker’s compensation system?

**DRILLER:** Well a lot of times they want to put you on light duty because they always need guys to clean and paint and they’d rather have you go on light duty than on comp because it looks bad on their safety record. So there is more incentive if you want to keep your job and keep the income coming in to go on light duty, which means that you can only lift a certain amount, you don’t have to do the hard work, just the menial little stuff like scrubbing and cleaning.

**NS:** How are the jobs different with major and minor operators?

**DRILLER:** On the bigger rigs they try to keep more personnel, where the smaller companies will run with four- and five-man crews, most commonly four, to keep the costs down. The larger companies will have a greater number of people because of all the equipment that has to be maintained. For directional drilling, they need to have a directional team there.

**NS:** Were your experiences different with major and minor operators?

**DRILLER:** It would seem that with a minor operator it would be worse, but actually, there’s more pressure with the major operators because it is a lot bigger well and it takes a lot more equipment. It is very basic with the minor operators, it’s just a conventional, vertical well, straight down, you can just use air to drill it. With a major operator, you have directional equipment and fluid, and a lot more in and out of the hole to drill it; there’s a lot more equipment to be maintained, and the end result is a lot more stress.

**NS:** You were a driller but can you talk about the safety hazards of any of the other jobs on the rig?

**DRILLER:** Yes, pit cleaners, for example, clean up the [wastewater] pits with pressure washers. That’s a tough job. The roustabout positions clean up a lot of the spills and they know nothing about the chemicals. Well there are MSDS [Material Safety Data Sheet] books there, but a lot of times you have to go ask for them. If you start asking for MSDS information, then somebody’s like: “What do you want that for?” They don’t want to go into details about this stuff. There are some chemicals they tell us not to get exposed to, like corrosion inhibitors. The worst job is working on a snubbing unit. That is the unit that takes over when there is a danger of the well going out of control. It is a volatile situation every time you get called to work.

**NS:** What percentage of workers that you worked with had health problems?

**DRILLER:** You know, I’m going to guess that, I can’t think of any of the guys [without problems] that were long-term rig hands that worked their way up. Just to give you an example, our tool pusher, this guy was a star athlete in high school and he couldn’t hardly walk across the location because his knees and back were so messed up. The reason he took the rig management job is not that he wanted it,
but he couldn’t perform the other duties because of the wear and tear on his body. I’ve seen that a number of times. It’s never a happy ending, particularly when you have been out there in those conditions. Some guys are fortunate enough to progress fast enough so that they don’t do the damage to their body, but then you are dealing with the stress.

**NS: Do health and safety programs vary among contractors?**

**DRILLER:** Some are more safety conscious than others. Particularly, when some of the European companies are involved, they are very adamant about safety. After the Gulf spill [Deepwater Horizon in the Gulf of Mexico] they come out, it would have been good to have it right the first time and not wait until something horrendous happens and then react to it so you look good in the public eye.

**NS: How is training usually done and is it sufficient to meet the health and safety needs of the workers?**

**DRILLER:** That’s why we started working 12½-hours instead of 12. You were supposed to have 15 minutes before and after to discuss what happened during the shift and what happened after. Instead of being a safety meeting, it often turned into a to-do list. We had what is called “job safety analysis.” So for every major operation that was performed or anything that you thought was a dangerous activity, you had to write a JSA [job safety analysis]: this is what could happen, this is the step we’re gonna take, and stuff like that. But what would happen is usually one person, usually me, would write it as fast as you could because it is just repetition and you’d turn the JSAs in but you’d never have a meeting and shut down production over it. The JSA gets turned in to the rig manager and the rig manager files it into a file. Some of the larger companies that have had problems and workers killed have started having major operation safety meetings, so it is not preventive maintenance; it’s after you’ve done killed or maimed people.

**NS: Do you ever have any hands-on safety training or safety drills?**

**DRILLER:** Blowout prevention drills. I might have seen in 3 years with a major operator, until the Gulf happened, I didn’t see any BOP [blowout prevention] drills. Now BOP drills, that’s your life, that’s when you have encountered a major pocket of gas and it’s coming to see you and it might blow you off the face of the earth. You know, unless you are there and you have witnessed it and you see it happen, you don’t understand the sense of urgency. When you see natural gas blow out like a geyser all of the fluid that you pumped in and you know it’s coming, they should not have waited until the Gulf happened to emphasize blowout prevention. You need to be prepared so what you need to do is second nature to you.
NS: Is task-specific training required, such as permit-required confined space training?
DRILLER: It is required. What you have to do is write a confined space and a non-confined space training. For a confined space, such as a frac tank, you have to have someone there with a gas sniffer, but even then, they tell you if the person falls out [passes out], don’t go in and get them because you might be exposing yourself. In some situations, the worker would wear a harness and lanyard so they can be pulled out.

NS: Are there operations that require lock-out/tag-out training?
DRILLER: Yes, absolutely. When I was telling you about blowing the swabs, for example. If they didn’t shut the motor down on that pump and lock it out and tag it, and I’m on the rig floor and can’t see what is going on, there could be a problem. If a worker is working on the pistons on that pump and I turn the pump on because it is not locked out, his hands will be in those pistons when it starts up. The paperwork has to be filled out, the key removed and held by the person that filled out the paperwork, and the tag is placed on it. The paperwork has to be redone if the shift changes during the work on the equipment.

NS: Do contractors involve workers in developing a health and safety program?
DRILLER: You’ll have some safety meetings sometimes where they’ll want feedback and they want you to be an active participant, they don’t want everyone sitting around just staring at them. That’s common when a guy is tired and just got off shift and has to stay there for 2 more hours. It all really depends upon the job they are talking about and what problems have recently occurred. It’s always after and not previous to.

It comes down to experience; you can be as safe as you want to be, but if you are standing in the wrong place and you don’t understand the operation going on around you and you blow lines all the time, every day, if you open or close the wrong valve and I turn the pump on from the rig floor and you have 5,000 psi coming at you, there’s no living through that. Standing in the right place is experience, and 6 weeks will never cover that, 8 weeks of training will never cover that.

NS: Is any of this industry unionized?
DRILLER: Not that I know of. If we formed a union, we’d be gone tomorrow. They discourage anyone going up against the operator. They are constantly telling you how much money you make and how much room there is for advancement, they are constantly dangling that carrot. So the last thing they want you to do is organize and say that you want these benefits and that you don’t want these exhaustive 87-hour minimum weeks (there were weeks that I worked over a 100 hours).
DRILLER’S SPOUSE: There were times that I went to pick him up for a few
days off and I’d have to wait until the next day for him to get off—I’d just sleep
in my car on the rig site. My parents and his parents took care of the kids. We
were both working for a while and then it got to the point that I couldn’t anymore,
it got [to be] too much, way too much. It really takes a community to help,
you can’t be five places at one time.

NS: What are the attitudes of contractors about workers reporting health
and safety concerns, near misses and dangerous incidents?
DRILLER: Near miss is a bad word. We don’t like near miss. Near miss gets
a lot a people involved and it is better to downplay it, minimize it, and file a
JSA on it. If you file a near miss, it means that a guy almost died or was almost
maimed, and they want to get to the bottom of it, and it causes a lot of scrutiny.
Classifying an incident as a near miss reflects on the rig as a whole, so it is better
to reprimand someone that may not have been paying attention than it is to
classify it as a near miss.

NS: Did you ever report a safety incident?
DRILLER: To be honest with you, I was a diehard when I was out there.
Looking back on it, I have some regrets and wish I would have shown more
empathy, but that is the way I was brought up in the oil field and I associated
that with being normal. I’d tell the guys “Quit your crying, if you want to cry,
go to the house.” And that was what I was told—be the first one in and the
last one out, it was all built on bravado. If you look at roughnecks, it is not
a job somebody wants to do because you choose to, it’s a job that you do
because you can make a lot of money and you don’t have a lot of other
opportunities. You take that job as a good income for your family, then you get
so caught up with that lifestyle.

In my case, they didn’t have experienced guys in Bradford, drilling wasn’t
something that was common there, they would import us in [from West Virginia
in this case]. We were an alien workforce that came to Bradford and did our
job and went home. What happens is that in a lot of circumstances it destroys
marriages. You don’t know how many of my friends have five kids by three
women, paying child support for this one and this one and it’s OK because
they feel like they are making enough money. Actually being there raising a
kid isn’t a factor because their dad was a roughneck and they grew up with him
on a rig and it’s OK. They are desensitized. When my son was having health
problems, I said “Please transfer me home, I’ve done my time up here in Bradford,
I’ve spent enough time up here.” What happens is that a superintendent from
there sends an e-mail to the VP of operations in Oklahoma and says this guy
is too experienced to lose him right now, we don’t want to lose him and if you
send him home to his own geographical area, they got a lot of experienced
guys down there, we don’t. So they shut me down. What do you do, do you quit?
You lose your health insurance when your son has medical problems. It’s all about what they want to accomplish, and empathy, all that, comes second.

NS: What is it like for a worker or a group of workers to call OSHA or a state occupational safety protection agency to investigate conditions on site?

DRILLER: Wow. Calling HR [human resources] or OSHA or even muttering those words, you’re going down the road. You might not go down the road that day, but they will find a reason that you will be going. They can’t have somebody throwing that around there, that’s not going to happen. I’ve heard threats of calling OSHA, but I never got to work with those guys no more. They were terminated. They let them finish their hitch out and baby them a little bit for the remainder of their hitch—“Oh you don’t have to call OSHA, take it easy the next couple of days.” Then they get on days off and get that call from HR—“we no longer need your services,” this is an at-will position.

NS: There are many environmental and public health concerns about shale gas/oil extraction operations. Do workers or bosses on sites talk about these concerns?

DRILLER: No. What you want is a release of responsibility when you are on a drilling rig, from the consultant down to the floor hand. You want to land that casing, see that cement come back up and start rigging down. Then you are relieved of that responsibility. Especially the on-site consultants, it’s like they hit the lottery once the casing is landed, the cement is pumped, and the rig is down. Because at that point, they are relieved of responsibility, so is their liability insurance. They have an on-site consultant for every interval: drilling, fracking, etc.

NS: Why did you decide to speak out?

DRILLER: I saw a lot of shady behaviors and I felt conflicted about it, but I too was willing to take the money. What happened was after the tremendous amount of stress and pressure and really thinking about this, I got into a depression. It got to the point that the last several hitches, when I would go to leave town, I can’t tell you how moody I was. When I first got home, it was like this tremendous relief, I was ecstatic, just so happy to be home but I was a grouch because I was fatigued and I was hurting. But when I got within 3 days of going back, I was just miserable. I was, “I don’t want to do this, I don’t want to deal with this.” Because from the second you get there, the pressure was on.

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