

Destroying Explosives near Silver Peak, Nevada

by Wes Bender

Sometimes a blasting consultant gets stuck with a job that he or she would rather not do. That was the case quite a few years ago when I was contacted by a Mining Consultant From Reno. He represented the owner of an underground mine near Silver Peak, Nevada. The mine had been closed for a few years and the caretaker of the property was concerned about some rather old explosives that were stored underground. Several of the cases of dynamite had cartridges that were exuding a liquid and he was nervous about how stable they might be. The MCFR wanted to know if I could go investigate and then remove and destroy the explosives. He wasn't sure about the quantity, but guessed it was around a ton. He asked that I put together a proposal to remove the hazard. I developed a three part proposal to, (1) investigate and determine the actual hazard involved, (2) remove and destroy the explosives if it was safe to do so, or (3) detonate the lot underground if I deemed it unsafe to move. Because I really don't care for this type of work, I marked up my figures considerably and mailed the proposal to the MCFR, figuring I wouldn't hear from him again. To my dismay, a few days later I got a contract in the mail and a note asking how soon I might be able to do the work.

Now, before any of you readers start getting any ideas from this about how you might be able to generate a few extra bucks in these trying times, bear in mind that there are some serious drawbacks and hazards to this type of work. First, unless you are properly trained in the evaluation and disposal of old explosives, it might very well prove to be the last project that you undertake, at least in this life. Second, you must be able to identify nitroglycerin when you encounter it and have the necessary training in how to safely neutralize it. Failing to do so correctly can have the same result as the first hazard, i.e. Eternal Dirt Nap. Quite a few years ago the Institute of Makers of Explosives put out a pamphlet on how to destroy explosives. For liability reasons they eventually withdrew it and instead recommended that, if you have explosives that need disposal, contact the manufacturer. If said manufacturer no longer exists, you should contact law enforcement agencies and/or bomb disposal (EOD) people. In other words, this is not a do-it-yourself project.

Back to the Silver Peak story. The mine owner (and also the mining regulators in Nevada) were not particularly fond of the idea of detonating the entire lot of explosives underground in the mine. This would render the mine totally unusable. As you will find out later, there was also a second reason of which I wasn't aware until the job was complete. The owner asked that I contact him if I felt that the explosives were too unstable to move. They would then make a decision on what to do next.

After rounding up the chemicals that I would need for neutralizing nitroglycerin, I packed my tools in my trusty Toyota Landcruiser (that Dale Nies still drives today) and headed over the Sierra.

After a stop at Sierra Chemical in Sparks to pick up a box of electric blasting caps (I didn't have a federal permit, hence I couldn't transport across a state line), I drove to Silver Peak.

Some of you may have been to Silver Peak, but for those who haven't, it's in western Nevada, roughly half way between Reno and Las Vegas and midway between Tonopah and Bishop, California. There wasn't much there at the time. One operational underground mine. One open surface mine. Several closed underground mines. One combination bar/cafe/casino. A small Post Office. You get the picture. When I was working up the proposal, I had asked the MCFR if there were any accommodations in Silver Peak or would I have to commute from Tonopah. He said accommodations were not a problem. "Go to the Black Mammoth Bar and ask for Alice." As I pulled into town, I got a lot of looks that more or less asked, "Who is he, and why is he here?" I guess they didn't care for some stranger snooping around and maybe finding out what they might be growing in their little garden out back, but then I've never seen a narc driving a Toyota Landcruiser either, so I wouldn't think they should have been concerned. I found the Black Mammoth Bar and dutifully went in and sat down and ordered a beer. The gal tending bar struck up a conversation and it was obvious that she too was trying to find out why I was there. Rather than tell her the real reason, my responses were non-committal. I figured that it wouldn't hurt to keep her guessing. Besides, I didn't know if my client wanted anyone to know either. After finishing my beer, I asked about Alice and was told she was in the next room. Said room was about all the casino that they had to offer, with a few slot machines and one blackjack table. Alice was the proprietor and, if I recall correctly, was married to a former sheriff of Esmeralda County. I indicated to Alice that I needed a room for one or two nights. She looked out the front door toward a single-wide mobile home across the street with five doors across the front. Each door had a number on it, about 12 inches high. "Take number 3" she said. I asked if she had any paperwork to fill out and she replied, "just settle up before you leave." To my inquiry about a key, she said, "There's no locks on the doors." Overcoming my fears of possibly finding out what this 'motel' was normally used for, I went over to number three, put my suitcase inside and then drove the eight miles up into the hills to the mine to see what I had gotten myself into.

I roused the caretaker and we entered the mine to inspect the explosives. The mine used rails and a short distance into the mine these disappeared under a pile of rock and slash. After we climbed over the pile, the rails came into view again. The rails disappeared a couple more times before we got to the location of the underground storage area. It was obvious that this mine was in fairly unstable ground, but none of the rock falls appeared to be too fresh.

The MCFR was right. There were 20 cases of dynamite from various manufacturers and about 20 fifty pound sacks of AN/FO. The cap room also gave the impression that they probably bought something from every powder peddler that passed through the area. Frankly, if they'd have phoned all those manufacturers to come and help dispose of their respective products, you could have held an IME meeting on site.

Several of the dynamite cases indeed did have liquid oozing out of some of the sticks. I applied the taste test that I was taught many years ago by a powder company tech rep (when it was still considered safe and politically correct to teach such things). The liquid wasn't nitroglycerin. Considering the grade of dynamite that appeared to be leaking, the liquid was probably dissolved ammonium nitrate salts. Some dynamites can pick up moisture when humidity levels go up. When the humidity drops, the moisture can 'sweat' back out of the cartridges.

Eventually, if it stays dry enough, crystals could form, but that hadn't happened yet. You don't know what the substance leaking is, however, so read and heed the following:

Any oozing liquid or crystallization that may be found on cartridges of dynamite MUST BE CONSIDERED TO BE NITROGLYCERIN, unless proven otherwise by a qualified individual. DON'T make any assumptions or take any chances. Leave it alone. Consider yourself warned; it's your dusty butt that is at risk.

After determining that it wasn't NG, I proceeded with the planned destruction of the explosives. As anyone involved with explosives safety knows, there are two parts to the equation. First, take the necessary steps to prevent an accident from happening. Second, minimize the impact if an accident were to occur. The first I was already addressing. The second issue on reducing impact was handled as follows: (1) with one exception, I would be the only one who would carry explosives out of the mine. No one else would be underground at the time. The caretaker was to stand by in a safe location where he could get help in case of an accident. (2) The safest materials would be removed first. This meant carrying it out in the following order. All of the AN/FO first, along with a part roll of detonating cord that I could use. (The exception to (1) above was that the caretaker was allowed to assist in carrying the AN/FO out.) Stable appearing dynamite was removed next, followed by less stable appearing dynamite, then the worst-appearing dynamite, followed by all the detonators.

In looking about for a suitable place on the property to detonate the explosives in 50 to 150 pound lots, I found an old "coyote" decline of about 8 x 8 ft that had been driven about 30 ft into the side of a hill. The decline faced in the direction of town, but the distance of eight miles was deemed sufficient to prevent any damage or complaints. After all, most of the population of the town made their living from mining and I didn't expect any problems. (Those not involved in mining in one way or another were keeping a low profile and probably wouldn't risk complaining anyway.)

We had all the AN/FO and several cases of dynamite out of the mine before we started detonating charges. I laced a detonating cord pigtail through the first 50 lb case and carried it to the bottom of the decline. I attached an electric cap to the other end of the cord at the portal. We strung a firing line 150 feet around the hillside to a safe location. I suggested that the caretaker move his small flatbed truck farther away because the concussion was going to be fierce and I didn't want to break any of his windows. He said he felt the truck was safe enough where it was, so I detonated the charge. We didn't crack a single window in his truck..... We cracked ALL the windows in his truck, including the windshield which was now lying on the hood. He wasn't dismayed however. He had previously replaced two windows with Plexiglas and said he'd fix them all now with the same material.

The detonating charge sent an almost perfect smoke ring into the sky. I promptly set up several more charges consisting of a case of dynamite and one 50 lb sack of AN/FO and detonated them. Following a few of these however, the heat and foul air down in the decline was getting nearly unbearable, so I modified the process a bit. While the decline cooled and partially ventilated, I would bring another case of dynamite out of the mine. We'd transport it to the decline. I'd then lace it with cord, hold my breath and take it to the bottom.

After adding the AN/FO and climbing back to safety, it was “Fire in the hole” and another smoke ring belched out toward Silver Peak. I felt sorry for the guy losing his truck windows so I let him set off a few too. We had a little competition going to see who could blow the best smoke rings. (Who says blasting can't be fun??)

Due to the late start, we didn't finish on the first day. I headed back down to Silver Peak for a shower, a cold beer and dinner at the Black Mammoth. I wanted to hook up with Dave Chapman, an old friend of mine who was mine foreman at the only operating underground mine in the area. Knowing Dave, I figured he'd probably pop in for a beer. He did and we discussed old times for a while and around midnight I retired to number 3 across the street. The one huge swamp cooler that pumped air into all the rooms was working a little too well and I had to put my duffle bag over the floor vent so I could sleep.

The next morning when I arrived at the gate to resume work, there were six guys waiting there rustling jobs. They had heard the previous day's explosions and thought that maybe the mine had re-opened. Sorry guys. Temporary thing. No help wanted.

We picked up where we left off, making explosives evaporate and blowing smoke rings. The last shot we set off included all of the detonators and what remained of the detonating cord spool. I went back into the mine with the caretaker and made sure there were no hidden hazards remaining. No caps or fuse behind any shelves in the cap room. No residue from the explosives on any of the shelves or floor in the magazine area. I had him sign that he had witnessed the destruction of the explosives and that the magazine area was clean.

Before I left, we stopped at his little trailer on site and had a soft drink and shot the breeze. I mentioned the fairly unstable conditions in the mine. He said that the bad ground was the main reason they weren't able to keep the mine in production. In fact, he said, about 50 feet from a spot that I passed on each trip in and out, two miners were entombed. Turns out that they were buried in a slide and, when rescuers tried to dig them out, the mountain just kept coming down. Eventually they had to give up and just leave them there. Apparently that was the main reason that neither the owner, nor the State of Nevada, wanted me to destroy the mine by shooting all the explosives in place. I guess I'm glad he told me AFTER I was done rather than letting me think about those guys every time I walked by.

Back in Silver Peak, I cleaned up, settled up with Alice and then drove back over the Sierras to Nevada City, thankful that this explosive disposal job was fairly straight forward and safe.