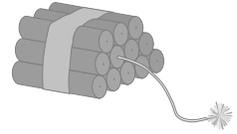


# The Primer



Newsletter of the Golden West Chapter, International Society of Explosives Engineers  
23633 Brewster Drive, Columbia, CA 95310

Volume 18

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Issue 3

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## *President's Message...*

We are now at the mid-point of the Chapter's 20<sup>th</sup> year. It is a very important time in the life of an individual, an organization and even a good wine. I had the honor of being the Chapter President when we celebrated the 10<sup>th</sup> anniversary and I can see many changes that have occurred in the past 10 years.

The changes in our industry and our world are too numerous to list. Suffice it to say that 9-11 was not the only change but it was the most severe. As we grow we need to find out who we are and what we want to be when we grow up. The same goes for the Golden West Chapter.

Your Board of Directors has made some serious changes to the By-Laws to allow the Chapter to adapt to the world we work in. You will see the most obvious one when you attend the Annual Business Meeting on November 10 instead of the old date of the first Saturday in December, as directed. We are hoping that the changes are looked upon favorably by the membership and they are approved. Attend the Year End Meeting to find out more.

Fishing is an activity that the Chapter has facilitated for the past 13 years. During that time we had to make a commitment to the Charter by mid-February in order to secure the date we wanted. For 12 of those years we had the benefit of having a Corporate Sponsor who guaranteed 12 paid slots. That made it much easier to get the 10 additional people to fill the Charter. Last year was a different story. We made the commitment in February but before the day arrived to go fishing the explosives industry had a major change and we were left without our largest contributor. I went looking for Chapter members to fill the boat and tried alerting the Charter Captain that we might have difficulty in filling the whole boat. I had verbal commitments from a number of companies and people who said that they would go fishing. It was looking like it might be bad but not a disaster. In the week preceding the fishing date a few people cancelled. On the date of the trip it became a disaster. We had 4 people show up and a no show who agreed to pay for his 4. If we had not been with this same Charter Captain for the past 6 years he could have held up the Chapter for what amounted to the majority of our treasury.

As we reach the age of 21 we become smarter!

The Chapter conducted a very good workshop earlier this year. We must thank Jon Hill for doing an excellent job. These are not easy to put together and they are not cheap. There are expenses that have to be met whether anyone shows up or not. Jon had 30 people commit to being there, 15 showed up.

As we reach the age of 21 we become smarter!

## ***President's Message (continued)...***

September has been a time to look forward to getting together over some great barbequed meat, bring a salad or dessert and sit around with your friends in the trade and their families and just visit. We used to have people come in from Santa Rosa just to attend. Last year we had a lot of great food and only 2 people besides Dwayne and his wife to eat it. Unfortunately, we still had to pay for the food.

As we reach the age of 21 we become smarter!

Are you seeing a trend yet?

In your business relationships, when a commitment is made to you do you just know that it will actually happen? When you commit do you often add that "unless a better opportunity comes along?" You would soon lose your good name if that happened. As the Golden West Chapter reaches the age of maturity we are going to have to grow up and treat our obligations as any business would. We will expect our members to conform to the ethics of the ISEE and good business, and will expect nothing less.

The Golden West Chapter of the ISEE knows that our members and sponsors are people of their word. When they say that it will get done, we know that it will. When a commitment is made they will live up to their end as the Chapter will. We are making changes. When the Chapter has to make a financial commitment then we will ask the membership to do as well. Before we book a fishing charter we will have enough people to not cost the Chapter. When we have a dinner meeting that requires the Chapter to reserve a room months in advance we will have to invoice those members who respond that they will attend and then don't show up. We will not buy food for a barbeque unless we have a commitment that people will attend. When a workshop is advertised with a cost to the attendee the purpose is not to make money for the Chapter but to cover the cost of the workshop itself and the food provided. We should never get to the point that we have to invoice those who don't show up, unless people are not good to their word.

The Golden West Chapter is evolving. It is our intent to provide technical, topical and educational workshops. The next one on the calendar is directed at those who need to know more about vibration, the effects of geology, etc. You will find more information in the next issue of The Primer and in a flyer that will be mailed to the membership. The Chapter has entered the electronic age with the Primer now being on line. We have to thank Wes Bender for this. Keep informed with what is going on by logging on and exploring what your Chapter is doing. Last but not least, get involved! It doesn't require much of your time but what little it takes is very important. Volunteer to help with a workshop, even being a runner for the food is vital to the success of the event. We need a continual inflow of new Board Members. The Chapter can only grow and evolve with new blood and new ideas. If I have said anything which you don't agree with, get involved, make those changes. It is a lot like voting, if you don't do it then you have no right to complain about the outcome.

Until the next Primer.

Bill Warfield

## Editor's Notes ...

This is the third issue of The Primer in electronic form. Because it appears on our website, it has a slightly larger viewing audience than the old hard copy did. Actually, there are still fifteen Chapter Members who do not have internet access who are still receiving printed copies. For those of you with internet access, it pays to check the Chapter website occasionally to see if there is any new information posted. If something really important is put up, you will be notified via e-mail, but we don't send notifications for minor items so you should still check on your own once in a while.

The Spring Workshop had mixed success. Unfortunately, the bulk of the attendees would have benefitted by a more advanced program. This was unavoidable. There was no way we could predict that the newer blasters who had signed up would be called away due to other business requirements. The more experienced blasters voiced their desire for a more advanced program. The Chapter has listened and on October 27th we will be presenting a program that will include material on blast vibration, airblast, geology, handling damage complaints, and other pertinent subjects. (Some of you may remember that we covered quite a bit of this extensively in our Spring '06 Workshop, but apparently those making the current request were not in attendance there. Hopefully, we will have more of these people attend come October 27th.) Details of the upcoming workshop will be put on the website as soon as they are known. In addition, flyers will be mailed to all Members and details will be included in the next issue of The Primer, expected to be sent out (and put on the site) around the first of October.

For those who may wonder what happened to Duane's barbeque this year, the Board decided to give Duane time off for good behavior. He has diligently prepared wonderful food for quite a few years, but the turnout has diminished and he needs a rest. The barbeque might be resurrected next year, but only if there will be sufficient participation.

If any of you want the Chapter to better address issues that are important to you, please speak up. We don't know what you want if you don't express your desires. It's your Chapter.....

'til next time,  
Wes Bender

### Chapter Activities - 2007

Fall Workshop ..... October 27th  
Annual Meeting .. November 10th

### Deadline for Primer Articles:

| <i>Issue</i> | <i>Deadline</i> | <i>Posting</i> |
|--------------|-----------------|----------------|
| Winter '07   | Sept 21st       | October 5th    |
| Spring '08   | late Feb        | early Mar      |

## The Primer

### Report on the Annual Spring Workshop

The Golden West Chapter's annual Spring Workshop, *A Blaster Safety Training Refresher*, was presented on May 19th at the Atlas Copco CMT USA facilities in Pleasant Grove, CA.

The workshop was coordinated by Jon Hill. The program included presentations and/or handouts from the BATFE, Cal-OSHA, MSHA and the California Highway Patrol Explosives Transportation Office. In addition, there was a question and answer session with the Senior Engineer who gives the Blaster License exam.

There were commitments by 30 people, split almost equally between experienced and inexperienced blasters. Unfortunately, about half of these were called away to other assignments, resulting in a final attendance of 15 persons, most of whom had advanced experience in the blasting field.

Lunch consisted of pizza and soft drinks.

A post-workshop critique indicated that there is a need for a more advanced type of workshop, with emphasis on vibration and the effects of geology on blasting and blast vibration. (Ed note: This will be addressed in the Fall Workshop, scheduled for October 27th.)

The fee charged to attend was only \$25.00 per person. The Golden West Chapter does not intend to generate a profit from their workshops, and the efforts to keep the costs low and the fact that the facility was provided by Atlas Copco at no cost to the chapter, kept the chapter from losing money on the event.

The Chapter's thanks go out to Will Strohm of Atlas Copco, to the speakers, and to Jon Hill for making the Spring Workshop a success.





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- |                                     |                              |
|-------------------------------------|------------------------------|
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| <b>Duane Niesen, Vice President</b> | (530) 432-1617               |
| <b>Carey Haughy, Secretary</b>      | (209) 533-0127, extension 23 |
| <b>Gerald Fulghum, Treasurer</b>    | (916) 481-1421               |
| <b>Jon Hill, Board Member</b>       | (209) 505-6983               |
| <b>Randy Spencer, Board Member</b>  | (209) 785-4996               |
| <b>Randy Messer, Board Member</b>   | (530) 741-0873               |
| <b>Keith Peterson, Board Member</b> | (707) 647-2240               |
| <b>Wes Bender, Board Member</b>     | (520) 648-3581               |

***Shakin' It Up...***  
**with Wes Bender**

Sometimes a blaster or blasting engineer encounters situations where the limitations of blasting technology or the capabilities of the explosive products are being pushed to the limit. Such a situation developed quite a few years ago when the U. S. Geological Survey was selected to conduct some research that involved detonating fairly large charges in rather deep holes.

Ed Criley, a fellow member of the Golden West Chapter (now retired from the USGS), was in charge of determining what explosives to use and how to load them. Ed's problem involved the detonation of a 1000 lb charge of high velocity explosive in a partially cased 1000 ft deep hole drilled in Kaiser Cement's quarry at Permanente, CA. The depth involved and the need for reliable detonation, coupled with safety considerations (if the charges didn't fire, they would have to be retrieved) all contributed to Ed's problem.

I had worked with Ed on several USGS shots and had been doing the blaster training for their shooting crews. Ed contacted me to see if a satisfactory product was readily available, both for the explosive and for the detonating system, and to pick my brain regarding a process whereby the charge(s) could be retrieved if necessary. The explosive product and the need to have the capability for retrieval were fairly straight forward. We selected Hercules' Gas Well Explosive in 5" x 100 lb 23G cartridges with internal stainless steel aircraft lowering cables. The cables had a swaged loop top and bottom. The cartridges were to be coupled together and lowered to the bottom of the hole with a small truck-mounted crane. Ten cartridges would give us a 1000 lb column 100 feet long. I was somewhat concerned about the ability of the internal cables in the uppermost cartridges handling the full 1000 lb weight, so we made the decision to fill the hole with water. The specific gravity of the explosives was 1.35 grams/cc, so the effective weight of each 100 lb cartridge when submerged was reduced to 35 lbs, for a total weight for the column of 350 lbs. This eased the strain on the cables sufficiently.

Flooding the hole, however, brought about another problem: finding a detonator that would function properly under the pressure of 1000 ft of water. The pressure at the bottom of the hole would be approximately 435 psi. None of the manufacturers in those days wanted to guarantee that their seismic detonators would shoot reliably at more than about 250 psi. I contacted an inside source at Hercules who told me (unofficially and confidentially) that they regularly tested their Vibrodets to 1000 psi, thus I felt comfortable that they would function satisfactorily.

### *Shakin' It Up (cont.)...*

Enough explosives and detonators for at least three shots were ordered and Ed arranged for the necessary crane, cable, firing lines and other accessories. Ed and I got together at Permanente the day before the scheduled blast and made up the detonator assemblies. My plan was to put three caps in one circuit for the bottom cartridge and another three on a separate circuit for the top cartridge. (Yeah, I'm a belt and suspenders kind of guy.) If there was ever a situation that begged for double-priming, this was it. I didn't want splices in the firing lines, but couldn't avoid the splices required to tie the detonators to the two firing lines. These were made up carefully, with the splices crimped and sealed with silicone sealer which was overlaid by heat-shrink tubing. After the silicone sealer took a partial set, we shrunk the tubing tightly around each splice.

On the morning of the shot, we inserted the cap assemblies into the cartridges, taped them securely and started the loading process. The crane would pick up the first cartridge (with detonators installed) and lower it into the hole until the top cable loop was at the top of the hole casing. A rod was installed to hold it while the next cartridge was hoisted and coupled to the first with an anchor shackle. The rod was removed and the assembly lowered to the next loop. This process was repeated until the top cartridge with its detonators was attached to the column and the whole lot lowered carefully down the hole.

I monitored both firing circuits continuously with galvanometers as the column was lowered. Unfortunately, at some point near halfway, one circuit opened. The reason was unknown, but we suspected that the wire probably caught on slag or a burr on the inside of the casing. A discussion ensued as to whether or not we should retrieve the column and either repair the wire break or re-prime, or to just continue the lowering process. Time was a consideration as the scheduled firing time was rapidly approaching. Numerous seismic lines had recording devices that were pre-programmed to wake up and record at a specific time. I was confident that one set of detonators would do the job so we continued the lowering (with fingers crossed that we wouldn't snag the remaining circuit).

The shot went off well and on schedule and resulted in a geyser of water a couple of hundred feet high. Most of the lowering cable was ejected with the water. I captured the results on videotape and Ed's people recorded the results on their seismic lines. The next day we loaded a second shot in the same hole. It took nearly a tanker truck of water to fill the cavity from the previous shot and we lowered the charge to 900 feet to keep it in competent rock. A third shot was also loaded and detonated, but by then it was taking so much water to fill the cavity that further shots in this hole were not attempted.

One wonders what future miners would think about that huge void down there. It's unlikely that anyone will see it though. Mining to that depth would require a huge pit and that isn't likely to happen at Permanente.

## ***How Come???***

Our thanks to Dick Daniel of the Pacific Northwest Chapter for the following definitions of intracorporate and/or governmental bureaucratic terminology. He indicated that it was confidential information at the time, but I suspect the statute of limitations has run out by now. (This was the early 80's and the sheet he sent was printed on a dot-matrix printer, for heaven's sake.)

**IT'S IN PROCESS** - It is so wrapped up in red tape that the situation is almost hopeless.

**WE WILL LOOK INTO IT** - By the time the wheel makes a full turn, we assume that you will have forgotten about it.

**A PROGRAM** - Any assignment that can't be completed with one telephone call.

**EXPEDITE** - To confound confusion with emotion and commotion.

**CHANNELS** - The trail left by interoffice memo's.

**WE ELECTED TO** - I hope not to get too identified with this decision if it turns out sour.

**COORDINATOR** - The person who sits between two expeditors.

**I'LL TAKE IT UNDER CONSIDERATION** - I never heard of it.

**IT'S UNDER ACTIVE CONSIDERATION** - We're looking through the files for it.

**MEETING** - A mass mulling of masterminds.

**A CONFERENCE** - A meeting where conversation is substituted for the dreariness of labor.

**PROPRIETARY INFORMATION** - If this gets out, my boss will be fired (the day after he fires me).

**NEGOTIATE** - A meeting of the minds without the knocking together of the heads.

**RE-ORIENTATION** - Getting used to working again.

**WE ARE MAKING A SURVEY** - We need more time to think of an answer.

**SUBJECT TO YOUR THINKING** - Let's spread the responsibility around for this one.

**CONSISTENT WITH CORPORATE POLICY** - ...and apple pie, the flag and motherhood.

**GIVE US THE BENEFIT OF YOUR THINKING** - We'll listen to what you have to say as long as it doesn't interfere with what we've already decided to do.

.....now you know what they really meant. Thanks, Dick.