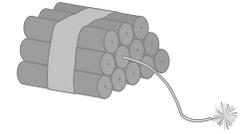


The Primer



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

Volume 18

Winter 2007

Issue 4

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The Primer is published quarterly on the website of the Golden West Chapter of the ISEE:

www.iseegoldenwest.org

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President's Message...

2007 has been an interesting year. We started out in January with great expectations. Everything was going great, nothing could shut us down. All of our markets were growing and the potential for expansion had everyone excited. As the months passed we saw that we remained busy. Was it because we were doing more and accomplishing even greater things or was it the fact that we were doing more with less and it just seemed that we were moving ahead. In the fourth quarter it looked like the year end was going to come off with a bang, which turned out to be a dud. I am not talking about the mortgage crisis. I am not referring to the credit crunch or even the down turn in the housing market - I am talking about the state of affairs of the Golden West Chapter of ISEE.

Thank goodness for people like Jon Hill and his team of happy helpers who planned and executed 2 very successful workshops during this year. We need to do a special thanks to the people at Atlas Copco who allowed us to hold our workshops at their new facilities. It is always appreciated by the attendees when they can go to a first class location to learn.

Carey Haughy and Gerald Fulgrum have been the glue that have held this Chapter together. Because of their belief in what we are trying to accomplish they have volunteered their time and offices to ensure that the mail gets out and the bills paid.

We say a special thank you and a well earned pat on the back to Wes Bender. Wes is one of the founding fathers of the Golden West Chapter, he was real young then. He has taken the Primer into an new era by making it electronic. If you are reading this on your computer, thank Wes. He has retired from the real (?) world and from the world of consulting and is now trying to do all of those things you look forward to when you do actually retire. Putting together the Award winning Primer is no longer on his list of things to do. We will really miss you Wes, but we want to wish you the best. May your cars always run smoothly, may the trout streams be full of fish and may there be no trees behind you when you cast. But most of all, have a happy life and enjoy your family. Make us all green with envy.

The Golden West Chapter will have their business meeting on January 5, 2008. The date set for November was the dud. This is a very important meeting as we will decide on the future course of the Chapter with the By-Law changes. We will be voting in new Board Members and Officers. Jon has again put on a great program for this meeting so plan on attending. It is right after the holidays so you should be well rested and ready to start out the new year with a bang!!! A little explosives humor.

See you there,

Bill Warfield

The Primer

Editor's Notes ...

This edition of The Primer marks the completion of our Chapter's 20th year. The path hasn't been an easy one. We've had industry consolidations, job transfers, retirements and some of our members have passed on. We've had strong leadership in many years and somewhat bleak leadership in others. In spite of the problems, we've managed to survive, usually because of a handful of people who cared enough to put forth the extra effort required to make it all work. As the Chapter ages, so have many of the members. If the Chapter is to survive and move forward into its next decade, we will need to have the participation of younger members. We will also need an influx of newer members, making sure that they also get involved with Chapter activities.

Part of the lack of participation by younger/newer members is our own fault. Instead of bringing these people into active participation by having them serve on committees or assisting in planning and carrying out Chapter functions, the Chapter officers have gradually taken on all of the duties themselves. This carries a double penalty in that, in addition to not getting others interested in the running of the Chapter, it increases the burn-out factor among the officers and board members doing all the work. If the Chapter is to move forward strongly, we will need to reverse this trend.

As is usually the case, the upcoming Annual Chapter Business Meeting and dinner on January 5th will be an important one. In addition to election of Officers and Board Members, there are several amendments to our Constitution and By-Laws to be considered and put to a vote. These amendments will be mailed or e-mailed to the membership.

I've been researching our Chapter history for inclusion on the website and I need your help. As some of you may be aware, some of our early Chapter documents have been lost. With those went a list of the Founding Members of the Chapter. Some of us are still around, but after 20 years the memory gets a bit hazy. There weren't very many people at the organizational meeting in Sacramento. I've listed those on the website that I remember were there, but I know I'm still missing a few. If you or someone you know were at that meeting and are not listed on the History page of the website, please let me know.

This issue of *The Primer* marks the end of my eleven years as editor. While it has been a great ride, it is time for someone else to take over, and so with some regrets, this will be my last issue. The newsletter is in need of someone to put a fresh look and new ideas into it. If you are interested, please contact one of the Chapter officers. If you have any questions about what the job entails, contact me. Before I depart, I'd like to thank once again all you loyal advertisers who have made it possible to publish a newsletter all these years. We couldn't have done it without you.

Merry Christmas to one and all and may your New Year be a happy and prosperous one,

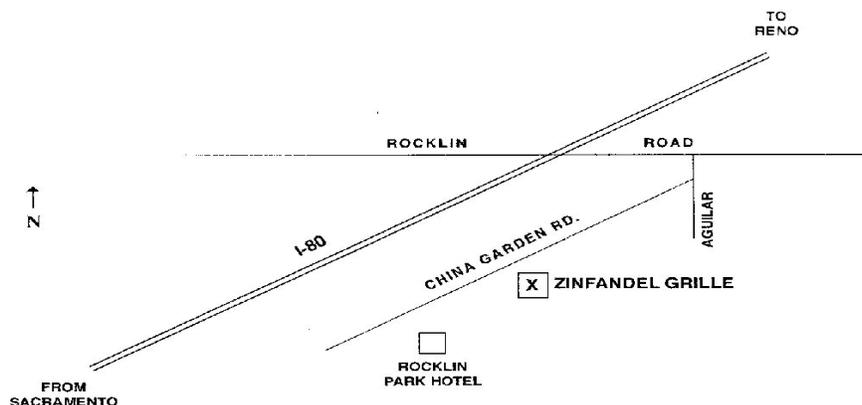
Wes Bender

The Golden West Chapter of the ISEE
proudly announces the
2007 Annual Business Meeting and
the Celebration of its 20th Year

- When: Saturday, **January 5, 2008**
No-Host Cocktails at 5:00, Meeting from 6:00 - 7:00 & 8:00 - 9:00
Buffet Dinner from 7:00 - 8:00
- Where: Zinfandel Grille - 5450 China Garden Rd., Rocklin, CA 95677
- Buffet Menu: Roast Beef with au jus and horseradish cream -or-
Pan-roasted Salmon with Champagne Cream Sauce

(includes Salad, Fresh Pasta, Potatoes, Vegetable and Dessert)
- Cost: Chapter Members and spouse or significant other: \$40.00 per person

Non-members: \$47.50 (New members signing up at or before the meeting will receive the Member's rate.)
- Program: Megan Morehouse, Director of Industry Operations for the SF field division of the ATFE. Ms. Morehouse will address Security/Terrorist and other critical issues of importance to our industry.
- Meeting
Agenda: Election of Officers and Board Members for 2008
Vote on Amendments to the Chapter Constitution and By-Laws
Award Presentations
- RSVP: **by January 2nd** via e-mail to Carey Haughy at carey@bluemtnmin.com or by phone at (209) 533-0127, ext 23. Your payment in advance will be appreciated.



The Primer

To Test Blast or not to Test Blast, that is the question.....

and it doesn't have a simple answer. The need for a test blast is actually directly proportional to how critical the blasting results are perceived to be.

The two situations where test blasts are extremely helpful are (1) the need for rock of a minimum size for a project, and (2) where final slopes (the rock that is to remain intact) must be preserved in a competent state.

If you are dealing with a situation where you are trying to obtain spec rock for a project and there is some question as to the adequacy of the rock, you definitely need to conduct one or more test blasts. As the desired rock size increases (rip rap and jettystone probably being the most difficult), the blasting skill required becomes much more critical if you are to leave behind minimum waste material. In addition, the joint systems in the rock may not lend themselves to giving you the required size and it is critical to determine this at an early stage in the project.

Many contractors normally do not like to pay the extra cost for test blasts, preferring instead to rely on the skills of their people and gambling that the rock will behave as expected. If they are lucky, that might be the case. If not, the overall cost may be far higher than if they had gone to the trouble of conducting test blasts.

Often contractors compound a problem by basing their bids on large diameter drills and wide patterns. If they have adequate experience in the rock at hand, this can work quite well. If not, it is possible that different patterns and smaller drill holes may be required to achieve the desired results. More than one contractor has lost money or even gone broke because he took this gamble.

On the other hand, test blasts are sometimes mandated in specifications when the blasting is actually so simple and straight forward, and the rock sizing requirement so lenient, that it is really an exercise in futility to do test blasts.

If you encounter a situation where you really aren't sure how the rock will respond to your efforts, or if you are concerned about the quality of the rock, try to arrange for a test blast or two. On many jobs you can combine your test blasts with production blasting by starting at a point away from the critical areas. By the time you have blasted up to those locations, you should have the situation pretty well in hand. Of course, if it all has to be done in one or two blasts, your skill is going to be challenged if you can't do a test blast.

It can also prove helpful to study the characteristics of the different rock types that you encounter in your blasting, and make note of the results that you obtain when shooting them.

Above all, remember that conducting test blasts does not reflect badly on your abilities or reputation as a blaster. Indeed, a test blast may very well preserve your good reputation in a difficult situation.



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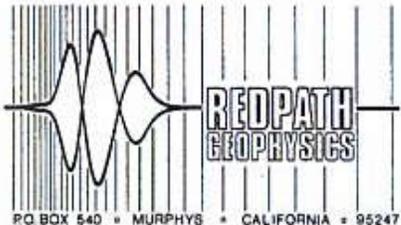


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| Wes Bender , Board Member | (520) 648-3581 | | |

Shakin' It Up

with Wes Bender

Most of us involved in blasting or in the study of blast effects have had one or more mentors who have contributed greatly to our success in our chosen field. My mentor through the years has been Lew Oriard, which explains why I so often refer to him or his work. I don't recall exactly when I first met Lew. It was at an SEE function in the late 70s or very early 80s. I was impressed with his grasp of blast effects, of blasting in general, and his ability to put highly technical explanations in words that the layman could comprehend. I listened to his presentation of a paper and then sought him out to ask more about the subject matter. He seemed impressed that I cared enough and had enough interest to learn more. Through the years we have had many very interesting and enlightening conversations and I am deeply indebted to him for the sharing of his knowledge with me.

I learned many aspects of blast effects from Lew and his comments would often point me in the right direction to help discover for myself some of the things he already knew. Far and away the best advice he ever gave me was to not be satisfied with just taking things at face value, but to investigate and dissect the blast results and to build my confidence level as I discovered how certain things could withstand much more impact than one might expect and not suffer any adverse effects. In studying the aftermath of a blast and carefully documenting what did or did not happen to the rock, nearby utilities, concrete, buildings, pipelines, etc. I gained a confidence that allowed me to better understand how to design future blasts. In several instances I was able to study the impact that really close-in blasting had on expendable items. In our business few things are more valuable than finding out exactly how much vibration can be tolerated before an object is actually damaged.

Because I had ready access to a number of seismographs, I could also go out and record the effects of many sources of vibration and note whether or not damage occurred. Some examples of recording ambient vibration: heavy truck traffic on a bridge near where we were going to eventually blast, recording on the generator deck in a powerhouse, recording in various locations on a dam, spillway and wing walls during concrete demolition with a hoe ram, recording on an eight foot diameter pipe carrying the Sacramento River through Box Canyon Dam, recording on a 36 inch pipe carrying water for two California towns (you would be surprised at the vibration that can result from cavitation in a pipe), near the foundation of a house with dozers ripping nearby, and many other vibration sources.

The value in these readings was that I had irrefutable proof that normal vibration levels from blasting were not going to damage these items. If you have a seismograph or two and they just sit around between blasts, you should consider using them to further your understanding of vibration intensities.

(continued on page 9)

Shakin' It Up (cont.)

Although some of my blast designs around critical structures may have appeared to some to be quite risky, in truth they were not. I was just applying my previous experiences to the situation at hand. Of course, I was always careful to make sure that I checked everything thoroughly and did not overlook some hidden problem that might be lurking nearby. It was equally important that I either load or very carefully supervise the loading of critical blasts. If I were to advise someone on how to do it and then have them overlook some important detail and let the shot get away, I wouldn't want them pointing at me as the one to blame. In the early days when blasting liability insurance was still affordable for the individual consultant, my insurance company also preferred that I handle it that way.

As an example of a hidden problem lurking in the background waiting to trip you up, consider the case of blasting in close proximity to an operating hydroelectric powerhouse. The owner's engineers understood blast vibration (rather unusual in itself) and, considering the small charge weights involved, weren't too concerned about its effect on the rotating mass of the generators. I had designed a blast to remove rock at the base of the powerhouse and the contractor was in the process of starting to drill when I made a very critical discovery. A system was in place in the powerhouse to shut down the generators and flood the generator room with carbon dioxide in the event that an earthquake caused shaking that exceeded a preset intensity level. At the time this apparently was a common thing in California, but it was the first time I had encountered it. This safety system was far more sensitive than the generators. The vibration from the blast, as designed, would probably have taken the units off line and activated the carbon dioxide bottles. This potential problem was avoided by discussing it with the owner and then bypassing the sensors for a few moments while the blast was detonated. Moral: You've just gotta be careful, and thoroughIt can be embarrassing and costly if you aren't.

After you have finished a successful (or maybe unsuccessful) blast, take the time to carefully analyze what went right and what didn't, including what was expected and what wasn't. If something unusual occurred, investigate and try to determine the cause. Make note of all the blast effects, recorded or otherwise. Put the information in the blast reports and, if those documents have to stay with the project, keep a copy in a file of your own.

As a blaster, you should always document your blasts well, but go a couple of steps further. Thoroughly investigate and study the effects of your blasts. If you have one or more seismographs at your disposal, when they aren't busy recording blasts, use them to record some of the ambient vibration around you. It can be quite enlightening and it doesn't cost you a dime.

How Come??? . . . The wives of the Golden West Chapter members, upon learning how successful our workshops have been, have asked to put on their own workshop. Their proposed program follows:

How To Fill The Ice Cube Tray - Step By Step, With Slide Presentation

Toilet Paper: Does It Grow On The Holder? - Round Table Discussion

Is It Possible To Urinate By Lifting The Seat and Avoid Splashing The Floor, Walls and Nearby Bathtub? - Group Practice

Fundamental Differences Between The Laundry Hamper and The Floor - Pictures and Explanatory Graphics

Dishes and Silverware: Can They Levitate and Fly Into The Sink? - Examples On Video

Identity Crisis: Losing The Remote To Your Significant Other - Help line and Support Groups

Learning How To Find Things By Looking In The Right Place Instead Of Turning The House Upside Down While Screaming - Several practice sessions and homework

Health Watch: Bringing Her Flowers Is Not Harmful To Your Health - Graphics and Audio Tape

Real Men Ask For Directions When Lost - Real Life Testimonials - (may have to be cancelled due to possible lack of testimonials)

Is It Genetically Impossible To Sit Quietly As She Parallel Parks? - Driving Simulation

Learning About Life: Basic Differences Between Mother and Wife - Online Class and Role Playing

How To Be The Ideal Shopping Companion - Exercises, Meditation and Breathing Techniques

How To Fight Cerebral Atrophy: Remembering Birthdays, Anniversaries, Other Important Dates and Calling When You're Going To Be Late - Cerebral Shock Therapy Sessions and Full Lobotomies To Be Offered.....

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