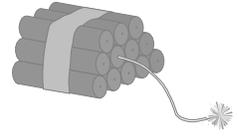


# The Primer



Newsletter of the Golden West Chapter, International Society of Explosives Engineers  
Alpha Explosives, P.O. Box 310, Lincoln, CA 95648

Volume 27

Fall 2016

Issue 3

## *In this issue . . .*

**President's Message**  
pages 1-3

**Editor's Notes**  
pages 4-9

**Early days at Alpha  
Hardware Co. part 2**  
by Wes Bender  
pages 10-13

**Scholarship Recipient**  
page 14

**Advertisers**  
pages 15-18

**Fire in the Hole**  
page 19

*The Primer* is published  
four times per year  
on the web site of the  
Golden West Chapter  
of the ISEE:

[www.iseegoldenwest.org](http://www.iseegoldenwest.org)

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## ***President's Message...***

Hey Members, Guests & supporters,

I normally start off my quarterly message from the president with a quick review of our chapter's recent activities. I will get to that in a moment. First, I want to remind all of you that as exciting and rewarding as working with explosives can be, we sometimes become complacent. Complacency in our business will almost always result in a serious accident if not fatality. We recently received a Metal and Nonmetal Mines Safety Alert from MSHA that I want to share with you. In a partnership with the IME (Institute of Makers of Explosives) MSHA reports that "Since 2010, seven miners have died at mines as a result of fly rock, misfires and toxic fumes". The alert goes on to state "All mine operators, independent contractors and miners must follow strict explosives safety procedures to prevent fatalities". The Safety Alert also gives some of the Best Practices that should be considered. From setting up and drilling a blast pattern, to the storage, transportation, loading and detonation of explosives. You can review the Safety Alert in this newsletter or go on to the MSHA website.

Continued on next page

## ***Metal and Nonmetal Mine Safety Alert*** **Explosives and Blasting Safety**

Blasting safety demands the highest level of attention among employees working in metal and nonmetal mining. Since 2010, seven miners have died at mines as a result of flyrock, misfires and toxic fumes. Two miners died in one incident in 2013. All mine operators, independent contractors and miners must follow strict explosives safety procedures to prevent fatalities.



### **Best Practices**

- Follow manufacturers' guidelines for the storage, handling, transportation and use of explosive materials.
- Keep all explosive storage areas clean, dry and orderly.
- Rotate the inventory of explosive materials, making sure to use the oldest stock first.
- Never use damaged or deteriorated explosive materials, including initiation (detonating) devices, boosters, dynamite and blasting agents. Contact the explosives manufacturer if damaged, deteriorated or outdated explosives are discovered.
- Ensure that all locations where explosives are stored or used are properly ventilated before miners enter.
- Utilize technology such as face profilers and borehole probes to obtain specific details about areas of weak burden and potential borehole deviation.
- Communicate with the driller and understand the geology of the blast site.
- Review and follow the site-specific blast plan prior to loading any explosives. Develop a drill pattern appropriate for the location, and adjust stemming depth and/or decking to maintain adequate burden for the blast.
- Establish the blast area and remove all persons from the area before the blast is fired.
- Guard or barricade all access routes to the blast area to prevent people and vehicles from entering.
- Before firing a blast, give ample warning to allow all persons to be evacuated from the blast area.
- Conduct a post-blast inspection to be certain the blast area is safe before anyone re-enters.

**Presidents Message continued...**

Now off the soap box I go. On behalf of the board and officers of the GWC, I want to extend a Huge Thank You to all the participants and sponsors of our 4<sup>th</sup> annual Scholarship Fundraiser on July 16<sup>th</sup>. We had some newcomers as well as the experienced shooters that made this year's event another success. As usual, Newsletter editor and head chef Mike Burneson made sure we had plenty of BBQ as well as making several deliveries of extra shells that yours truly forgot to provide. Secretary Danniell and her crew of Mary Hackler, Jody Dobbs and my wife Donna did another fine job checking in participants and setting up the tables. I also heard that they had a very competitive game of dominoes while waiting for the shooters to return for the lunch and closing ceremonies. Great job everyone. I also want to apologize to my team for my extremely poor showing, as usual. I think next year I will play dominoes with the set up crew! Please see the full report from secretary Danniell and newsletter editor Mike Burneson to follow. Our next activity will be our business meeting on January 28<sup>th</sup> 2017. Hopefully, the Crabs will participate in our Annual Crab Feed at the business meeting this year. We hope to see all of you there. Enjoy the rest of the newsletter!

Be Safe!  
Your President,  
Mike Chiurato

## The Primer

### Editor's Notes...

This year's fundraiser at Coon Creek was not only well attended but was just plain FUN. I must share how the day started for me. I pulled into the area to set up the kitchen and up pulls the owner. What the hell are you doing here? I am here with the GWC for our sporting clays fundraiser. I have another group scheduled for today. I was thinking I was not going to have a very good day but, Mike Chiurato pulled in about this time and got everything straightened out. I was really stressing. We had forty one shooters and several sponsors that allowed us to make a profit for the Scholarship fund. The InstanTel shell bags were very well received. I forgot to mention that I received a call from one of our shooters at the start of the event and they said that the station we had them at did not have a button for launching the clays. I walked in and asked the owner and she told me that we needed to skip that station. I told her that would have been a handy bit of information to have told me prior to sending all eleven groups out to shoot a quarter of a mile away. I ran out and lined out all of the different teams about the broken station. I was then asked by a team that they needed additional shells. I was not clear in my instructions to our check in staff to hand out an extra box per each team so, I got to run back out with extra shells for everyone. I will so get even with you Mike C.. Brad was laughing his tail off. I finally got to start work on lunch and had lots of great help from all of our ladies after their game of dominos. On behalf of the Golden West Chapter I would like to thank our sponsors of this event. Accurate Energetic Systems, Neil's Controlled Blasting, Alpha Explosives, Syar Industries, Texas AGA, TelSmith, Wes Bender and Jerry Fulghum.

Continued on next page

**Editor's Notes...**

We gave out several different divisions of awards.

**Top Gun Men's** Brett Hampton 75, Ryan Segress 70 and , Dan & Chuck Reeves - Tie 68.

**Top Gun Women's** Cassie 68, Tina Hampton 54 and Denise Goldsmith 45.

**Top Gun Youth** Gracie 68, Max Hammerich 54 and Dalton Warner 47.

**Top Gun Team** (Highest Scoring Team) Norm Goldsmith, Denise Goldsmith, Gracie Goldsmith and Cassie Goldsmith score 247.

**The Sun Was in my Eyes Award** (2nd Highest Scoring Team)

Jim Dill, Woody Shields, Tina Hampton and Brett Hampton score 240.

**Save the Clay Bird Foundation** (3rd Highest Scoring Team )

Dan Reeves, Chuck Reeves, Ryan Staggs and Manny Huezo score 222.

In addition to the really nice trophies that were awarded, the Chapter gave out two \$25.00 and one \$50.00 Bass Pro Shop gift cards.

Everyone had a chance to win as we decided to issue everyone a raffle ticket for the gift cards because we knew which team would have the high score. Watch out Goldsmith's I am bringing in a ringer next year. I would like to thank BoDean for sending the two teams of participants. I really don't like to blow my own horn but, lunch turned out good and I don't think anyone went away hungry. Great job to everyone that attended and everyone that helped. Our Secretary Danniell did an amazing job, Donna and Mike Chiurato had everything very well organized. Thank you Mary Hackler and Jody Dobbs for your help. I am looking forward to next years event. Please enjoy the next couple of pages of photos from the event. I am looking forward to the Crab Feed. See you in January.

# The Primer



*4th Annual Shoot*



*Ready on the Firing Line*



*Everyone was a Winner at the Golden West Scholarship Fundraiser*



# The Primer



Ready to Shoot



Mike C got how many?



Good Shooting Gracie



Check in was Smooth

# The Primer



2nd. Brett, Tina, Woody & Jim



3rd. Manny, Chuck, Dan & Ryan



Ryan 70, Brett 75, Dan 68



Brett Hampton Top Gun



## The Primer



*The Winners and still Champions  
Cassie, Norm, Denise and Gracie Goldsmith  
GWC President Michael Chiurato*

### Chapter Activities - 2017

Annual Winter Business Meeting  
Mt Pleasant Hall- Lincoln- January 28, 2017

Michael Chiurato-President  
Danniell Edwards-Secretary  
Gerald Fulghum-Treasurer  
Wes Bender-Board Member, Web Master  
Mike Burneson-Board Member, Editor

## Early Days at Alpha Hardware Co.

(continued from the previous issue)

by Wes Bender

### The Lincoln Plant (cont.)

Under Hercules' operation of the plant near Lincoln, ammonium nitrate (AN) was brought by rail to a siding in the town of Lincoln behind Jansen's Feed store. It would then be loaded as needed into a dump trailer that would transport it to the plant. At the plant, a low hopper was situated on the outside of the mix building. It had an auger that would carry the AN inside and up into the mixing equipment. The trailer would be backed up and tilted to feed the AN into the small hopper. Needless to say, this wasn't very efficient. In addition to some spillage, the flow into the mixing equipment was uneven at best; however Hercules wasn't going to put any money into the plant to improve it if they didn't have to.

Several versions of ammonium nitrate/fuel oil mixture (AN/FO) were manufactured. Hercomix 1 was the standard 94/6 mix of AN/FO. It had red dye mixed with the #2 diesel so that one could verify that there was indeed oil in the mix. Hercomix 2 was a similar product but substituted Corvis oil for the #2 diesel, improving the fume class to make it acceptable for underground use. Hercomix 4 was Hercomix 1 with the addition of coal dust. Several attempts were made to manufacture a product we called "Super" AN/FO. This generally amounted to adding powdered aluminum to the mix to increase the energy levels. One had to be careful to not inadvertently manufacture a cap-sensitive product (by using too fine a grade of aluminum powder) or to upset the basic oxygen balance by adding too much aluminum.

*(One rather humorous incident came out of the "Super AN/FO" trials. I was at Kaiser Refractories' quarry near Salinas to demonstrate the product. After all the holes were loaded, the shot hooked up and the quarry cleared, the quarry superintendent Arza Dillard and I climbed into the blast shelter, the blasting signals were given and we detonated the shot. After a small amount of rock had stopped raining down and we were about to exit the blast shelter, there was a muffled thump. This was followed by another series of muffled thumps. What had happened was that, in seeking just a bit more energy, a little too much aluminum had been added to the mix and caused the explosive to be somewhat deficient in oxygen in the detonation process. As the hot explosive fumes down in the blasted muck found a pocket of oxygen, it would detonate. These were low order detonations (probably deflagrations) and weren't dangerous, but they were a bit unnerving. Concerned about the thumps, Arza looked at me and asked, "What's that?" I told him that this new explosive product was so good that it was still running around down there looking for more rock to break.....)*

After Alpha took over operation of the Lincoln plant, I got together with my plant manager, Orvan Johnston, and we proposed to improve the situation in the processing of the AN. Largely based upon the efficiencies to be gained, we got approval to purchase a 35 ton overhead tank and auger to feed the mixing equipment. After the new tank was installed, deliveries of AN came in pneumatic tank trucks.

Because prilled Ammonium Nitrate goes through a phase change and the prills tend to fall apart when the temperature passes through 90 degrees (F), we didn't allow the AN to sit very long in the tank, especially in hot weather. When a delivery came in it was usually mixed and bagged as soon as possible.

Orders for explosives were still received in the Nevada City office where they were punched into a paper tape that was then fed through a TWX (similar to a teletype) and sent to another TWX at Lincoln. This process prevented mistakes in the quantities and products involved. I developed a multi-part form that, when typed out at the plant, became the hazardous materials bill of lading, a delivery ticket, invoice copies for our files and for the customer and the data sheets that accompanied the ATF explosive transaction forms. The explosives business was getting complex and this form served us well. The forms were all printed and assembled by Lennox Press in Grass Valley and were still in use when I left in 1982.

Although we were a Hercules distributor, we had negotiated a contract with Atlas Powder to mix AN/FO for their northern California distributor in the Bay Area. Atlas would ship us a stock of their empty bags. In order to sell it to them at a price that would keep them reasonably competitive in the industry, we didn't make much profit on it, but it gave me the opportunity to gauge what the Atlas distributor's sales were, based upon historic product ratios. On several occasions we mixed 40,000 lb loads of AN/FO for the DuPont distributor when his equipment was down. He would send his truck over with 800 empty bags to be filled. To reciprocate, we would occasionally buy Pourvex (a pourable slurry) from him when Hercules' pourable product wasn't available for one reason or another (usually because they were out of the surplus double-base smokeless powder that they used as a sensitizer). We competing distributors would slit each other's throats for even a small explosives order and we absolutely would not discuss pricing in any manner, but there was still honor among us thieves and we would help out if one of us was in a bind.

There is one aspect of Alpha's involvement with the explosives industry that is not well known. In the '50s and '60s the explosives department at Alpha was still part of Alpha Industrial Supply. The explosives department didn't become a separate division until later. Alpha Industrial Supply, in addition to being a Hercules explosives dealer, was also a distributor of American Cyanamid mine chemicals. American Cyanamid was also an explosives manufacturer. One of the things that was a major sticking point for Alpha in its relationship with Hercules was that, although Alpha serviced and solicited business throughout its territory and had several salesmen on the road, if a carload order of explosives (30,000 lbs at that time) was placed by one of Alpha's customers, Hercules shipped it and billed the customer directly, cutting the distributor out of the transaction completely. This wasn't fair to the distributor, but that was the Hercules policy at the time. Alpha management complained bitterly about it, but got nowhere with their arguments. Finally, out of frustration, Alpha met with American Cyanamid and arranged to distribute their line of explosives, dropping Hercules. Several old permanent mine magazines in the Grass Valley area were refurbished to receive the explosives shipped in from American Cyanamid. Alpha delivered explosives throughout northern California from these magazines. Alpha Industrial Supply also manufactured their own version of AN/FO at the time and called it AIDITE.

Hercules initially didn't feel that their business would be adversely affected by Alpha's defection, but as time went on, it became apparent that Alpha was doing a better sales job than Hercules and Hercules' explosives sales in the territory plummeted. After a short time trying to regain sales, word came down from corporate headquarters in Wilmington DE for George Trescher, the Hercules' Western District Manager at the time, to get his dusty butt up to Nevada City and make peace with Alpha. After several days of discussions and negotiations, an agreement was reached whereby Alpha would come back into the Hercules fold, but now all orders in Alpha's territory, including carload lots, would be billed through Alpha even if they were delivered directly by Hercules.

It's amazing how often timing can play an important part in historic events. Alpha had a very strong hand when George Trescher came to Nevada City to negotiate. Alpha was basically eating Hercules' lunch even though Hercules had three full time salesmen in California.

Where the timing part comes in is that a couple of weeks after the negotiations were complete and Alpha was back to selling Hercules explosives, American Cyanamid's explosives plant blew up. If George had been a few weeks later in coming to Nevada City to negotiate, he would have been in the driver's seat. American Cyanamid never rebuilt the plant and it is doubtful that Alpha would have tried to make arrangements with any of Hercules' other competitors.

This American Cyanamid incident occurred just prior to my time at Alpha, as I went to work there in 1967, but I learned the details from the owners and managers at the time. Of course, I was an active participant when Hercules turned the operation of the Lincoln plant over to Alpha and I remained involved until 1982.

Other Alpha Hardware thoughts.

I had an excellent working relationship with Downey Clinch, Alpha's president ("DCC" to those of us who worked with him). He was an astute businessman but could be a difficult man to work with at times. He was quite conservative in the way he ran the business. While some have criticized his methods and felt he could have grown the business more aggressively, under his watch the corporation never had a losing year. Eventually he came to realize that, whenever I had to make a business decision, it was usually the right one and his decision would have probably been the same. Because of this he gave me more and more authority and responsibility as time went on, eventually promoting me to Vice President for the Explosives and Industrial Supply divisions.

Because of my position in the Explosives Division, I was also head of our one man corporate Safety Committee. (The Explosive Division may have been thought to have the highest safety liabilities, but were the truth known, the retail business had far more liability than we did. We understood the hazards associated with explosives and we addressed them accordingly. Safety was paramount in our business. On the other hand, the hardware department might innocently sell a gas-fired water heater to a customer, who then installs it near paint thinner and other flammable material. When the house burns down everybody, including Alpha, gets sued.)

Anyway, as head of the Safety Committee, one of my jobs was to review all of the proposed CalOSHA safety regulations to see if they applied to us and whether or not we should comment on them in the proceedings. These draft standards came in large packages consisting of many pages, a few of which were printed on only one side. On one occasion, Downey handed me a large bundle that had just arrived in the mail. He remarked that I should save all of the one-sided pages for use as scratch paper. Now, it's bad enough to try to go through reams of bureaucratic double-speak and try to make sense out of any of it, but I wasn't really too keen on trying to un-staple it and save out the few pages that were blank on one side. When I got done, however, I took two such pages out of the bundle. I put them both in Downey's In Box, with a notation on one that read, "DCC: I went through all the documents. There were only two pages that were blank on one side..... and I guess I just used one of them, Wes" When he got around to checking his box later in the day, he stuck his head inside my office door and said, "You Horse's Ass". That was his favorite expression and was usually reserved for those he cared about.

(It should be pointed out that, while DCC could be somewhat conservative in some fiscal matters, the previous owner of Alpha, Fred Cassidy, was probably more so. The story goes that, one year during the compilation of the annual inventory, Mr. Cassidy instructed the girls in the office who were tabulating the results to, when the adding machine tapes were full, turn them over and use the back side too.)

Local color.

We had more than our fair share of characters in Nevada City. A couple of them warrant mentioning. There was one guy who lived near the top of Broad Street and operated a small mine just outside of town. One never knew just what he was mining at any given time. It all depended upon what metal was up in the markets at that time. One time he was mining silver and another time he was after gold. Mercury and molybdenum also had their turn. Whenever he stopped in at Alpha, he was always bragging about how rich the mine was and how he was about to make a big strike. His favorite saying was that one day he would come in and show us a "Hat Full of Nuggets". Of course, that eventually became his nickname, "Hat Full".

At one time (before my time in NC) there was a daily stage line (bus line) that ran from the twin cities of Grass Valley and Nevada City up Highway 49 to Downieville and Sierra City. It wasn't unusual for some of the local men to get together for fishing/poker playing/drinking trips up into the high country. On one occasion, the activities were progressing so well that one local businessman, who was a little on the tight side with his money, and had been expected home on Tuesday, sent a telegram to his wife, "missed the stage today and tomorrow /stop/ will be home thursday /stop/".

A gentleman who owned an underground gold mine up in Alleghany bought much of his mining supplies from Alpha, but always bought his explosives from our competitor in Browns Valley. I was never able to get a foot in the door when it came to his explosives business. One day he came into my office and asked if we had any 7/8" diameter powder in stock. I told him that the only grade we had in that size was a 40% Gelatin Extra, but I was curious as to why he needed such small sticks. I also wondered to why he didn't just get it from his usual supplier. He told me that he had some of the competitor's 7/8 x 8 powder, but he was concerned because he was using it for priming AN/FO in the drifts and they were finding quite a bit of un-detonated AN/FO in the muck pile. He didn't think the powder was shooting full strength and he wanted to compare it with ours. I questioned him as to why he was using such small cartridges when you would normally prime with 1-1/8" or 1-1/4" sticks. He said he had to use the 7/8" powder because the holes were too small. Suddenly a light came on! He didn't have a problem with the explosives. He was suffering from a case of rock bits that were badly worn! I told him that I would certainly be happy to sell him a case of Hercules 40% Gelatin Extra 7/8 x 8, but that he'd probably have the same problem with ours as he did with our competitor's. I then went on to explain how almost all explosives have a critical diameter, below which they probably won't shoot reliably. The critical diameter of AN/FO is somewhere near 1" depending slightly upon how it is formulated. His AN/FO was being initiated by the 7/8" sticks OK, but was then failing to propagate to the collar. I suggested he buy a few new integral steels (the carbide inserts are part of the steel, which comes in 2', 4', 6', 8', etc lengths) and try again. He got back to me later to tell me that everything was back to normal. Another example of trying to save a little money and then having it cost you more anyway. (Cheap isn't always the least expensive.....)

Nevada City used to wake up on the morning of the Fourth of July to the sound of major explosions emanating from the area of Sugarloaf, on the north side of town. One of the local contractors had a cable strung between two pine trees and he used to hang dynamite from the cable, prime it with cap and fuse, light it and scamper off. We contributed somewhat at Alpha by providing him with the dynamite, caps and fuse. This went on for a number of years and was fairly popular with the locals. Eventually, it got a little more difficult because of regulations, the threat of possible lawsuits, etc. When I learned that he didn't even own the property where he was detonating the charges and that the fire hazard was getting considerably worse every year, I suggested that maybe Alpha shouldn't be participating in the event any longer and we stopped donating the materials. When he couldn't get free explosives any longer, he discontinued the event. I suppose we were maybe being a bit too cautious, but in today's litigious society you really can't afford to take unnecessary chances.

(to be continued in the next issue)

## The Primer

The Golden West Chapter is proud to announce the 2016 winner of the Wesley L. Bender Scholarship Award. This years winner is Holly Haughy. The Chapter will be awarding Holly with a check for \$1,000. We wish her success in her final year at UCSB.

The following is a note from Holly to President Mike Chiurato of the Golden West Chapter.

Thank you and all of the members of the Golden West Chapter for the previous years of generosity in supporting my academic goals at UCSB. In this email, I have included a completed application for the 2016 Wesley L. Bender Scholarship and a personal statement describing my scholastic achievements during my three years at UCSB.

This fall I will begin my fourth and final year at UCSB and I would just like to say how much I appreciate all the encouragement and support you have shown me these past three years.

I hope all is well with you and the Chapter! Once again, thank you so much.

Sincerely,  
Holly Haughy

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### **Fire in the Hole...**      Words to Live By

“I have a hard getting to sleep at night. I can’t wait to hear what I’m going to say in the morning.”  
- Lee Trevino

Ignorance is a choice. Stupidity is hereditary.

Experience is a hard teacher, but a fool hath no other.

Alcohol dissolves the barricades to innovative data analysis.

“I, S or L” - Abbreviation for Ignorance, Sloth or Larceny.

“Speaking from pinnacles of near-perfect ignorance.”- Donald Rumsfeld

Just because YOU understand it, doesn’t necessarily mean it won’t work.

He’s depriving a village somewhere of an idiot.

I can’t see you, so don’t pretend to be there.

I had absolutely nothing to do today and I only got half of it done.

A woman raping a man is somewhat akin to stuffing a marshmallow into a parking meter.

Dealing with morons has its humorous moments, but in the end it is a depressing business from which we learn very little.

“Come back and see me when you’re younger.”  
- Jerry Reed (to a gal hitting on him in a bar)

The odds are good that the goods are odd.

You have to dance with who brung you. -Lee Trevino

Bloom where you are planted.

A recent study found that women who carry a little extra weight live longer than the men who mention it.

My skeptic tank is usually full when I listen to his sales pitch.