

FLYING PHOENIX FIREWORKS

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1.3G
300sh Red/Green/Blue Moving Star
100sh Coconut Pistil w/Red Tadpole
0sh Blue Tail to Brocade Crown Crossette
110sh Fan shaped - Silver/crackling/blue/
reen glitter mines to blue tail to chrys willoush Fan shaped - Three stage massive
crackling mine
88sh Fan shaped - Flying Gold Eagle
80sh Fan shaped - Ice on the Cake
rocade crown w/blue and crackling mine)
48sh Fan shaped - Silver Waterfall
18sh Fan shaped - White Strobe Waterfall
300sh iZi shaped - Colorful Whistling
5i - 10i Red, Silver or Blue Ghost Shells

More Brands in Stock

Brothers Shogun Winda Cannon **Golden Bear**

Lightning Bolt Black Cat Flower King **Flying Dragon** HopKee

Beihei Wizard Huisky Lidu Yung Feng

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WPA Newsletter, Volume 20, Issue 3

June, 2010 Volume 21, Issue 1

Western Pyrotechnics Association P.O. Box 990 Fontana, CA 92664

E-mail: Tom@WesternPyro.org

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Better late than ... naaahhhh By <u>Tom Calderwood</u>, V.P. Publications

First, my humble apologies for getting this newsletter out VERY late! I wish I could give you some kind of smarmy excuse, but let's just say life sometimes gets in the way.

Second, I need to clear something up I said at the last general business meeting. I stated that any-body has 'stop work authority', however our regs say that only staff can stop work. And the regs are correct. I'll explain it a bit further on in the newsletter.

Third, we have a new forum up and running! Go to:

www.westernpyro.org/forum

and register to get going. Your name will be verified against the current WPA database so that only current, valid WPA members will see what's going on. The forum will not be visible to guests or search engines. This will allow us to discuss various items of interest without having to wade through multiples of emails, as well as keeping a trail so that we can refer back to issues without saying "Do you remember that email, oh, 3 weeks or 4 months ago?"

Fourth, there are a LOT of talented photographers in our club! I scattered a few of them around in this newsletter.

Fifth, I will be distributing a way to get a hard copy (vs on-line verion) of this newsletter. Please be patient—there are a few more cogs to this wheel than we thought. But it's in the works.

Sixth, thank you to Peter Shoewe with his continued story of touring Chinese Fireworks Factories.

Finally, just before I was going to go live with this newsletter, we got the news that Jill Salverson passed away. It was a shock to me and many of our fellow WPA members. Jill always had a smile and was very involved in the club as an officer as well as "Vanna" at the WWB auction. Our condolences to Paul and their entire family.

Important Notice:

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What's Happening!

By Pete Wood, WPA President 2009

Well, as I sit here writing this, six weeks have passed since WWB XXI, yet it seems like yesterday. The fun, the friendship and fireworks couldn't have been better and the weather was picture perfect. With all of that combined, how could have we NOT had a great event?

I want to take this opportunity to extend my heartfelt thanks to all who participated. Without your involvement, participation and support, none of this would be possible.

Our member volunteers, WWB Staff, vendors, display companies, the Lake Havasu Cert Team members, all local AHJ's and general public made this possible and I thank you all for stepping up in a poor economic time, to show your support and help keep this event alive.

It's my understanding that we broke all previous records for attendance by the public, for this event. This will hopefully result in further support and continued acceptance for what is referred to as the largest draw to the City of Lake Havasu, for any event held in town to date.

We held elections for the office of President and Treasurer at the General Business meeting on Sunday morning at the Aquatic Center, and I'm honored to say that I was reelected to serve as your President and Debbie Ludwig took another term as our Treasurer.

As is true with any Board position, none of us were born knowing it all. There is certainly a learning curve and a period of adjustment in order to best operate within that position.

I'm confident that we are all on the right track to make changes necessary to best serve the club, the membership and all concerned – in fact, we have already switched our web hosting over to a more reliable provider, after continued problems with online registration and membership renewals that became evident by most attempting to use this feature (or non feature) prior to WWB. There is a forum in the works for further discussion on the proposed policy change to allow minors to participate in certain areas of manufacturing, which will be accessible via the website. I'll let Tom Calderwood speak more on this, as he's been working diligently on this, amongst many other areas.

Speaking of changes, let's talk about DO IT. At the General Business meeting, it was decided to further investigate moving this event to Hawthorne, NV for this coming year. The dates have not been set yet, and we are still gathering information regarding costs involved to move equipment from Havasu to Hawthorne, but the initial thought is that it's DO-able. This won't be cheap, but should repay itself in a relatively short time. I can only say that member involvement and support will be necessary for this to fly. If we can't gather the help needed to facilitate this move and run the event once on site, then we haven't made any progress. At the Business Meeting, we had a large show of support and intent to attend and support this move. If you have a desire to assist in this undertaking, please contact me off list at skyfirepro@aol.com as I'm trying to get an early start on this. There is so much involved, I can't possibly see this happening without your help.

From meeting in Havasu on a weekend prior to DO IT and going through containers to assemble the equipment needed, to driving a rental truck from Havasu to Hawthorne, general DO IT Staff and volunteers, rest assured I can find a piece of this for everyone. Please don't procrastinate this, as the sooner I have firm commitments, the easier it will be to coordinate this event.

In closing, I will ask that anyone that might have ambitions towards being more involved in Club politics or being more involved in the setup and execution of club events, please let myself or any BOD, Event Chairperson or Staff member know of your desire. I would like to see a mentoring program begin, in the event (and likelihood) of current positions becoming open.

It would certainly be advantageous to have people being trained to eventually take on any of the many positions that are necessary for this club and it's events to continue.

Again, my sincere thanks to all involved in our club, and thanks for allowing me the privilege and the honor of presiding over this great club for another term.

Sincerely,

Pete Wood WPA President 2010

Comments on WinterBlast XXI

By Kief Adler

There were fewer of us this year but way more of the general public, proof positive that folks were taking their vacations closer to home this year. And, sadly, proof that many of us were correct in predicting that the recession would keep many of our members at home this year. For those that made the trip, thanks for your support and thanks for being part of another great event.

Saturday night featured the largest crowd ever to be at Sara Park, and the pushing and shoving in the stands for seats was not a pretty site. What does this mean for the club? For starters, it means that we've created a bit of a monster and one that's going to see more security and more scrutiny in the future.

The City of Lake Havasu lets us come to Sara Park each year because we are the single largest revenue spike for the City annually. They also give us \$20,000 annually to put on Saturday's display. As long as we take their money, and put on a show on Saturday night, they will continue to welcome us. Unfortunately, this also means continuing to deal with the crowds at Sara Park, and the problems that those crowds create for us. It is for this reason that I spoke at the Business Meeting about finding a new place for Winterblast where we can free ourselves from the need for a public display and get back to doing what we do best: entertaining each other with fireworks. Finding a new site involves many, many things and hours of searching, too. It might also mean moving the event to a different week (northern NV, for example, would be too cold in mid-February). I would welcome more discussion about this and, to this end, I invite any and all of you to drop me an email (kief@sbcglobal.net) with any potential sites to look at. I'd also like to know if we are truly locked into President's Day weekend, too, or how you'd feel about moving the event to March or April?

Many thank you's are in order and I'd like to start that list with those members who gave generously at the auction this year, as well as the many members who donated items to sell. I'd like to give a special thank you to Matt Sutcliffe, Jill Salverson, Kathy Baird and Randy Baranek, without whom there would be no auction. To our president, Pete Wood, who seems to live at Sara Park for a week, take a

break next year, will ya? To Lynden King, Slacker extraordinaire, thanks for finally bringing us a great food vendor. Rox and Dennis ROCK those B bunkers and Ann Huffman did a hell of a job with our vendors this year. And for Richard Haase, I promise not to throw pop pops in the street next year, OK? I'm not going to go down the list of names for the remaining staff, but I greatly appreciate what you do, and I hope that the general membership does, too. You all give your all to make this event happen.

Want to see what's involved with being on staff? Got a special skill or just a desire to get involved more? Drop me an email and let's talk. We need new blood at our events as well as on the Board. In short, we need YOU.

In closing I would like to urge all of us to find one new member for next year's Blast and get them to join the club. Think what that would do in helping to keep costs down and seeing more fire in the sky.

- Kief



WWB Photo by Tom Calderwood

9:28 PM 06/27/10 Accrual Basis

Western Pyrotechnics Association Profit & Loss

April 2009 through March 2010

	Apr '09 - Mar 10
Income Advertising Do it income Donations	336.25 90.00
Registration	865.00
Total Do it income	955.00
Donations Fireworks Fund	260.00
Total Donations	260.00
Membership 2009 Membership 2010 Membership Membership - Other	1,260.00 41,745.00 1,860.00
Total Membership	44,865.00
Other Types of Income On Line Fees	721.35
Total Other Types of Income	721.35
Pyro Playa Registration	500.00
Total Pyro Playa	500.00
Winterbiast Auction Clean Up Corp Donations Corporate Member Donations P/D Donations Program Ads Registration RV Parking Fees Seminar Fees	200.00 5,820.00 500.00 4,250.00 8,645.00 20,000.00 117.50 55,068.34 880.00 90.00
Vendor Clean Up Deposits Vendor Tables Winterbiast - Other	1,100 2,750.00 0.00
Total Winterblast	99,420.84
Total Income	147,058.44
Expense	147,000.44
Do it Registration Refunds Site Preparation	787.58
Containers	388.26
Total Site Preparation	388.26
Do It - Other	815.33
Total Do It	1,991.17
General Operations Alpha Card Systems Alpha Card Software Ribbon Cartridges	1,327.26
Total Alpha Card Software	1,327,26
Cleaning Kit	52.10
Total Alpha Card Systems	1,379.36
Aplus	700.10
Bank of America Bank Service Charges Checking Printing Charges Bank of America - Other	23.22 51.40 140.00
Total Bank of America	214.62
Computer Management Dues	300.00 155.00

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9:28 PM 06/27/10 Accrual Basis

Western Pyrotechnics Association Profit & Loss

April 2009 through March 2010

	Apr '09 - Mar 10
Forms	
Membership Mailing Supplies	580.04
Total Membership	580.04
Total Forms	580.04
Humboldt Merchant Services	4.7070.70
Monthly Service Charges	325.48
Total Humboldt Merchant Services	325.48
Insurance Liability D&O Liability Ins. Yearly	2,931.00 54,498.00
Total Insurance	57,429.00
Mailing Supplies Miscellaneous Newsletters Mailing Supplies Postage	18.09 411.78 33.08 88.78
Total Newsletters	121.86
Office Supplies Officer Stipends On Line Credit Card Fees Postage QuickBooks Backup Server	24.67 2,830.00 1,100.53 221.93 149.95
Total General Operations	65,962.41
Professional Fees Accounting	550.00
Total Professional Fees	550.00
Pyro Playa Expenses Site Preparation PortaPotties Site Permits	108.00 95.00
Total Site Preparation	203.00
Total Pyro Playa Expenses	203.00
Taxes AG Registary Charitable Trust Ca.Compliance Board Co. Corp Delware Franchise Tax Board State of Ca	25.00 25.00 410.00 10.00
Total Taxes	470.00
Winterblast Expenses Afterglows Charge Back Fees Registration Charge Back Fees - Other	6,907.27 275.00 6.00
Total Charge Back Fees	281.00
Clean Up Refunds Crackers Event Chair Stipends Event Meeting Costs Printing Programs	3,710.00 700.00 1,190.00 457.51
Total Printing	2,068.00
Public Display Registration Wrist Bands	17,500.00 216.00
Total Registration	216.00
Seminars	735.40
Site	130.40

9:28 PM 06/27/10 Accrual Basis

Western Pyrotechnics Association Profit & Loss April 2009 through March 2010

	Apr '09 - Mar 10
Cart Rental	3,693.83
Chair Rentals	900.00
Containers	388.26
Convention Site Rent	1,672.00
Eq.Del & Misc	4,343.70
Fuel	1.874.37
Lighting/Electrical	247.75
Parking Fence	700.00
Portables .	670.00
Radio's	1,200.00
Security	3,584,00
Site Materials	1,850,00
Sound Services	6,000,00
Table Rentals	1,690.00
Tents	13,976.02
Trailers	152.08
Trash Dumpster	458.00
Trucks	385.25
Total Site	43,785.26
Site permit	40.00
Staff Incentives	222.22
Hotel Rooms	637.92
Meals	3,352.00
Staff Shirts	1,432.50
Total Staff Incentives	5,422.42
Vendor Dep Refunds	1,100.00
Winterblast Expenses - Other	2,500.00
Total Winterblast Expenses	86,612.86
Total Expense	155,789.44
Net Income	-8,731.00

A Word from the Treasurer By <u>Deb Ludwig</u>, WPA Treasurer 2009

It seems like we just got back from WinterBlast and its July 4th already. Wow, how time flies!!! We are posting the final profit & loss statement for the year ending 3/31/10. Considering the economy, the Do-it cancellation and I think the club did well. Yes we have a loss of \$8731.00 but it is better than the loss of \$26K the year before. All of our Blast chairpersons did a fantastic job in getting their vendors prices as low as possible. Great Job everyone!!! I'm looking forward to attending Do-it this year and excited about the possibilities of the new site. It will be fun for all!!!



Minutes of Annual Meeting of the Western Pyrotechnic Association May 13, 2010

Meeting called to order at 7:06 p.m. All board members in attendance, President Pete Wood presided.

Secretary's Report by Kathy Bauer

- 7 membership renewals have arrived since WWBXXI with 1 new Life Time Member was accepted.
- 81 new members have joined our club since the 2010 drive started late 2009. To date we have current 580 members. Our thanks to all of our members for their support.
- Secretary apologized for not attending the mail in a timely manner in the past.

Treasurers Report by Debbie Ludwig

- Our Profit and Loss statement will be sent to our accountant on Monday 5/17/10 for filing. The P&L statement will be published in the next newsletter.
- · There are no outstanding bills from WWBXXI.

Publications Report by Tom Calderwood

- · Newsletter is just about finished.
- Still working on the process of making newsletters for members who cannot download the on line newsletter. Things to consider are the number of people needing these and the costs involved with printing.
- The online database is operating and our thanks to John Noonan for all his hard work.
- The board discussed having an online forum for discussion of minors in manufacturing. This forum should be operational 6 months + prior to WWBXXII.

Web Adminators Report by Kelly Goebel

• The web-site is up and operational. There should not be any major downtimes to the web-site. The online membership is working and in the near future the online registration for Do-It will be available.

Do-It Report by Pete

- · Currently 66 people have replied to the call for members interested in Do-It. It's beginning to sound very promising for the event to be held this year.
- The final information needed to finalize either Hawthorne or Mesquite, NV as the host site of Do-It is being prepared. Hopefully by next board meeting mid/late June, final decisions can be made.

Meeting was adjourned at 8:59 p.m.

Minutes respectfully submitted by Kathy Bauer, Secretary

Can Anyone Stop Work?

by Tom Calderwood

At the last business meeting, during the discussion on allowing certain minors into manufacturing, I asked "Does anyone know who has the authority to stop work?" It was a rhetorical question that I answered "Anyone. Anyone can stop work." However, a couple of folks came up to me to point out that in the regs for WWB state that only staff can stop work. I asked around to a couple of old timers and asked them if they saw any issue with letting anyone stop anyone else, and they (to a person) said yes. The reason is it is due to folks that have more experience being allowed to do those things that more experienced folks can do. While it may be an issue for someone not familiar with the task or the people, it has been asked and cleared through different channels. Because of this, the added "buffer zone" (if you will) of asking a staff member was added so that any misconception could be addressed.

And this raises another question: Is there different rules for different folks? Well, yes. And that's by design. If you have demonstrated knowledge and skill in certain areas, then you will be allowed to do that activity IF you have sought out permission from the proper staff person. For manufacturing, it's the manufacturing chair. For shooting line activities, you need to check with the safety chair. Please don't assume everyone knows you and it's OK—just take that extra minute or three and verify that it's on the up-n--up.

Discussion Forum

by Tom Calderwood

One of the items of discussion on the last business meeting was getting an on-line forum up and running. Well, it's up and ready for action. To register, go to:

http://www.westernpyro.org/forum

You need to be a current WPA member to get access to it. And once you register, one of the forum administrators needs to OK you. (Right now, the admins are Kelly Goebel and myself.)

So what's the difference between a forum and a mailing list? On the forum, you can concentrate on just the subject(s) that interest you. You can set up an email alert when a topic is updated if you want. It is also a semi-permanent way to keep track of long-running topics. Too many times folks will reply to a single email from the list not realizing that there was many, many entries that preceded it. We're hoping that will be somewhat diminished with a forum.

The mailing list will still be maintained. We will be taking a close look at how our members respond and see if we maintain both, merge everything to the forum, or go back to the mailing list.

Try it out, let us know!



One of the fun things Kief did on Saturday night at WinterBlast, was to ask to the crowd "Who has been married the longest?" And this couple stepped up having been married 65 years! And what better way to celebrate than with a fireworks show? YOU BET! (Sorry—I didn't get their names! If you know it, please drop me a line.)



Minutes of Annual Meeting of the Western Pyrotechnic Association February 14, 2010

- 1. Call to Order: The meeting was called to order at 10:10 a.m. by Pete Woods, president, presided. All members of the Board of Directors were in attendance as well as at least 10% of the general membership to meet the quorum requirements.
- 2. Approval of the WPA 2009 annual meeting minutes: The minutes, having been published in the WPA newsletter: Motion to approve the Minutes, Pat Chabers Seconded, Bobbie Piete, All in favor: unanimous Motion was passed.
 - a. Approval of the WWB20 Staff Compensation Policy by Kief Adler. The WWBXXI staff Compensation Policy was amended this year, from last years, by returning it to the 4 day event as in years before our XX anniversary blast in 2009. Motion to approve the Staff Comp policy was made by Gary Lemon, seconded by Dennis Miele. Motion passed by unanimous vote.
- 3. Treasurer's Report: Treasurer had printed handouts of the current Income/Expense available to the member.
 - a. Donations through Saturday night:
 - b. Action brought in
 - c. Public Display Income from Lake Havasu City: \$20,000.00
 - d. WWB Income to date:
 - e. Pyro Playa 2009: Income \$500.00 Expenses: \$300.00 Gross revenue to the club \$200.00
 - f. Permits and Applications:

Kief Adler brought up the issue of members donating to FF, which appears to be not a current foundation. The secretary will contact members who have donated to this fund to see if they want to change this donation to a club donation.

- 4. Registration for WWB20
 - a. Total attendance for WWBXXI stands at 578 members, 334 spouse 118 kids 24 students 19 staff: 40 Corp.staff 43
 - b. WPA membership for 2010 stands at 573 members paid to date. 384 renewing members, 66 Spouse members, 81 New members, 22 Student members 8 Corporate members.
- 5. Kief Adler discussed the possibility of having to move WWB from Lake Havasu at some point in the future. Re occurring difficulties with the city about many issues: pollution insurance, overtime pay for police and firemen, traffic difficulties mainly for public to watch the event. Kief will continue to work with the city, although maintains that the club should continue to look for another site for the future.
 - a. Motioned by Bruce Beck to appoint a person to look for alternate sites, Seconded by Lynn Gender. Motion passed.
- Publications Report: Tom Calderwood reported the WWBXXI program this year went great.
 - a. One line newsletter is working and looking great; although for those members without a computer a discussion was held about how to get them a newsletter too.
 - b. Motion was made by Niels Anderson to have 2 lists of members: those who would like on-line newsletter and a list for those who would like to receive a printed newsletter. Seconded. Motion passed. It was decided that a form would be available at the Registration Booth for members to double check their email addresses and a place to mark if they would rather receive a newsletter in the mail.
- Discussion on Minors in Manufacturing. A draft was handed out to the members about the issue of allowing Minors in Manufacturing, in a limited capacity.
 - a. There would be a minors area only at the very front of manufacturing.
 - b. There would be a student shell area to shoot minors shells.
 - c. Parent participation with their child would be mandatory.
 - d. Three major concerns: Safety Liability Policing
 - e. Tom Sklebar presented information about how PGI handles Jr. Pyros at their conventions.
 - f. Doug Mahor discussed liability issues: if a child was hurt legally the liability would be the same as if it were an adult hurt on site. He said there were no states nor federal laws regulating a minor in manufacturing. The adult would be solely responsible for their child. As even with adult liability, no waiver is bullet proof.

- g. Kurt Medlin, lifetime and charter member, stated that prior to 1999, the WPA allowed children to attend seminars. It is a good idea for kids to see responsible adults working together and the responsibility of safely handling product.
- h. Policing issues of members was discussed. Members self police themselves and other members already.
- 8. Discussion by Tom Calderwood and Pete Wood about alternative site selection for Do It.
 - a. Tom presented a slide show of current sites being discussed: Fallon, NV Fernly, NV and Hawthorne, NV.
 - b. Mesquite, NV is no longer a viable option: it is a big city now with housing where previous events have been held.
 - c. Kief Adler motioned to continue plans to move to Hawthorn, NV. Seconded by Gary Berg: motion passed.

9. ELECTIONS:

- a. President: Kief Adler nominated Pete Wood to continue as WPA President; seconded by Doug Mahor. John Dicks closed nominations. Pete was re-elected as President.
- b. Treasurer: Debbie Ludwig ran un-opposed and was elected Treasurer for the next term.
- c. Area Vice Presidents elected:

San Diego: Jim Ludwig Los Angeles: Chris Spurrel

No.Cal/Central Valley: Lynden King

No West: vacant at this time

AZ/NV: Mike Hill

Rocky Mountains: Charlie Wilson

Texas: vacant at this time Eastern/Foreign: Joe

Hawaii: Alaska:

Canada: Darrell Fiss

10. Adjournment: 12:20



WWB XXI Photo by Bobbie Piety

How To Make A Portable Pyro Dryer

by Kevin Mather

One of the challenges of manufacturing at Winter Blast or Do It is getting water bound stars and burst charge dry so it can be used to make shells, rocket headers or mines.



To solve the problem I made a relatively inexpensive dryer box that is easily portable and helps to get things dry FAST. The idea for my

dryer came from an article written by Ned Gorski, a well known PGI member and master pyro. I built my dryer box for about \$75 and got all of the materials at Lowes and Home Depot.

Materials List:

- Large, plastic storage box. I used a Rubbermaid Roughneck box since I didn't want to use a brittle plastic material that would be easier to break.
- Ceramic disk heater. I bought a Stanley space heater at Lowes for about \$40.00
- A square to round HVAC duct adapter. The square end needs to fit over the end of the ceramic heater.
- Round, adjustable duct. This needs to be the same size as the outlet on the square to round adapter.
- Window screens that fit inside of the Rubber-maid box. I put the stars or burst on the screens and stack them inside the box. Depending on the size of the stars, the dryer can hold up to 6 screens at one time.

- Wood to use as spacers between screens. I used 1 x 2 cut to roughly 3" lengths.

Assembly is simple. Cut a hole the diameter of the adjustable elbow in one end of the Rubbermaid box an inch or so above the bottom. Using a box cutter or utility knife cut a 6" to 8" slit into the lid of the box to help ventilation. I put a scrap of PVC pipe in the slit to keep the vent open. The photos show how to put it all together. I place one of the 1x2 pieces under each corner of the

screens to support them. You can easily put multiple layers of screens in the dryer by simply separating them with the 1x2's.



The one trick that I have learned for using the dryer is to make sure not to close the lid tightly or the thermal protection switch on the heater will trip. This year at Winter Blast we used the dryer for making stars, burst charge and to dry paper shells that we pasted on a WASP. After just a few hours the shells were rock hard and ready to lift and shoot! The only issue to using the dryer at Sara Park is the rather anemic electrical outlets in manufacturing

that can't handle a lot of amperage. The best bet is to bring a small portable generator if you have one.



WPA Corporate Members

Combined Specialties

Novato, CA

Extreme Pyro

Mansfield, TX

Fireworks and Stage FX, America
Lakeside, CA

Flying Phoenix

Riverton, WY

Honolulu, HI

Homeland FX

Jamieson, Or

Lumina, Inc.

Chicago, IL

Premiere Pyrotechnics

Richland, MO

Pyro Novelties

Lenexa, KS

Thank you ALL for your continued

We would like to take this space to express our thanks to our corporate members. These are folks who recognize that the health and longevity of pyrotechnic clubs and organizations is responsible in part of the continued success of fireworks in America. In these economic times, their support can be especially hard on them. It goes above and beyond the standard.

The WPA is reliant on our corporate members continued support for the health of our club. Do us ALL a favor and be sure to use their services.

A Note About the Cover

by <u>Tom Calderwood</u>

All the images on the cover are from WWB XXI. We have had a LOT of talented photographers give me pictures to use, but I had a hard time putting them on the cover! Why? Not because they were not up to snuff or anything, it's just that the resolution was too low! Sure, saving the pictures at a lower resolution saves a TON of disk space or to email, I lose out on any hope of putting them in a hi-res image.

That being said, I need to give a special shout-out to John Chilese for catching Wild Bill McGregor on his "Flaming Bike of Death". (I love that John named the picture: "Madman on Motorcycle.jpg". Yup, works for me.)

Thank you to all of the folks who sent pictures: Bobby Piety, John Chilese, Robert Cover, and Kevin Mather

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Special Note

By Tom Calderwood

It is with deepest sadness and sympathy that we have to pass on the news of the passing of Jill Salverson. Jill passed away suddenly and quite unexpectantly on June 19th. Paul and Jill could be seen at most WinterBlasts checking peoples badge and wrist band. They were one of the Master Blasters—those folks who have been to EVERY WinterBlast. Jill also acted as club secretary for many years, a position now held by her sister. She was also "Vanna" during the annual WWB auction. And while you may know Jill from her involvement with the club, you would be hard pressed not to remember her with a smile on her face. If you saw Jill, you know that Paul was not far away.

We have lost a dear friend to the club, a dear friend to many of us, but most of all, we have lost a dear heart. I could say that we will light a beautiful shell for you, but I'm pretty sure you'd be more happy with a 2' long Doctor X salute.



Kathy (Jill's Sister) and Jill taking names and money at the WWB auction—2009



Jill and Paul (2nd couple from the left) at the 2009 meeting of the Master Blasters



Jill Salverson

WWB 21

By Greg Dandurand

Little Bunny Foo-Foo,

Hopping through the forest,

Scooping up the field mice,

And bopping them over the head!

If your only reaction to the above poem is to put on a rabbit costume and go looking for Chuck E. Cheese, then you missed one of the best things about WWB this year. But more on that later. With Do-It being cancelled due to low participation (the slow economy is hitting everyone); it was a long time between PGI and WWB. I had some small high school homecomings to shoot, but on those I didn't light the fuse, I just sat in the stands to radio instructions to my assistant. The one bright spot I had hoped on would be my chemistry class I took at night school. Or was it the alchemy class I took at knight school? The knowledge I had gained from my manufacturing buddies at WPA combined with the brightly colored handouts from the instructor almost guaranteed a passing grade. Alas, that was not to happen. I snapped during a particularly hard test when I was clouded by valence electrons. I fashioned a crude confetti cannon using the aforementioned handouts and with one POOF, startled the other students, freaked out the instructor and torqued off the janitors (I wasn't going to hang around and clean it up). I disappeared faster than lit black match on a finale chain. Oh, to be at Winterblast!

Leaving the Phoenix metro area on Wednesday afternoon, I figured I had been on this route so many times, I could just set the cruise control and take a nap while the car drove itself. Having a new-to-me truck, however, I thought I should remain attentive to get it to its first WWB. One of my Michigan buddies showed up, so I had some company for the ride. We had a chance to catch up on the way to Lake Havasu. Once in Havasu, we checked into the host hotel and crossed the street to Mudsharks for the pre-party. Kief was the host/cashier, and after giving him small bills with non-sequential serial numbers, we entered and found all our pyro buddies. Karl had driven down from Illinois with some chems to vend and he was one of the first people I saw. A broken trailer



spring lengthened his trip, but he was glad to be here out of the snow. The rest of the evening was uneventful, swapping stories with the other pyros and catching up on everyone's general well being. The walk back to the hotel was a little fuzzy and the next morning left me moving a little slow.

Arriving at SARA park on Thursday, manufacturing was already up and running. All the tents were in place, with the trade show to be held at SARA again. This seems to be working out well; the only event at the Aquatic Center is the business meeting. The placement of the magazines and the location of all the lines had not changed.

As I gazed onto the no man's land separating the C and B areas, I noticed a curious site. A white box truck was unloading what appeared to be a carnival façade. This was Bunny Blasto, brought to you by the Jackalopes. A brightly colored, pedal powered, old-fashioned shooting gallery was being assembled. The targets were little bunnies (fake, of course) mounted on a belt. When hit, they would trigger class C devices that were mounted behind the façade. The firepower was roman candles, mounted in finely crafted wood stocks. The trick to aiming was to find the right trajectory on the candles. Some brands were better than others; talking with those who had spent some time on the line could get you that information. The power to get Peter Cottontail hopping down the bunny trail was human. A bicy-

cle mounted behind Plexiglas and wood (to protect the driver) turned the belt. It was a tremendous hit!! Bunny Blasto ran all four nights, and didn't seem to be too badly damaged on Monday. Maybe we can convince them to bring it back next year? I talked to several people who had been the "motor" and they remarked that it was like pedaling up a very long hill. I guess maybe we could set it to music and sell it as a workout DVD.

Open shooting went well all weekend, I was tethered down on the B line as staff safety, sneaking away several times to run some errands and visit a few people. I did get a chance at Bunny Blasto, but my aim was not true and my flaming balls missed their mark. I worked mostly on the electric line, loading the big shells and helping members to fire them. There were several dozen 12's that went along with a couple of 16's that

went and one that didn't. Better luck next time George. We did have one chain of 3-inch salutes blow a gun apart and one salute go off near a member. No harm, no foul, no owwies. It did reinforce the concept of "light fuse, get away". There were a lot of member big

member big shells this year for the member's showcase. Steve Wilson did an excellent job of coordinating this, and I have to publically apologize for forgetting one of his shells. So I overlooked a 12 in a ready box, it happens!

Friday night had a nice tribute to Bill Daly, a charter member of the WPA who passed away last year. Bill McGregor worked hard to put on a great show and everyone pitched in a hand to make all those mines work. Bill would have been proud of the send off, I'm sure

there was a part of him (in spirit) in all those mines.

The Saturday auction brought out some interesting items. Besides the usual clothing, wine, and some memorabilia; there were three interesting lots. One lot consisted of several bags and boxes of chemicals that a member wanted someone to use. Someone in manufacturing got a good deal and was able to put them to good use. The next item was the right to shoot eight 12-inch shells at the public display that night. That part of the auction raised over \$1500 for the club. A big thanks to all who contributed and to Matt Sutcliffe for donating the shells. The last interesting item was a tail section of a 500pound practice bomb, inert, no explosives attached. I couldn't pass up a deal and won the bid. A lot of people suggested I should make a lamp out of it, but I think I will deploy the fins, mount it on my roof and see if anybody notices. On second thought, maybe that's not the

right way to meet local AHJs.

I spent a lot of time in manufacturing, helping some friends and hanging out with the Circle of Blame crew. They build some nice shells and are fun people to hand out with. The one thing I noticed is that there are more automatic pasting machines around. It sure cuts down on

the time to put together a big shell; which allows for more shells to be built. It seems that most are co owned, helping to cut the cost. The rocket guys built a bunch, but I stay away from their area at night, they need some help on trajectory.

The Business meeting on Sunday was highly anticipated due to the fact that minors in manufacturing was to be discussed. There was a rumor that the whole thing was made up to get Frances to quit the club, but that was



WWB 21 (continued)

By Greg Dandurand

proven false. A draft version of rules for minors was handed out, but nothing is set in stone and the consensus was that it is something that should be approached slowly. The PGI sent a representative to talk about the PGI's policy on minors (age 13 and above allowed with



parent), and the WPA's legal counsel had no objections. Don't look for this to happen next year, but everyone in manufacturing, especially those that never go to the business meetings, would do well to keep him or herself apprised of this situation. If minors are allowed in manufacturing, there will be some changes, and if manufacturers keep a hand in any rule changes, it means you won't be blindsided when things change.

The other topic in the business meeting was a new venue for Do-It. Hopefully we will have one this year. All the proposed sites are in Nevada, closer for the upper northwest members. This is a good idea, though it will mean a much longer drive for me, but will allow for people who don't get to WWB a chance to attend an event. Keep an eye on the list, something should be announced soon. We also discussed finding another WWB site. We have been in Lake Havasu City for twenty years, and things are getting harder each year as far as regulations, noise, and just dealing with the city. If anyone has another site that could be cultivated, please consider contacting a board member privately and discussing it with him or her. This is something that we need to consider within the next five years (my opinion).

The women of WPA put on a nice show with a lot of women only, member built shells. I know several people who really worked hard on that and were very happy when it was all over. All the shows looked good, I always see them from the back of the track on the B line. Down there we can barely hear the announcing, so a lot of times I miss what is going on.

Cleanup on Monday went well, there were more people than I expected. The Ready Labor crew did most of the heavy lifting, and we had pizza for lunch. Thanks to all who stayed. Volunteers make this event. Months ahead of time there are issues with the city, BATFE, vendors, registering members and all the other BS that must be done. The week before, there is site preparation, placement of guns, tents, security perimeters and AHJ logistics. During the event, handling member issues, vendor problems and coordinating between the different display operators take up volunteer time. As I was leaving, I knew a handful of people had to stay around to make sure all the final details were handled. Thanks to all the board members and Chairpersons who put this together every year. The dedicated men and women who volunteer their time for nothing (ok dinner and a shirt) make WWB happen. Be nice to your volunteers, volunteer yourself, if only for a few hours. It makes things go smoothly, and we can enjoy our craft for years to come. See you at Do-It!!!



WWB "Bunny Blasto" photos by Robert Cover and Tom Calderwood



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A Tour of Chinese Firework Factories

This is part 3 of 4 on 9+ firework factories toured in Liuyang China by Peter Shoewe

Simba Fireworks, a New Factory, Asian-Swan Fireworks, Paper Ball Shell Factory and the Fireworks Manufacturing Supply Market

Simba Fireworks

It was Wednesday morning. I woke up with my eyes glued shut. My coughing had kept me awake for many hours. I could barely find my way to the bathroom where I saw my eyes were red and yellow. I'd wait until Hong Kong to see a doctor. In the lobby at 8:45am I met two men in their early twenties in business attire who took me by SUV to their office. One was named Michael. After picking up two others, we drove northwest for an hour along a winding mountainous road to a shell factory. Michael asked, "What kind of factories do you want to see?" I said, "also a fuse factory." He said, "That is in another town and we don't have time for both."

At the factory it was pouring rain. We were surrounded by green grass, tree covered hills, rice and tobacco farms. Three hundred people worked here and they were paid at least 1000RMB (\$150) a month. Old red brick buildings with torn sheets of thin plastic window coverings to keep the cold out were now flapping in the breeze and not offering any protection. There were cement walkways in front of the buildings with leaky corrugated steel roofs, supported by four inch diameter cement posts. Like other salesmen, Michael told me there were four companies contracted to make shells for the Olympics: Simba, Flying Eagle, Dancing Fireworks and Panda. We walked in one large building where women pasted shells from 1.5" to 10" for the Olympics. The shells were dried on tables and racks indoors because of the rain.

Along the many kilometers of winding roads were the smaller 3x6m cement buildings with two rooms where 6"- 12" shells were being made. I stopped and watched a woman pour stars into a 10" shell then put in a tissue paper and fill it with black-powder coated, broken, corn kernels.

Lastly we walked to one of their two warehouses. Boxes were stacked ten high and every square meter was filled with fireworks for shipping to all over the world. There was a woman working here, normally there's not, as that day she was in charge of drip control, putting up buckets and sheets of plastic over boxes when she found a leak. At Simba's other factory they made cakes, fuses, fountains, firecrackers and all their other fireworks. "We are not the biggest company, but the bigger ones charge more." Michael said. Simba wouldn't give out prices either, only on the day you buy. http://www.simbafireworks.com/main.htm

Back at the hotel, Sonny and two factory owners waited for me. They drove me an hour down the same road, but this time to see a new factory under construction.

New Factory

We drove in an air-conditioned, late model Japanese car with tinted windows. Sonny told me I could find a wife if I stayed here six months. The factory was at the end of a new country road built out of cement with no asphalt. On one side of the road there were modern, clean, two story farm houses that looked like any home in the U.S. and on the other side were small ten acre farms. A six meter-high, light gray cinder block fence surrounded the



forty acre inner compound of the factory. The rest of the factory was further back. A two story, red-brick building was on the left just as we entered was almost complete, and will be the office. Made out of used bricks, the building looked thirty years old already. To our right were



long, one story buildings where some employees will live during the week, the ones that live far away.

It was hot and I started sweating within five minutes of leaving the car. I'm taken into one of these unfinished buildings with 20cm thick cement walls, where there was nothing more than a cement floor and a table. A 20-year-old woman cut up some water melon for us. The three owners told Sonny they spoke little to no English so she translated. One of the owners took out a property topo map and put it on the table, which where the plans for

the buildings on this 700 'Moo' sized property or about 210 acres. He told us commercial land like this has a forty-five year lease from the government.

There were about 180 small, two-room buildings for making larger shells.

These buildings were ten to twenty meters apart from each other along the hills in addition to the twenty larger buildings within these

forty acres. They've spent about six million RMB which is about \$900,000 US, and they needed another three million RMB or \$450,000 to finish. This nine million RMB will cover everything: the lease, bulldozing, cement roads, buildings, equipment, tools, paper and chemicals. Most of the construction was done, except for cement roads, walkways with roofs as well as manufacturing equipment and supplies that needed to be purchased.



This factory will be for the Chinese market only. They won't manufacture firecrackers as there are enough factories making these already. We walked into some of the large buildings with only cement floors inside. One owner in his 50s used to work in finance for a company in town. The other two looked like they were in their mid 20s. One worked for another fireworks company for





A Tour of Chinese Firework Factories—continued by Peter Shoewe

tower was in the distance for extinguishing fires. We drove past many small, still empty two-room buildings. There was a guard station at another back entrance near where chemicals will be stored in their own rooms and hidden behind the hills. It all kind of reminded me of the gold mine roads of Northern California.



Back at the main entrance we looked at the employee cooking area. There was a 1.5m diameter cement pad with a 3/8" hose coming out of a PVC pipe that will be used for cooking. I asked, "From where will the gas come?" They walked me 10m down to another long building with a basement in the back half. Windows were on one side with steel bars and no glass. The one owner said pigs will live here and never get let out. Their manure will get pushed into a gutter on one side and then down to the other end into a 30cm diameter hole with a 2m diameter cylinder underground. The pig manure will make methane gas, which will go up large PVC pipes and get used for cooking and heating water. I told them, "We do this in a small Northern California town as an experiment for about 2000 homes, since 2006; but we use cow manure and it is also used for cooking and heating homes." When Sonny translated this, everyone thought it was funny and laughed. At the car I asked, "If someone invested in this company, could they come here for a

week each year, make their own fireworks and light them off?" He said, "Of course." in Chinese with a grin and chuckle.

As we drove 5KM down the road, we passed another new factory just finished being built, but not running yet. The owner is from Taiwan, and those fireworks will be for the Taiwanese market. We had lunch at a restaurant down a narrow, gravel road at the edge of Liuyang, two blocks from the Union Firework factories.

In the middle of a pond, we sat in a gazebo supported by telephone poles. The giant lilies with big yellow flowers, giant gold fish and frogs weren't on the menu, but were part of the scenery. I invited Sonny as well as others to go river rafting with me that next Saturday.

At my hotel I noticed my city map and phone book were made out of a very heavy, glossy, paper. I assumed to keep the humidity from making the paper damp. I was getting ready to take a shower when the phone rang. In very good English a young woman said, "This is Amy with Asian-Swan fireworks, I'm calling to confirm our meeting tomorrow." "Yes I plan to meet you at nine" "Are you doing anything tonight?" She said. "No." "We are at the Yian Tian hotel doing KTV do you have time to come out?" "Sure." "I'll be there in half an hour." She told me. I had diarrhea now. This will be a tuff gig for me to pull off with my pants on. A driver took us over. She asked, "How many shipping containers do you buy every year?" I said, "I'm just getting started." The Yin Tin had colored neon lights in the hall and in a private KTV room six of her colleagues were drinking while their kids ran around. A forty-eight inch flat screen TV was on the wall and two couches for us to use, with beer and extra hot Shish-kabobs on the coffee table. I really didn't want to sing, it wasn't in my contract. They kept pouring me beer and saying, "Bottoms up." The jukebox had songs from ten languages with a Chinese only menu. Eventually they had me sing songs from the U.S. and I volunteered to sing a popular song in Chinese I had memorized years ago. The 20-year-old owner's daughter had arrived in blue contacts, baggy men's pants, a white T shirt with black Rayon vest and wearing a pair of glassless eyeglasses. She challenged me to more, "Bottoms up."

Every morning at four I'm woken by door slamming. After only four and half hours sleep, my sore throat had gotten worse than earlier in the week. I started coughing every minute instead of every twenty minutes. My right shoulder and arm hurt a lot from the rock hard bed.

Whenever there was overcast I could sit anywhere outside without sweating and there was an eerie sort of calm to everything in the mornings before the heat and dust started up. Amy, the factory owner's daughter and a driver arrived at ten.

Asian-Swan Fireworks

We drove forty minutes east to one of the Asian-Swan fireworks factories. Amy said we could not go to the fuse or firecracker making place because it was too far away. The owner and his family were from Taiwan. They came here to start this factory and then ship most their products to Taiwan while selling five percent of their fireworks to the rest of the world.



At the factory the sun was out in full force making things extra hot. About 300 employees worked here and 200 at their other factory. We walked from one cake assembly building to the next. The buildings were not as large as at Panda or at Flying Eagle. Ten women in each building worked behind their own tables. In some buildings they

put fuse holes in the paper tubes and taped them together. I watched them put in black powder, small inserts and a cardboard disc to keep everything in. In the last building a colorful wrapper was put on and then boxed for shipping. After walking in seven of these buildings, we were on a narrow, one-lane cement road with a corrugated steel roof. On our left were three-meter square manufacturing sheds spaced about 10m apart and on our right was farm land 30m below. A beautiful temple was on a distant hill. There were up to two workers in each small manufacturing shed. Many workers told jokes and stories to each other to kill time unlike at other factories where they were quieter. Employees here were in their 30s to late 60s. The road continued for many kilometers with another 100+ buildings. The buildings which they mixed the chemicals in were the furthest away.

Back at the assembly buildings I watched men hammer clay into cake tubes, while one man operated a hydraulic press. The press rammed 102 tubes with clay at once. Here workers were paid 20-40RMB, \$3-\$6 a day. Shells dried in the sun between buildings. As I walked along I felt sick with a temperature and was afraid I may pass out from the sun's heat. The building next to the parking lot had men and women tube rollers. One worker picked up the paper and paste one end with glue with a paint brush. This was common at factories for two to work the tube rollers

http://asianswanfireworks.en.gongchang.com

The Dahao Factory

On the drive back we drove past four other firework factories and one billboard showing the way to river rafting, one of three in this area. Amy pointed out the Dahao Firework factory where she worked in the office two years ago for a year. One day she was in town for her company, when there was an explosion. Eighteen women were killed in one building out of 500 employees who worked at this factory in all. Amy said if she had been at the factory she would have been in the office about the time of the explosion, which was 15m away, she would not have been hurt, but shaken up just the same. The explosion was heard all over the factory. Amy said there was a cart carrying black powder with large wood wheels being pushed into the building where they made three to

A Tour of Chinese Firework Factories—continued by Peter Shoewe

five inch shells. There was black powder or other chemicals on the floor that ignited along with everything on the cart, as well as in the building, this explosion killed everybody inside. The government shut them down for good. Now it's an empty factory, and for the past two years Amy's been working for Asian-Swan.

In a dusty one-street town with about 1000 people, we had lunch upstairs in a small restaurant. Five men from nowhere joined us. I never knew from where all these men suddenly showed up for at lunch. It was a mystery. The room smelled greasy and the open windows too dirty to see through. It was here I found out the owner's daughter had her hair died and got her blue contact lenses only yesterday. I didn't know black hair could be died so blond. I found out my \$170 talking translator didn't have words like black powder, firecracker or even aluminum, so Amy translated those words. I saw a bowl full of light green something that looked like regurgitated seagull vomit. No one else ate it but I, they knew what it was; and what I thought were dog intestines, Amy said were pig intestines. But I'm not so sure, because ever since that day, whenever I see a good looking two legged poodle I have this tendency to want to howl at her. Everything was too spicy hot and the green stuff was scrambled eggs with spinach, right out of Dr. Seuss's book. Amy had grown up in this town and majored in international marketing. After high school she was an English teacher for a year.

At the factory office, down a dusty, gravel road at the edge of Liuyang, was a room full of shelves filled with their products, for places such as: Saudi Arabia, Turkey, U.S. and Europe. From Amy's upstairs office she had a view of Liuyang, she also lived in another part of the building having her own room.

Paper Ball Shell Factory

Michael, of Simba fireworks, showed up at my hotel by taxi around 2 pm and took me six blocks to a paper shell factory. There were two rooms total on the first floor of a five-story apartment in the middle of town down an al-

ley. One room had a press that cut the paper to size in a cross-shaped pattern, one cardstock at a time. The cross



patterns were taken out by hand from the sheet and stacked up. There were five ball presses here as well. A different range of sizes could be made by each ball press, which were for sale at the factory supply market area for around \$250 each. The presses had interchangeable formers. The smallest press handled sizes from one to three inch shells, the next size press, four to six inches, then eight to twelve inches and one for sixteen inch shells, which were the largest they made. A small paper ball press could hold around fourteen, one-inch ball formers, while a four inch press could hold only three ball formers. Two men and a woman worked in this room. Lots of paper cuttings pilled up 70cm high on the cement floor. Depending on from which country the customer came the salesmen could quickly refer to all sizes in inches or centimeters. Michael walked me into a small closet in one corner where a mid 30s woman sat behind a two inch ball press next to an open window. She painted glue onto one paper cross and laid another on top while the press heated another set for seven seconds. As soon as the press went up she took out the four half shells, dropped them into a basket and quickly laid down four more over the concaved holes. Asbestos fiber was under the bottom half protecting her from the red-hot heat I



saw glow from underneath. The top half of the press came down and formed the paper into the bottom half, where the heat helped dry the glue. The press worker was paid by how many she produced. In the main room the other presses sat idle at the time.

In a room across the alley with clothes hanging from balconies, were three women who trimmed rough edges from shells. Large stacks of finished shells were piled up in the middle of the room. The manager demonstrated. A shell half was put on a metal cup the same size as the shell. A metal arm was swung toward the shell with a knife attached. The ball started spinning, in a second the shell half had a perfectly trimmed edge and was dropped into a wicker basket on the floor. Simba fireworks bought their cardstock from a paper plant. Their storage room was at the end of the block holding many finished shells in large plastic bags. These shells were all going to Taiwan. From here Michael, one other company salesman and myself took a taxi to the fireworks supply market four blocks away.

"It's All Available At Your Local Pyro Supply Hardware Store."

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The fireworks manufacturing supply market was behind the Union Fireworks office, which is one of the first offices you see when coming into town from the airport. An entire city block of about four streets square with small shops almost everywhere sold just about everything anyone wanted. A large piece of contemporary shiny aluminum sculpture was in the circle of the boulevard in front of supply market area and across the street was a four story cigarette company office building. Our first shop, of 5m square, sold screens, 10-325 mesh for \$2 each, large static discharge rods and paper rollers in both



sizes. One roller for half inch to two inches and a larger one for two to three inch tubes \$150 each. Star mixers, small aluminum parts, the four-shovel scoop for making clay end plugs and the four inch cylinder wood hammer were also available here. Ten shops in all sold fireworks. A large meter roll of firecrackers was 90RMB, about \$14, a



cake of eighteen; 2.5" shells \$21. Other stores sold star mixers 40 and 60 liters in aluminum for \$150 or brass for

A Tour of Chinese Firework Factories—continued by Peter Shoewe

\$300 with motor. There were stores selling paper cutters and bags of glue. There were at least five pyro supply hardware stores and five shops selling yellow fiberglass mortars. On the corner out by the main boulevard across from the Union fireworks office, one shop sold firing equipment for \$150 for a 100 shot wireless system. 15m from the wireless firing shop was the main chemical store. No one was around. A price list was on the wall and no chemicals were in sight, everything was in back. Michael and I assumed the shop keepers were out to lunch. There was a thick bullet-proof plastic window on top of the counter going all the way up to the ceiling. I took a business card and we left.

From there we walked across the street to the miniature "Great Wall". The other salesman took a taxi back to their office. I walked with Michael instead, I felt like passing out from the heat and my flu. I felt dizzy, like my head was going to explode. Every time I tried to speak it led to a minute of coughing. So I spoke little. Michael told me they could make any size firecracker, but three grams were the largest they made at the time for South Africa and Germany.

Along the crowded sidewalks locals sold; produce, live fish swimming in plastic bowls, ducks, chickens, rabbits and turtles for pets. There were many restaurants, book and shoe stores. A three story modern grocery store sold many types of dehydrated foods and fresh produce with clothes on the top floor. Tennis shoes up to 43cm, size eleven, \$18. One store sold Chrysanthemum stones, a gray rock with white stone crystals in the shape of a Chrysanthemum. \$150 minimum for a 200 pounder,



half a meter wide and high by ten centimeters thick. Michael said they were only mined in Hunan province nowhere else in the world. Michael tells me people from all over the world, especially Taiwan, buy land here and build these high rises. I am the only foreigner I ever see.

Over the next few days I would visit one of China's largest Potassium Perchlorate factories, a fuse factory and the Fuxiang Fireworks factory which was for sale, just five minutes south of Liuyang.





WWB Ghost Mine and Fireball pictures by John Chilese



WWB Picture by Bobbie Pierson



Spurrell's Colored Alcohol Flames by Tom Calderwood



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"Kite Trial By Fire" WWB 21 Photo by Tom Calderwood





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Wolverine West FirePlug Geisha United Pyro



We have some major design changes in store for our website this winter! In the meantime, be sure to checkout a video of the display we shot for Evel Knievel's funeral and create your own DVD from the posted ISO file!

www.wolverinefireworks.com/videos

Northwest - 1.3G & 1.4G Wolverine West 4616 - 25th Ave NE #528 Seattle, WA 98105 360.870.1833 or 206.459.0917 west@wolverinefireworks.com

> Southwest - 1.4G Outlaw Pyrotechnics 2280 W. Betty Pahrump, NV 89060 866.606.PYRO (7976) info@outlawpyro.com outlawpyro.com







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Midwest - 1.4G
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