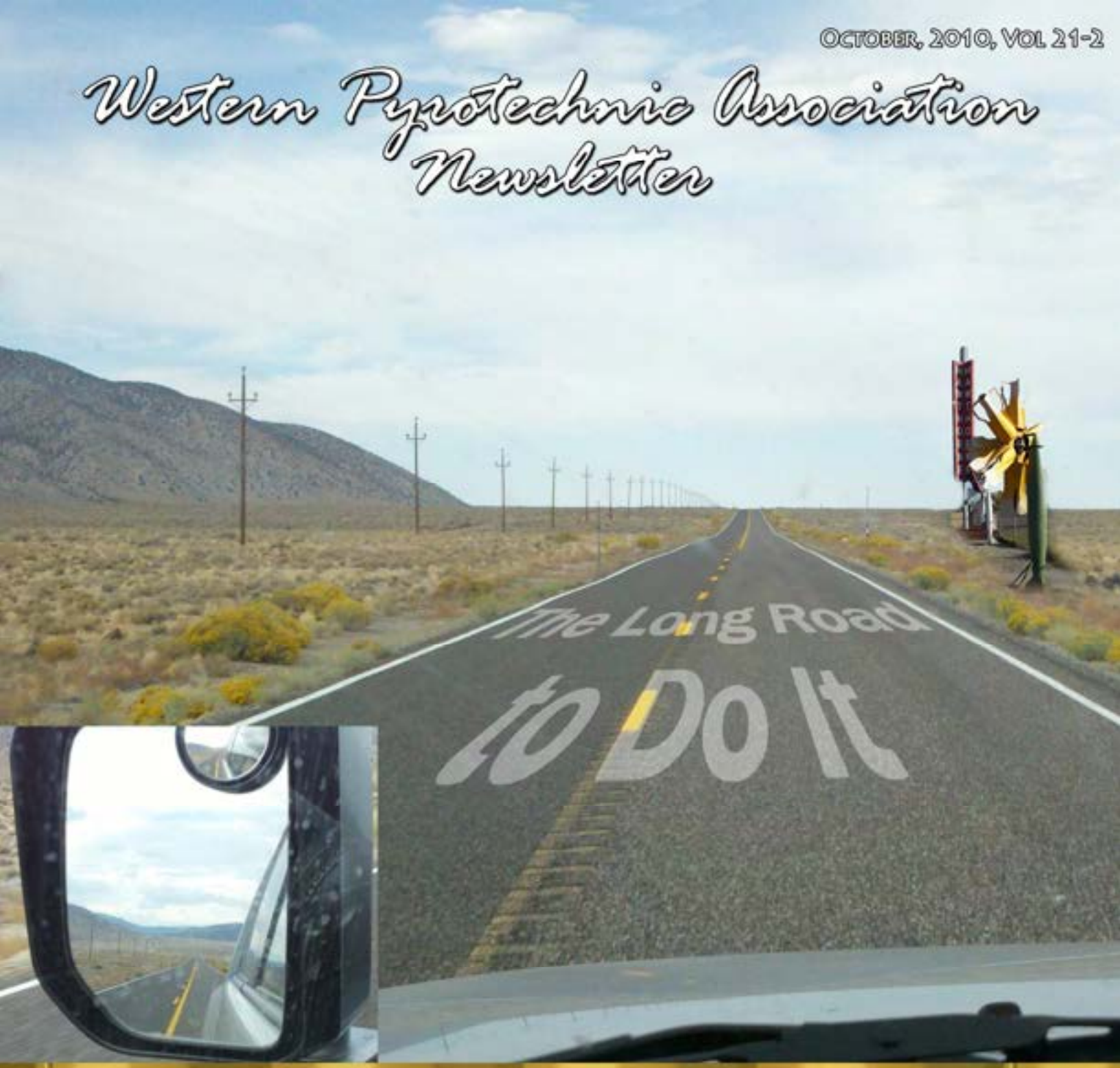
October, 2010, Vol 21-2

Western Pyrotechnic Association Newsletter





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To receive a catalog or request information, please call or email. Ask for Jim or Becky on 1.4G and or Glen for 1.3G.

WPA Newsletter, Volume 21, Issue 2

June, 2010
Volume 21, Issue 2

Western Pyrotechnics Association
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Inside this issue:

Note from the Editor	1
President's Message	2
VeeP's Message	4
Secretary's Report	4
A Word From The Treasurer	4
WPA BOD Minutes—10/13	5
Do It—Mook-a-polooza	6
Do It Pictures	9
A Tour of Chinese Fireworks Factories	14
Even More Do It Pictures	20

Do It Did It!

By Tom Calderwood, V.P. Publications

Others will say it elsewhere, but Do It was a huge success! Even with the wind (white out) and rain, it's all part of the location. Before we go too far, some folks wonder if we could do WinterBlast there. The short answer is no. WWB is way too big for the area, but even more, the location is totally out of the question during late fall through early spring. The weather just won't work. Not that I wouldn't mind…

In this newsletter, we wrap up Peter Schoewe's series on his trip to China and some of the fireworks factories in the Liuyang, China. I'm pleased to see that Peter did, in fact, survive the trip—even with all the health issues he ran into. This is great stuff!

I ask folks for articles for the newsletter and Greg Dandurand came through with flying colors. I love Greg's style and he didn't disappoint.

I also asked for pictures, and I GOT PICTURES! Thank you to EVERYONE who contributed, including Devon Dickenson, Craig Cutright, Susan Lillie and Colleen Lillie!

We will cover some club business here as well as notes from your Board members.

Now I am ALWAYS looking for articles for the newsletter. This is no laughing matter— I've always said that this newsletter is by us, for us. For this to work, I need your help. Bob Forward has a great article on home brewed electric ignighters that will appear in the next newsletter (pre-WWB). Any others? Any special projects? Any goals in mind? Any pictures? Send them my way!

I'll see you at Winter Blast!

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DO IT in Hawthorne 2010

By Pete Wood, WPA President 2010

Did we "DO IT" successfully in Hawthorne? I think the answer is YES! WE DID IT in Hawthorne.!! And we did it with GREAT SUCCESS!!

NEVER in my experience, has an event gone on without the slightest hitch, especially in a new community for both us and for those who reside there. From the local Officials (Fire, Sheriff, Search and Rescue etc.) to the local business owners, I didn't hear ONE complaint from anyone in the local community – only praise and kind words on how we were a great group of friendly, well mannered individuals and they loved having us there! Kudos to all of you who attended, in putting forth this positive image of the WPA. We made a new friend in the community of Hawthorne – including the Nevada State Fire Marshall's Office, who, on three different nights, sent us three different agents (one for each night) to observe and learn from what we do. They went away fully impressed and confident that we had this event fully under control and that it was a self sufficient event, handled completely from within. I would like to thank Richard Haase, for handling the PR with theses agents, to which I credit their acceptance of our event from.

The event in itself was a success, and I think most would agree that the longer hours for Manufacturing, coupled with the fact that the manufacturing tents or enclosures didn't have to be torn down each night, only to have to be re-assembled the next morning, added to more valuable time in order to do what DO IT is all about – Manufacturing!

Our attendance was better than expected – 106 in attendance at last count, and that included 88 Primary members, 16 spouses and 2 children. I was very pleased with these numbers, especially after lower (much lower) than normal numbers were experienced in 2007-2008. Perhaps this was a result of no late registration penalty, a lower registration fee than members had been used to in Havasu, lower rates for hotels and of course, 24 hour gambling and liquor. ;) Just kidding, as in my observations, very few spent much time in the host hotel bar and casino (The El Capitan Hotel and Casino Resort) except for myself and a few (who wish to remain anonymous) participants. Of course, we were only there to observe. ;)

Now, as usual, on to my many THANK YOUs!

First, I have to say to all, that if it hadn't been for the vision of one man, this small town in Northern Nevada would never have come to our attention as a potential alternative site for DO IT. This man is John Dicks and his countless hours in WPA Annual Business meetings, trying to promote this site as well as his numerous trips to Hawthorne to orchestrate the negotiations between the Mineral County Commissioners, and other local AHJ's (authorities having jurisdiction), are the real reason this site became a reality. Thank you John, from the entire membership and BOD's of the WPA for your persistence and efforts to make this dream a reality.



John Dicks
Enjoying his time at the Stink Bug Racetrack

Secondly, I have the pleasure of being the event chairman of DO IT and at the same time, I have the BEST STAFF personnel in the WPA. In fact, these same Staff Members are the ones that work Staff at WWB and DO IT and have for many, many years. You girls and guys are the best and I want you to know that you are so appreciated by me and all involved. Without your help, these events would never happen. To name them all would tax my feeble mind, but I'll try –

Bill McGregor, aka "Gullible Idiot" who has been my co-chair for many years now, and who also took on the position of Communications Chairman when Lynden couldn't attend, a special thanks to Lynden King for the donation of our communications equipment at no cost, Richard Haase aka "Mook 2", Chairman of Security and Public Relations, Kathy Baird, Secretary and Registration Chairperson, Don Oesterle and

John Noonan for their assistance in the creation and development of the DO IT registration forms, waivers and badges, Debbie Ludwig, WPA Treasurer who worked in the background to expedite our infrastructure payments, Bill Ryan,



The assortment of usual suspects: (L 2 R) Bill Ryan, Pete Wood, Greg Dandurand, Maureen Dwinell, and the Gullible Idiot (aka Wild Bill, aka Bill McGregor, aka "Who's that crazy on the scooter dat's on fire?")

our Manufacturing Chair and Charles "Lenny" Phillips, Bill's CO-Chair, Greg Dandurand, our Safety Chairman, Steve Humphrey our Electrical chairman, Allen Lillie, Seminar Chairman, all those who took time to present seminars – Mark Devon, the Feldman's, the Lillie's "shell shack"was a hit!, Maureen Dwinell, our Afterglow Chairperson, George Cacilhaus – Armeggedon Chairman and Tri-Tip Smoker Supreme, Ken Keagy, our Fire Safety Chairman, Tom Calderwood, for his efforts in the early stages of the development of Hawthorne and his aerial site plans that enabled us to obtain our Nevada State Fire Marshall's license, Kief Adler, for his efforts in the communications with the BATFE regarding this event, Jim and Becky Landis with Flying Phoenix Fireworks for supplying us with our toys, sponsoring one night of our afterglow and bringing along Craig Kirkland with Bear River Powder to supply our (legal) members with their BP needs, and last , but not least, to ALL of the membership that turned out to support this event! Without you all, there wouldn't be an event to attend!

A special thanks go out to two new members (young, gullible, energetic and willing) named Joe Wright and DJ ? Joe brought his own light tower and generator combo, at no charge other than the fuel used for the generator, which ended up powering all of manufacturing. These two guys worked their tails off, despite wind/sand storms, rain or whatever. And kept smiling! You guys rocked and I want you to know that you made a lot of members happy by your efforts. My thanks to you both and it was a pleasure meeting you.

Well, what more can I say – I've probably omitted someone in my "thank you" segment, and if so, please let me know and I'll try and right any wrong.

If you have ever wanted to organize an event for the WPA, DO IT is a great place to start.

As DO IT 2011 will be my absolute last event, be thinking about it, as many of the long time Staff and Event Chairpersons are getting tired and old(er) and it's time for new blood, ideas and direction. Contact me offline at (skyfirepro@aol.com) if you are interested.

This to me, was a extraordinary event and I couldn't be happier! Thanks to everyone for making it so.

Now, let's gear up for WWB and keep this momentum going!!!!!

Pete Wood

WPA President 2010 / 2011



Pete Wood, WPA President and DO IT Chairman

Showing those whimpy California boys how to handle a little bit of rain. Oh, and by the look of it, the photographer (Devon) had a slight "mishap" with his camera shortly after this picture was taken.

It's Been a Good Run...

by Kelly Goebel

It's been a good run, but we know what they say about good things... one ends so another can begin.

Like a lot of us in this club, I wear many hats. But I need to shed a few so that my wife and I can put on the biggest sombrero of them all – that of new parents. We will be welcoming a baby girl into our family this December.

It has been a privilege to serve the club as Vice President but I will not seek re-election in February. I am thankful to have worked with so many people who care a great deal about the WPA and fireworks as a whole. I will continue to participate where I can, with the goal of seeing this club live on so that I might be able to bring my kids to many WPA events in the years to come.

Special thanks to Pete Wood, Tom Calderwood and Kief Adler for their endless support when the going got tough. This club is in good hands.

But I will end with one final thought... a call to duty. There may be five BOD spots, but there are dozens on staff, dozens in manufacturing and dozens in other roles who help make the WPA a fine example of what a volunteer organization should be. But we need MORE of us. If you haven't yet gotten involved, you should. The vitality of this club depends on it.

Many thanks to all of you for all you do,

Kelly Goebel

WPA VP 2008-2011

Secretary's Report

by Kathy Bauer

Well, fresh off the excitement of the very successful Do-It in Hawthorne, it's time to get down to business and start planning for the next event. But first let me tell you the membership totals for 2010.

We end the year with a total of 619 members. We gained 95 new members this year, with 12 of them even becoming members after Winter Blast last February. That shows people really have a "blast" and continue to spread the word that the WPA is the club to belong too.

It was my pleasure to have been registration chairman for Do-It in Hawthorne. 88 members and their family registered for the event for a total of 106. Although a few were not able to attend, those that made it really rocked the night sky - the likes of which Hawthorne, NV had never seen before. Thank you all for a beautiful, organized, safe, WPA event.

New membership forms for 2011 will be going on line and in the mail soon. Our membership drive will coincide with registration for Western Winter Blast XXII as usual. Be sure to take advantage of the Early Bird discount for WWBXXII. You can really save money by paying before the end of the year.

Finally, I would like to thank you for always letting me how much you appreciate the work I do as secretary. I have enjoyed meeting you and being part of the inner sanctum of the WPA as a board member. But, it is with a heavy heart, (I think I've heard that somewhere before) that I will not be running for re-election at the next general meeting. I know a talented member will step up and fill this highly esteemed job with enthusiasm.

Respectfully Submitted,
Kathy

A Word from the Treasurer

by Debbie Ludwig

I really wanted to go to Do-It this year!!! Dang it, did I miss out on all the good times. I don't have a numbers report for you just yet as not all of the expenses are in, but we don't expect to see any income for the club on this first Do-It in Hawthorne. There were a lot of extra expenses incurred with moving gear from Havasu up to Hawthorne. The attendance was awesome at 106. Is that a record for Do-It??

Thank You to all who made it a successful event!!!

WinterBlast is right around the corner now so get your registration in early, your BOD and WinterBlast Staff are already fast at work on getting everything in order and ready for another great event!!!

See you all in February!!

Debbie

Minutes of Western Pyrotechnic Association Board Meeting

October 13th, 2010

Meeting called to order by Board President Pete Wood at 7:01 p.m. Board members in attendance are: Pete Wood, President, Tom Calderwood Vice President of Publications, Debbie Ludwig Treasurer, Kathy Bauer Secretary.

Treasurer Report: tabled until next meeting

Secretary Report: tabled until next meeting

Old Business:

- Do It in Hawthorne recap by Pete and Kathy, BOD members in attendance. Do It was deemed a success. All plans for moving equipment and setting up in the new event site of Hawthorne, NV went smoothly. The community was happy with our event; no complaints were received, and the community lined the streets surrounding the site each evening to watch the sky event. A lot of manufacturing went on, and it was appreciated that they could have longer hours to build and could leave their stuff set up each evening. Tearing down the site and returning equipment to Lake Havasu, AZ went well. On behalf of the membership attending a great "thank you" to Pete for all his hard work and time planning a great event. We are looking forward to Do-It in Hawthorne 2011.
- 106 members attended this years' event, which included 88 members, spouses and a few children.
- The treasurer will have a report on profit and loss for Do-It 2010 at the next BOD meeting.

New business:

- Theme name for WWB 22 was discussed. Tom posted to the list a request for suggested names for the up coming event in Lake Havasu. The name will be decided on soon, forms will be designed and available on line and in the mail very soon.
- Raising registration cost for WWBXXII was discussed. The BOD discussed an increased price per attendee for the next event. With increasing insurance and event costs there is a need to increase the fee.
- **Pete made a motion to increase the registration fees for WWBXXII by $10.00 across the board for attendees. Motion seconded by Tom. Vote passed.** Registration fees will be as followed for WWBXXII: Early Bird Rate (by 12/31/10) – Member $135.00, Spouse $75.00, Children $35.00, Student Member $75.00. Regular Registration received between 1/1/2011 and 1/31/11 – Member $160.00, Spouse $85.00, Children $35.00, Student member $85.00. Registration fees after postmark 1/31/11 through on-site registrations – Members $185.00, Spouse, $95.00, Children $35.00, Student Members $95.00.
- Price for Vending will remain the same as previous years.
- The BOD briefly discussed raising Membership Dues, although, at this time, we believe the rates should stay at the current price.
- The BOD discussed allowing black powder sales under the WPA license. It would benefit our members and vendors at our events. It would mean more record keeping for the club at events. The idea was tabled at this time for more discussion.
- The BOD discussed additional requirements for the safety guidelines for all WPA events. Pete motioned that there will be no double stacking of shells at WPA events. Motion seconded by Tom. All members in attendance were in agreement. **Motion passed to not allow double stacking of shells at any WPA events in the future.**

Elections – Kelly will be stepping down this year from his Vice President position and Kathy announced she will not be running for re-election of Secretary. Each will post a message to the list soon stating their intentions so other members can consider running for the positions.

Meeting was adjourned at 8:29 p.m.

Respectfully Submitted by:
Kathy Bauer
Secretary

Do-It, Mook-a-polooza

by Greg Dandurand

I pulled into SARA Park and saw the groups of people gathered around, exchanging greetings and generally happy to be there. As they were unloading cars off trailers....WAIT A MINUTE!! This didn't look like the WPA crowd at all. They were there to race. Oh yeah, I reminded myself, we are just here to load the truck full of equipment to get to Hawthorne. I snapped out of it as Pete gave me a funny look. After assuring him I was O.K., we rounded up our temps. We gave them a briefing on the fun day ahead, and opened the three containers.

The definition of packing ten pounds of sh## into a five pound bag can be seen in those containers. It was kind of like Christmas, pretending the big red ready boxes were presents to be shared by all. The others didn't share in my enthusiasm, but hey, it was 105 degrees and I had to keep myself motivated somehow. We easily found most of the gear we had decided to bring, but couldn't locate the T-posts. My stomach dropped as I realized that they were probably in the front of the container that was loaded top to bottom with racks of guns. Pete, being much skinnier than I, confirmed our fears after he had crawled between the top of the racks and the roof of the container, shining a flashlight to see the "coffin" way down at the bottom. Extracting himself from that hot cavern, he glanced at me with sweat running down his face (tres hot in Havasu for the Santa Fe boy!), and sputtered, "I'm not digging that out!" I very quietly said to him, "You don't have to." I turned and bellowed, "Gentlemen, step forward!" The two temps snapped to attention, their heels loudly clicking together with that slight Prussian flourish that would bring a smile to any WWII German's face. O.K, they just wandered over. I told Pete to start digging through the other boxes; we would take care of the T-posts. Motivating low paid temps in the heat is hard, so I tried to make it a game. Coincidently, it was talk like a pirate day. Throwing the younger of the two into the container, I explained, in my best pirate voice, that we were looking for treasure. He kept calling it booty, but I told him that was later, at the bar. Getting a rhythm going, it wasn't long before he was handing me T-posts, instead of racks of guns. That crisis solved, we loaded all the gear into the rental truck, and reloaded the containers.

The races that night were going to have pyro, so we ran into Dave and Scott from Havasu Pyrotechnics (I think that is the name of their outfit). We came back later (thanks for the free passes guys) to watch the last of the races and the dry land boat race. Attaching a boat to the back of a car with a chain and dragging it around the track is cool. If you think we make a mess at WWB, after the boats were destroyed, there was more fiberglass on that track than in my attic. The next day, I went back to Phoenix and Pete got ready to leave for Hawthorne.

Three days later, I left Phoenix at 8 pm for the trip to Hawthorne. Traveling that late, there was no traffic, even crossing Hoover Dam was painless. It was weird, driving north of Vegas, no lights and some small ghost towns (it seemed). By 5 am the next morning I had been awake for over 24 hours, so I found a place to pull off and sleep in my truck. I awoke to the sun rising over the middle of nowhere. The previous night's darkness had shrouded the vast nothingness of the area. I figured if Hawthorne was like this, we had a new home for Do-It. I found Hawthorne several hours later; the El Capitan was right in the center of town. Clean bed, shower, T.V., and the price was right. I was able to charge meals from the casino and bar bills to my room. A five night stay with all my



Greg getting the wiring set up on the B-Line



Richard Haase taking a well deserved break, to go with his "Fine! I'm done! I'm taking it easy! You don't like it? Tough. I ain't movin!" look.

food/bar charges was less than half of just my hotel bill from Havasu. Hawthorne is small, it only has one fast food restaurant, McDonalds, and that is so small it only has one arch (insert rim shot here). Thank you, I'll be here all week.

The John Dick's Stinkbug Racetrack where we held Do-it was within sight of town, no long drive to worry about. When I arrived, Bill McGregor's trailer was parked next to Richard Hasse's. Richard deserves a big thank you from everyone because he put his license on the line for the club. A big thank you to everyone for not screwing it up. And a huge THANK YOU to John Dicks for spear-heading this so we have a new place to go. The big guns were in when I arrived, so I wired them up and started setting up some tables. Site set-up was simple - we just put up the basics. No fancy stuff to worry about. The manufacturing area was the infield of the dirt oval track, with the shoot site being the motocross track on the out-side. Bill Ryan was organizing the builders; things ran smoothly all weekend, with Big Al's shell shack letting everyone have their chance at building a shell. The first night of shooting was a little slow; a lot of people were getting set-up. Maureen worked hard as the afterglow chairperson, with Bryan pitching in to ensure we had a good time. George and his crew outdid themselves, both with the tri-tip and as Armageddon chairman. Maureen was able to collect enough money so that we had a good selection of beverages. Jim and Becky from Flying Phoe-nix drove down to supply the class B and class C that keeps us rocking all night. The state fire marshal sent down a different person every night to monitor us. Again, thank you everyone, we were able to better edu-cate the folks about who we are and what we do. Just one note, however, when you see a staff member talking to an outsider (fire, law enforcement, media, etc.), please leave them alone. It can wait until their conversation is over. Butting in doesn't help. The county fire chief was on board, too, he built a 6 inch shell that performed well, the second time. Someone took a four inch shell that was barely stuffed with stars and way under lifted. We took the fire chief out to the electric line with his shell, showed him how to load it and hook up the wires, then headed to the firing panel. He watched as I hit the switch for the bogus 4 inch which he thought was his shell. The look on his face was priceless as it wimped out of the gun and broke apart. We had a good laugh with him, and he was a good sport about it. The local search and rescue provided all our perimeter security at night, I understand we had some big crowds along the road. Things went really well, I know we can go back next year. We need to get the numbers up, but I don't want all of you there. A little bit bigger would be ok. There were a handful of people who signed up and knew they weren't going to make it, just to help get the numbers up. The Saturday wind storm re-minded us how lucky we were to not have that happen all weekend and it calmed down prior to shoot time. The staff members who stayed over Sunday night would also like to thank Rodney who bought us dinner with some of his casino winnings. There were some of the usual sus-pects who didn't make it for various reasons and were sorely missed. Rest assured that this is the place to have Do-It and we need to come back. The townsfolk loved us and there are hotel rooms available and campgrounds, too. We could parlay this into a long term commitment. Thanks again to everyone who put the club ahead of themselves and volunteered to work hard all weekend. Kathy drove up to run registration by herself in the tent, but she always seemed to have company when I looked over, and she does enjoy talking to all the members. It's late and I have to get this to Tom, so I think I hit all the high points. See you all at WINTERBLAST!!

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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 Tom Calderwood

For folks from So Cal, it was a longer road than normal to get to Do It. Hopefully the Nor Cal (and reaches beyond) can appreciate the effort to move this a few notches further up in latitude. John Dicks told me a game Nevada residents in this area play: How Far Can You Drive On The Wrong Side Of The Road Before Having To Get Back On Your Own Side Dammit. I was able to do 16 miles at one point.....

Colleen was able to send a snap of one of the bomb gardens (complete with wind mile) made of old bombs. You GOT to love a place that will do this in yer face.

And of course, the goal is that big ol bunker with that 1.3G placard on the side!

Thank you to Craig Cutright for the road shots, and Colleen for the others.

2009 W.P.A. Board of Directors

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Pete Wood
pete@westernpyro.org

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Kelly Goebel
kelly@westernpyro.org

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kathy@westernpyro.org

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Mention 'Cremora' to a pyro, and a smile will slowly



Night time shell prep? Yup—at THIS DoIt!



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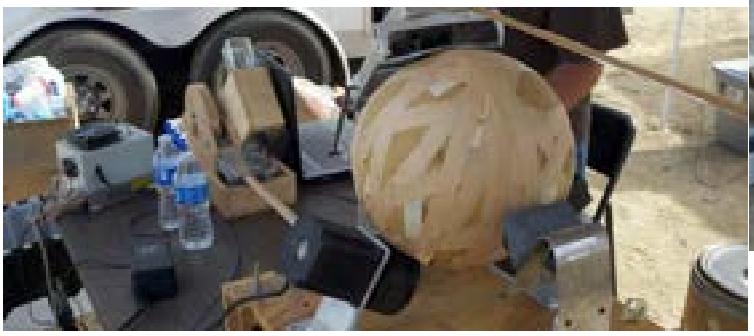
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Jim (Flying Phoenix) kept everyone well supplied



Hawthorne Nevada may not have a LOT going for it, but it does have a LOT of land. While this may work against us at times, it's just what the doctor ordered.



YAY for the WASP!!!







No hard hat and safety glasses will get you kicked off the Do It B-Line. But... (Note the lack of open pyro and how the setup is progressing. I have to point this out to those pucker-butts who would think we would actually allow this on the firing line!)



Loading up some 12's



Big Al's Shell Shack was a HUGE hit!



Getting Armageddon prep going





I got a kick how the Dept of WATER and Power guys brave the rain WATER...





Load that 12" up, baby!





I asked folks what would they want to see changed at Do It:

Selfishly? I don't want the event to be 1 ounce or person bigger than this year - it was amazingly great!!! Perfect in fact. But, a few more registrants and supporters wouldn't hurt the club.

Tom, one big point you ask is: "What would you say to folks who didn't go because they... don't manufacture"? What should you write?"

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It's worth an article.

- Todd

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A Tour of Chinese Firework Factories

This is part 4 of 4 on 9+ firework factories toured in Liuyang China

by Peter Shoewe

My sore throat and coughing were getting worse, I had a headache and my shower-water infected ear started hurting a lot. I lost part of my hearing in that ear for the next few days. I had hoped I didn't get whooping cough or malaria. I think I got a flu from Hong Kong. I would be too sick to go rafting that Saturday so I called Sonny and said I couldn't go.

The Potassium Perchlorate Factory

Kammy and her husband showed up a little after 9 AM at my hotel in Liuyang China. Kammy owns her own fireworks export company. She has enough business and doesn't need any more. I got her E-mail through a friend 'Red Rhino.' On the drive to the plant we picked up Sonny as I had invited along. We drove thirty minutes east down a number of narrow country roads until we reached the gates to the Potassium Perchlorate factory. The factory looked like forty acres and was surrounded by a chain link fence. A guard house was at the entrance and a two story office building was on the right just as we drove in. The three of us stood around for five minutes while Kammy's husband Evan went into the office. 170 people mostly men, worked three, eight-hour shifts seven days a week. They were paid a little bit more than the firework-employees.



Potassium Plant

This factory started in 1948 at the edge of Liuyang. The town grew around the factory and the factory grew as well. The mayor of Liuyang asked the owners if they could move the factory further away from town. The factory has been at this location since 1972. We were the first to ever tour it.



Three managers came out of the office in blue jumps suits. We found out they had been with the company for over twenty years. Evan was a friend of one of the owners who had sprained his ankle the day before playing basketball and stayed home. The seven of us walked past a 3m high cement wall and up the driveway to the back. There were three story buildings on each side of the driveway. Since the managers spoke no English Kammy translated.

In the last part of the building on each side of the driveway were the electrolysis rooms. The room on the right was for Potassium Perchlorate while the room on the left for Potassium Chlorate. In these rooms Potash was converted into Potassium. There were seven rows of steel tanks eight tanks in each row to make Potassium Perchlorate and seven rows of tanks six in each row to make Potassium Chlorate. To make Perchlorate they just



Electrodes

needed two more tanks. Each tank was two meters long by 1.7m high by a meter wide. The rooms were 7m high by 15m square with only a back wall. The other three walls were open for air circulation. In these tanks was a solution of salt water and potash. The Murate of Potash flowed from one tank to the next until it was converted to Potassium. The copper electrodes in the tanks were replaced every five months since they got eaten up. The tanks needed to be replaced every so often too, as the bottoms rusted out. Both the tanks and electrodes were made here at the factory in their own weld shop, which employed twelve men.

We walked around the corner to the right to a building half full of 50Kilo bags of potash. The building was about 25m square by 10m high. The bags of potash covered every square inch of floor and were stacked up at least ten high. The company buys its potash from Russia, Turkey, India and a few other countries by the shipping container full. They use a mini, three wheeled, flat bed truck to carry the bags from one part of the factory to another.



From there we walked back past the electrolysis room and down the driveway to the electric control room. In this room electricity was converted to a much smaller voltage. This is the one job at this plant where you needed two years of outside training before working here. Chemical factories like to be close to the power source, such as a dam, since many parts of China have power failures every month and the plant can't operate. From here we walked next door into the mixing room.

Here bags of salt are mixed into a hopper filled with water until it reaches the right ratio. Other bags filled with Potash, are cut open and poured by hand into a meter square hole in the floor. The hole has steel bars over it to prevent anyone from falling in. The potash mixes for about forty-five minutes and turns into a yellow froth. (A worker demonstrated that it was safe to touch this froth by putting some on his fingers.) After forty-five minutes some sample froth gets tested in the lab next door. Depending on the purity of the potash and the exact amount of salt to water ratio, the froth may have to mix another five minutes. Once the froth is finished, it is piped into a steel separator bin. In this steel bin, crystals are separated, pieces too large will go no further. Then the froth is piped into the electrolysis tanks.



Potash mixing with salt water

The finished Potassium is piped up into a 10,000 liter tank with hot water to help separate the water from the Potassium. The water and some residual salt left go into holding tanks in the back of the property to be reused. The Potassium flows into evaporators across the driveway.

Standing within 2m of the evaporators, the temperature felt hotter than the hottest day I've known, I'm sure it would have burned my hand if I had touched one. There was a pipe up above around 30cm in diameter where potassium flowed for 12 meters. Hot air blew over the Potassium to help dry it further and move it along into two twelve cubic meter hopper.

Four men attended the hoppers. Each hopper had it's own room and two workers. One hopper and boxing area was for Perchlorate and the other was for Chlorate. A cardboard box with a plastic bag inside was placed on a scale under the canvas shoot coming out of the hopper. One man pulled a lever and filled the box. He used a shovel to take out any over fills. The worker then slid the box off the scale and put on another one. The second worker closed the boxes with tape and stacked them four high. Seven other men used dolly's to move the boxes into a canvas covered truck for shipping.

A Tour of Chinese Firework Factories—continued

by Peter Shoewe

Anytime an employee saw us he would stare as if he had never seen a visitor there before.



Boxing Potassium Perchlorate

The factory sold more Potassium than they could make, so they had no need to advertise in or out of China. At one time they did sell to another country only because that country had difficulty obtaining Potassium. Customers would usually order half a metric ton or more. The prices to buy the Murate of Potash had been going up steady for the last year especially since Jan of 2008. Before January of 2008, the company paid 1,700 RMB per metric ton and as of July 2008 they were paying 2,100+ per MT.

There was no minimum to buy. Someone could pick up just one box of Potassium. For us the price was 170 RMB per twenty-five kilo box. At 6.6 RMB to the dollar that's $25.75 per twenty-five kilos or forty-seven cents per pound.

We walked into the lab, full of beakers containing chemicals. From there we followed the managers into the conference room down the hall. They explained that this plant was the largest in this province and is one of two largest in China. There were five other large plants in China and countless cottage sized Potassium manufactures. Employees here get one-weeks paid vacation per year. The company will take all the employees and their wives and children to some destination in China for their vacation. Last year they went to Hong Kong, the year before that was Shanghai. In the 20 years they've worked here they've had no accidents. Our three guides and most others here had never left the country. After twenty minutes of talk our guides went back to work.

Next we went to a restaurant made of bamboo on a ten acre lake with peddle boats, the same kind we have in the US at some resorts. There were also swings for kids to use. There was no one swimming in the lake, even though it was hot. It was a place for families to visit on weekend afternoons.

Jian Towns' Fireworks Factory Supply Market

We drove back to town and dropped Kammy's husband off at the couples apartment. Kammy, Sonny and I drove to Jian Town, thirty minutes south, since I wanted to see the fireworks supply stores there. But they were not as impressive as the fireworks market in Liuyang I had seen the other day. One long street sold mostly paper products, no firing systems, no star mixers. The paper sold there was for everything pyrotechnic; firecrackers, tubes, fuses, wrappers and some, as well as many plastic products; shells, 2cm plastic balls and tubes for inserts, nose cones for rockets and plastic stands for fountains. A pair of paper four inch shell halves sold for four cents U.S.

Cars drove slowly by while staring at me; they didn't see too many Westerners'. Cars behind would honk to tell them to speed up and quit staring. All the stores were just 3m wide by 10m deep. Shop owners stopped what they were doing, walked out front and watched me until I was out of sight. At least I was being escorted by two women. I would have been a bit nervous going there alone. As I crossed the narrow, two way street, one shop owner announced my presences to the owner across the street in Chinese with a grin on his face "An American is coming!"

Unfortunately I felt sick all day. I coughed only once an hour, which was a lot less then at nights. My sore throat hurt bad every time I swallowed, having a sticky dry, sharp pain to it. I had many types of Chinese throat lozenges with me, but none seem to work. Only the ones from the US helped. We drove two more kilometers south and stopped off at a store with clean glass windows that sold chemicals. Pint-sized glass containers of chemicals were lined up on glass shelves at the windows. Along with five other stores around the corner, they also sold fireworks. He gave me his business card in Chinese and told me he could export chemicals. He sold lady finger rolls of about thirty centimeters in diameter. The owner also told me, (through Kammy translating) the firecrackers for the Chinese market had more powder in it than is allowed in the U.S.:

300mg each.

The Fuse Factory

On our way back we stopped off at a fuse factory. Two men approached us. They were expecting our arrival since Kammy had called in ahead. One man looked to be in his late sixties. He pulled his shirt a few times out from the center of his stomach, while looking and smiling at me to indicate that he noticed my shirt was wet from sweat and his was not.

Over 300 men and women worked here on this 200-acre factory. There were over eighty small 3m x 5m sized buildings situated along one-lane dirt roads that snaked around the hills for many kilometers. There were five, large buildings near the entrance on a flat area along with the office building. We drove up a narrow dirt road following a manager. Here they made all kinds of fuses, from small lady-finger paper fuse to large viscos. To our left was a cliff going down 50m; to our right were the small buildings built into the hillside. The buildings were always placed just below the crest of the ridge, not on top to allow ground between each one incase of an explosion. Most of the workers had gone home earlier that day as it was too hot to be safe. The doors to the small buildings were locked. These buildings were not opened at the front as they were at most factories. There were fuse making sheds as far as I could see, winding around the hills about 10m apart from each other. Someone went to get the keys, but the manager was able to pull one door open without them. There were two fuse-making machines next to each other. Four spools of white thread and three or more paper fuses went into a hole in the center of a metal disk. The center of the disk spun the cotton string around the paper fuses to hold them together.

From there we drove back a ways, then stopped and walked to the other side of the hill. On this side was where the chemicals were mixed. These buildings were made of cement with an open front wall. A garden was hose just outside each building to wash down the floor, and there was a gutter to collect the chemicals. There were two ropes across the middle of the room at head height. The workers would hang a screen on these ropes and sift chemicals through them to mix. The chemicals fell into a container underneath. The only reason I was allowed back there was because everyone had gone home for the day. The two chemicals they used for making fuse were Potassium Perchlorate and Hydrogen Potassium Phthalate. Wikipedia doesn't say what Phthalate is used for. A chemist I asked later said it can be used as a slow burning fuel. The mixers started at two AM and worked until eleven AM. We walked back through the cut in the hill and stopped to watch a man coat fuses with green paint. This man was the only one there now. The paint smelled heavy of turpentine. I thought it was for waterproofing, but the worker said this is only a coloring. I'm assuming to help glue the paper fuses together so they wouldn't unravel. The man stood inside a small cement building and watched the fuse get rolled up. There were two rolls on a stand in front of him. The fuses went out about 20m and through the green paint. The fuse went around a pulley then back for a second coat. By the time the fuse reached the shed it was dried enough and got rolled up. There were two other fuse-coating sheds within 30m of us along the hillside. Each had a 20m long cement sidewalk for workers to walk up and down to the coating bucket.

We drove downhill and stopped at an assembly building. Thirty women worked there with a few men making ground spinners. Unlike blooming flowers these had a plastic ball with a fuse wound around it.



Evans' Printing Shop

We dropped off Sonny at her office. A sign out front said 'Flying Dragon.' Later we stopped at Evan's printing shop, which was off a main boulevard in Liuyang. There were stacks of firework labels 1.5m high. Evan normally ran three presses, but he was only running one at the time, since it was the slow season. Two men worked at the one press. We walked across the street to the laminating room. A thin film of clear cellophane was put over the labels to protect them from humidity here in China and while being shipped. The plastic also gave the paper an attractive shine. In another room next door, the finished labels were stacked and ready to be taken to a factory.

As we drove to my hotel I asked about shipping. Only the town of Beihai was accepting shipment for fireworks. All other ports had been closed for the Olympics! The two ports in

A Tour of Chinese Firework Factories—continued

by Peter Shoewe

Guangdong province closed because of fireworks explosions. The port of Beihai only accepted 100 containers of fireworks out of 10,000 non pyro containers per week total. This caused a bottle neck. A few months earlier, an inspector in the port of Beihai had opened a shipping container and had found boxes of chemicals in the back where the bill of lading identified only fireworks. Even though they were normally allowed to ship these chemicals, the company had gotten a last-minute order and just stuck them in without doing required paper work. The port of Beihai made a warning to the city of Liuyang if they did that again they would not be allowed to ship fireworks through there anymore. The government of Beihai tries to cut out towns from other provinces with any excuse, since they also have many firework factories; it would mean more business for their province. In October 2009 three months later, Beihai stopped accepting firework shipments due to a conference lasting three weeks. No fireworks could leave China! This put pressure on smaller companies to stop accepting orders and forced some out of business. Once the Olympics were over Shanghai opened up again, but only allowed up to class 1.3G to go to Europe and no more than 1.4G to the rest of the world. This lasted about a month. Since then other ports have opened for shipping fireworks.

Seven types of fireworks have been banned. Since at least March 2008 when Liuyangs Fireworks Association announced the banning of production, transport and export in response to repeated explosions. Factories shall no longer make; partially made products, fireworks or firecrackers containing phosphorus, strike or friction-ignited fireworks, smokeless fireworks, red or green strobe products, fireworks with attached igniters, and shells larger than six inches.

Back in my hotel room, I called Michael of Simba. He said there would be no demonstrations for the Indonesian company that night. They did not show up. I was glad because I was really tired and sick; I was coughing all the time.

Three inch shells went off outside my window 100m away for about five minutes, this went on almost every evening at 9PM.

Fuxiang Fireworks

The next day I was awakened at 4:00am then again at 4:30am when people let their doors slam at the hotel. Then more door slamming at 6:00 am. I couldn't open my eyes as they were glued shut. I could barely see a sliver of light to find my way to the bathroom. I didn't know if it was from the flu or bad air quality. Everyday it was getting harder to open my eyes and that day was the worst. I worried if I had Pink Eye, Hepatitis or what? My eyes were blood red and the whites were yellow. It wasn't until I got to Hong Kong Monday and went to see a doctor, who told me I had a flu, should have gone away in a week, but the yellow meant I also had a bacteria. The 10-minute visit and five different pills he sold me, including four days of antibiotics, cost $23 US. Back home, it would have cost me at least $150 without insurance.

A little after 9am the next day I was picked up by Kammy. The dust in the air by the roads and at windy intersections was thick. Some people who walked or were on bicycles held a cloth or thin paper mask over their mouths.

This dust blows up in the air 15m high. You can still see through it, but it's very thick. It often takes five minutes to walk through these dust areas. We stopped off at Mc Donald's for Kammy to get some breakfast. There were Olympic and Chinese flags along the ceiling.



Cake Labeling

One of the four Fuxiang Firework factories was for sale. Ten million Yuan/RMB or 1.5 million US. Like many other factories in China workers there got paid by each item they made. It was hot as heck there again that day. There were 300 workers in all working in over 200 large and small buildings. The thirty year old son of the owner gave us a tour. His dad owns four factories in all. We walked through many of the assembly buildings with up to twenty women in each. Cakes were being

assembled, shells pasted and allowed to dry in the sun. Labels were put on rockets and 'Snap Its' into plastic bags. We walked by buildings where clay was pounded into cake tubes. Here they used two different colors of clay, I hadn't seen this before.



Peanuts drying in the sun

A round wooden tray with thirty-seven concaved pockets was aligned over the tubes. The tray was filled with clay, and then a board on the bottom of the tray would be slid open to allow the clay into each tube. In the next building was a young man making paper tubes with a tube roller, and a woman painting glue on the paper.

From here we drove to the back where the stars were made. About 180 small buildings were in this area. We stopped at one building where twenty men lived during the work week. To our left as we walked, were many small cement buildings. A roof was over us and the stars drying in trays in the sun to our right. Nearby a cliff went almost straight down for 30m. This



Stars drying in the sun

was almost noon and so hot that most of the workers had gone home for the danger of a static spark from the heat. One man and woman in their late 50s were still there making stars. I finally got to see a star mixer in place. The Aluminum and brass mixers were the size of a cement mixer. There was a small hole in the back wall where the drive shaft went through. On the other side of the wall was the motor. There was a switch on the outside covered in a plastic box with a rubber seal. There were thick rubber mats on the cement work bench and floor. A safety inspector walked by and looked at the man and woman. He hosed the chemicals off the rubber mats, but the workers were to do this on their own at least twice a day. There were star presses in some of the buildings. At the end of the road we saw farm land below, very clean with lots of green. Two kilometers away was another factory owned by the same company. He was only selling this one.

Factory owners usually don't want to sign papers, nor do they want to agree to deadlines. They will commonly say they will do your job right away, but then take on other jobs and make you wait, longer than you agreed to.

We drove to the office near the front gate, and the owner showed up. We sat around a large conference table. I was told workers were paid three times a year. Taxes work out to about ten percent of the gross sale. The firework industry is government subsidized, but now it was paying far less as money got tighter. Workers comp was about $300 a year per employee. They spoke little English so Kammy translated.



Factories in China are officially not supposed to export stars out of the country since 2006: no shells bigger than six inches since 2002. Anything larger would have to be approved by your home government before they would ship it. Then it would have to be flown by plane with nothing else on the plane. In 2007, the owner told me, it had been Thailand's 60th anniversary. There were 100 sixteen-inch shells flown from Changsha straight to Thailand. (Changsha is the closets airport to Liuyang.)

Since around 2001, Russia has allowed class C products. The pow-

der the Russians are allowed to have in their firecrackers and cakes are far greater then what we're allowed. Russia buys 50% of everything this factory makes, 40% goes to the US and 10% to the UK. One of the Russian buyers was a former KGB officer. The Russian buyers had told the owner he had better build another factory because they were going to buy a lot more. But then the orders never came. That's why this forth factory was for sale.

At the hotel Michael of Simba Fireworks called and invited me to play basketball. There were six of us in all. Another six played the other hoop. I hadn't played since high school. Michel told me he didn't know anybody there, he would just show up with the ball and anyone sitting around would join in. We played until it was dark at 8pm. He said when the weather gets hot they like to play basket ball outside, not so much in the cold. Typically he and many others are online till 2:00am. Then they get up at 6:00am. Michael said he doesn't make enough to buy a car, even as a firework factory salesman. Some weeks he gives no factory tours, other weeks as many as three. Since my visit to Liuyang, Michael has since moved on to another fireworks company.

Before we walked off the basketball court there were at least twenty-four bats flying overhead. We were the last to leave the court in the dark. My eyes were really red and I also had a loud ringing in one of my ears for the next few days. My whole face felt really hot.

In April there is an international fireworks competition every other year in Liuyang. The following afternoon I would be off to Hong Kong for a week, then Taiwan for four days before going back to the States.

From part three here are two websites
WWW.SIMBAFIREWORKS.COM

HTTP://
ASIANSWANFIRE-
WORKS.EN.GONGCHANG.COM

WWW.ECVV.COM

And

WWW.MADE-IN-CHINA.COM in the search field write 'fireworks' or the name of a chemical to find many suppliers in China.

HTTP://BLOG.SHOGUN.COM.HK Click the year and month to browse fireworks news and videos from around the world.

WWW.POTASSIUMPERCHLORATE.NET. Click 'products' then 'prices' for a list of pyro chemicals. About a month after I had toured the potassium Perchlorate factory, the owners removed their website from the internet. The company listed above is therefore not the one I toured, but appear to be more open to international sales.

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Most often heard comment: "DANG!"
Second comment: "Is that legal?" Answer: "Shut up, sit down and hold this hot glue gun."



That smile, my friends, is a 12" shell-in-hand smile.



Camping, pyro style



Yeah, the government has all the great fireworks...



Yup, it was kinda like that.



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