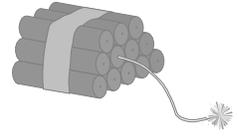


The Primer



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

Volume 25

Spring 2014

Issue 1

In this issue . . .

Editor's Notes

page 3

Ground Control

By Wes Bender

pages 4-7

Advertisers

pages 8-11

Business Dinner

Photos

Pages 12-13

Fire in the hole

page 14

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

www.iseegoldenwest.org

Articles may be submitted to:

Mike Burneson - editor
P O Box 2540
Napa, CA 94558

or

mburneson@syar.com

President's Message...

Hey Members,

We had another successful annual business meeting in January. Thanks once again to our long time officer, board member and Head Chef Mike Burneson and his wife Sue for another great job setting up and cooking for this annual event. Thanks also to my wife Donna, Maggie Stephenson and the rest of the folks that volunteered to make the dinner and cleanup a great success. Thanks Guys and Gals!

I want to take this opportunity to welcome new members, William & Leslie Taliaferro, Justin Toll, Steve & Sherry Souza (J&M West) and Danniell Edwards

I also want to thank our special guest speakers. Sherry & Steve Souza (new members) along with one of their operators, Chuck Erikson, who conducted a very informative presentation on the Fireworks displays they put on throughout the year. We even got a surprise taste of the indoors pyrotechnics that surprised us all. Well done! In addition to the Fireworks presentation, we received a welcomed visit from Cal OSHA. Yeah, you heard me! Rich Brockman took the day off and entertained the membership with his Humorous take on his life experiences. And of course we closed out the evening with another great raffle. Thanks to all of our sponsors! Not just for the raffle but to all the sponsors that continually contribute funding to keep this Newsletter and the website running.

(continued on page 2)

The Primer

President's Message... continued from page 1

Check it out!

Speaking of the website, our chapter received an award at the ISEE conference in Denver. I was honored to accept this award on behalf of Wes Bender and the GWC. Wes put many of his own hours into developing and still maintaining this site. Great job Wes! If you have questions about anything related to blasting, you will most likely find it here.

The 2014 elections were held and Danniell Edwards was welcomed as our new secretary. Mike Burneson returns for another 2 year term on the board and I will be back as your President for another year. Thanks to Wes Bender and Jerry Fulghum and Mike Burneson for their ongoing, and going, and going contributions to our chapter. You guys rock!

Our next big event of 2014 is the annual Sporting Clays Shoot. We literally had a blast last year and immediately started planning to make it better this year. We were able to secure some sponsors this year that should help replenish our scholarship fund and make for a great day of shooting. We will send out a flyer with all the information in the near future. All of you members that don't want to shoot please come out and hang with us and even sponsor a shooter. That's it for now.

Thanks everyone and have a safe one!
You're President,
Mike Chiurato

Editor's Notes...

In this issue be sure to read the interesting article on Ground Control by Wes Bender. I would like to add on to our Presidents remarks from the business meeting. The presentation by J & M West was extremely well done. They did a wonderful job of providing insight on what goes into a fireworks show like the NFL puts on at the Super bowl. The planning and testing WOW ! I was surprised that they are required to renew the license they are required to hold every year. Great job J & M West. I would like to thank Rich Brockman again for the awesome performance he provided. Rich is a very seasoned comedian who gave us some pretty funny stuff. In this issue you will see some photos from the dinner and our chapter website award. I hope that those of you reading this article will look to attend our scholarship fundraiser scheduled for July 19th or 26th . Please get involved in our sporting clay event. We need your support and participation at the Coon Creek Trap & Skeet Club located in Rio Oso. Congratulations to our newly elected secretary Danniell Edwards shown in the photo below.



Ground Control Problems & Blast Vibration, Recorded on the Same Seismograph Record

Author: Wes Bender

In February of 2000, I got a call from an associate who was the owner of a seismic monitoring company. She told me of a problem she had experienced at a site where she had just recorded a blast that was in close proximity to a home under construction. She was also a blasting contractor, but on this particular job was only retained to record vibration from the blasting.

Although she had cautioned the blasting contractor that she felt his loading might be a bit heavy, he opted to proceed anyway. She set up her InstanTel Blastmate III in the home under construction, placing it at a point that was nearest the blast. When the blast was detonated, a large amount of rock was thrown into the house, completely burying the seismograph, its geophone block and microphone.

The photos that follow were taken a few days after the blast and depict the cautious digging that was required to retrieve her instrument.

Photo 1 (on the following page) shows a damaged portion of the structure and the rock slope above and behind.

Photos 2 and 3, taken from within the house, show the rock mound that was deposited on top of the seismograph.

Photo 4: A backhoe and a #2 round point mucking machine were used to find and retrieve the seismograph.

Photos 5 and 6 depict the seismograph after it was uncovered underneath a couple of feet of rock.

Both the geophone and microphone cables had been damaged by the rock that landed on the unit, but otherwise the unit appeared to be intact.

After she retrieved her instrument, she was able to get a tape of the blast vibration. Later, back in her office, she was also able to download the event from the instrument into her computer and print out a blast report, a copy of which she later sent me.



Rock hillside behind structure.

Photo 1



Seismograph is beneath the pile of rock.

Photo 2



Close-up of rock on top of seismograph.

Photo 3



“Be careful. It’s in there somewhere.”

Photo 4



Doesn't look too bad. If we could just find the geophone.....

Photo 5



There's the geophone. Microphone's got to be here somewhere....

Photo 6

On the following page is a printout of the blast record. The actual blast vibration extends from the 0.0 trigger mark to approximately 0.7 seconds or so. The more prominent waveforms commencing at a point just before 1.0 second are from the arrival of the blasted rock.

Just short of 1.5 seconds after the trigger point, where the traces on the vibration channels stop abruptly, is where the rock cut the geophone cable. It is likely that vibration continued after this point, but the seismograph could not record what it couldn't see. Similarly, the airblast channel stops at approximately 2.0 seconds past the trigger point. This is probably where the microphone cable was damaged. The airblast intensity of 117 dB (linear) is probably correct for the sound of the rock landing at the instrument, although it could possibly have been higher after the cable was damaged. The airblast from the actual blast was considerably lower as can be seen on the record.

The digital vibration intensities listed would be for vibration from the arrival of the rock at the instrument location. The range of 10.0 inches/second of Peak Particle Velocity was exceeded on the Longitude channel, hence the notation as such on the record. The calculated Peak Vector Sum would either be inaccurate or out of range also. Careful scaling of the ground vibration intensities of the actual blast indicate that they would have been approximately 1 inch per second at the recording point.

The shape of both the Longitude and Transverse channel traces during the rock impact tend to suggest that the geophone block floated or rocked a bit during the recording. That would not be unreasonable considering the amount of rock that landed on and around the geophone block. Compare that to how stable the portion of the record is that represents the actual blast vibration.

All four channels failed their internal post-event test as indicated by the notation "Check" for their respective channels. This was the result of the instrument attempting to test sensors through damaged cables.

Other than the damaged cables and a bit of cosmetic damage to the instrument case, the seismograph survived the ordeal quite well. After repairs were effected and the calibration checked, the instrument was placed back in service.

Several lessons can be learned from this event. (1) For close-in monitoring, the operator should always retreat to a safe location. (2) Cover the instrument with a shield for such monitoring just in case something unexpected occurs. (3) Conduct all the blasting required at a given site BEFORE building construction commences. Quite a few years ago I was asked for technical assistance in blasting a huge boulder that was 15 feet in front of a brand new garage. My advice: DON'T. Use expansive grout to remove it.

Event Report

Date/Time	Tran at 17:01:12 February 8, 2000	Serial Number	BA6412 V 3.74-3.74 BlastMate III
Trigger Source	Geo: 0.100 in/s	Battery Level	6.3 Volts
Range	Geo :10.00 in/s	Calibration	March 12, 1999 by InstanTel Inc.
Record Time	4.75 sec (Auto=3Sec) at 1024 sps	File Name	H4127VS4.M00

Notes

USBM R18507 And OSMRE

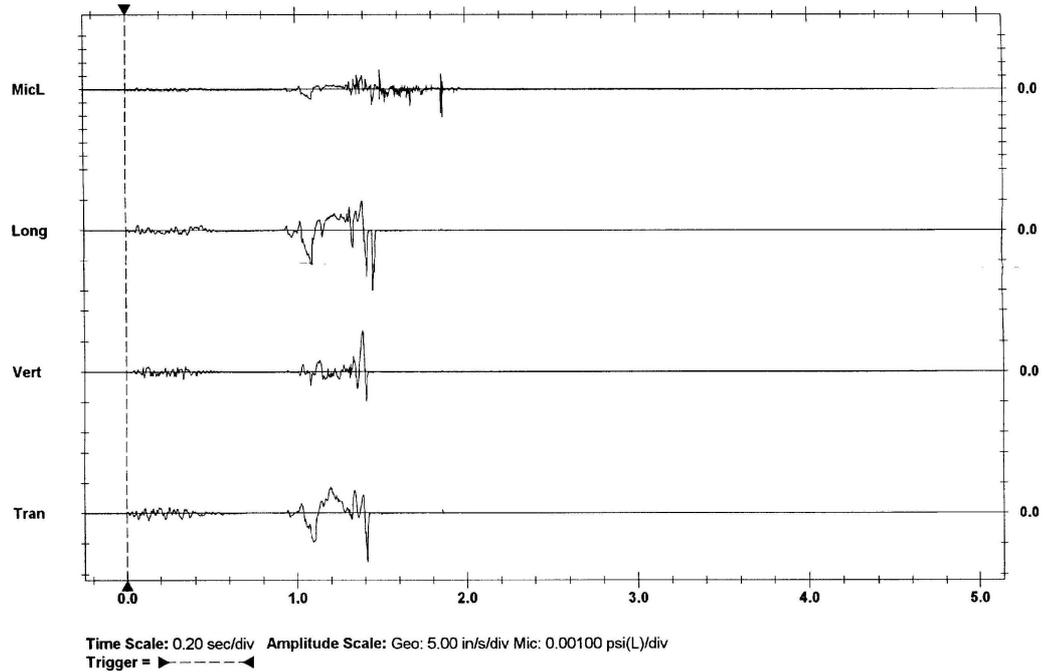
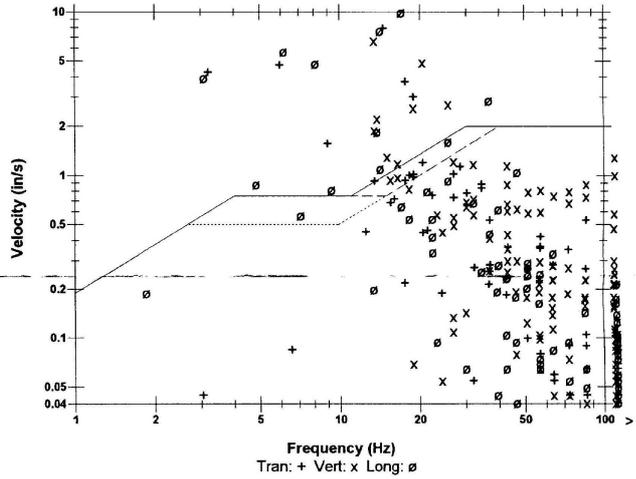
Post Event Notes

Microphone Linear Weighting
 PSPL 117 dB(L) at 1.863 sec
 ZC Freq >100 Hz
 Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	8.02	6.71	***	in/s
ZC Freq	15	13	17	Hz
Time (Rel. to Trig)	1.415	1.391	1.450	sec
Peak Acceleration	5.67	3.76	26.3	g
Peak Displacement	0.173	0.0683	0.166	in
Sensorcheck ®	Check	Check	Check	

Peak Vector Sum *** in/s at 1.411 sec

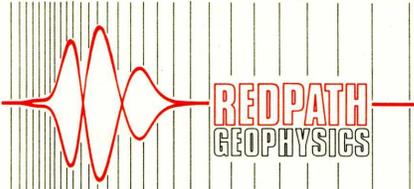
*** : Out of Range



Printed: April 15, 2000 [V 4.02 - 4.02]

Format Copyrighted 1996-1999

The Primer



**REDPATH
GEOPHYSICS**

P.O. BOX 540 ◻ MURPHYS ◻ CALIFORNIA ◻ 95247

BRUCE REDPATH

ENGINEERING GEOPHYSICS ◻ BLAST DESIGN & PHENOMENOLOGY

209-728-3705

EXPLOSIVE & DRILLING SERVICES



SPECIALIZING IN
DRILLING
BLASTING
AND
ROCK BOLTING
SYSTEMS



Neil's Controlled Blasting, L.P.
GENERAL ENGINEERING CONTRACTOR
LICENSE NO. 797732

DON BELDEN
President
(916) 663-2500

P.O. BOX 749 FAX: (916) 663-2507 MOBILE: (916) 240-8759
NEWCASTLE, CA 95658 HOME: (530) 389-8906 EMAIL: dbelden@neilscontrolledblasting.com

**MINI-SEIS SEISMOGRAPHS
ECONOMICAL - POWERFUL - RUGGED**

- ◆ External Printing Capabilities
- ◆ Complimentary Data Analysis Software




**WHITE INDUSTRIAL
SEISMOLOGY, INC.**
www.whiteseis.com
1.800.641.4538

**NOBEL
INSURANCE
SERVICES®**

Insuring the Explosives Industry

Charlie M. Pollard
Marketing Director

12225 GREENVILLE AVE., SUITE 750, DALLAS, TX 75243
TEL. (800) 766-6235 x21 • (972) 644-0434 x21 • FAX (972) 644-0424
cpollard@lancerinsurance.com • www.nobelinsurance.com
A Division of the Lancer Insurance Company

TREAD CORPORATION

Explosives handling equipment.
Bulk trucks, matrix mixing plants, & storage.
Parts & service.

Ronnie Bolling
VP North American Sales
540.982.6881 ext. 246
540.525.6933 mobile
rbolling@TreadCorp.com
www.TreadCorp.com




**EXPANDING GROUT...
NON-EXPLOSIVE!**

WBT Western Blasting Technology
Ca License #906358 - Nv License #0069140

**For Demolition, Construction
and Controlled Cutting**

**A silent demolition agent which is consistent
and safe, with no noise, vibration,
ash, toxic gases or residue.**

• *Meets OSHA environment regulations* •

24-HOUR EMERGENCY SERVICE
(530) 741-0873
MOBILE
(530) 713-9964



W.A. Murphy, Inc.
EXPLOSIVES DISTRIBUTOR

RANDY L. SPENCER
Northern California, Site Manager/Sales

Local Office:
P.O. Box 548
Copperopolis, CA 95228
Office (209) 785-4996 • Fax (209) 785-4995
Cell (209) 743-9561
rspencer@murphypowder.com

Main Office:
P.O. Box 4607
El Monte, CA 91734-0607
(626) 444-9271
(626) 575-2848 Fax



TREAD CORPORATION
 For routine service, repairs,
 & replacement parts...
 contact me today.

Bryan Gile
 Field Service Technician
 540.589.3611 mobile
 bgile@TreadCorp.com
 www.TreadCorp.com

WBT Western Blasting Technology

Randy Messer
 Ca License #906358 - Nv License #0069140

2689 Hwy. 20 Phone (530) 741-0873
 Marysville, CA 95901 Fax (530) 741-0876
 randyblast@aol.com Mobile (530) 713-9964

24-Hour Emergency Service

NOMIS SEISMOGRAPHS

Larry King

- Sales
- Service

205-592-2488 x22
 USA Wats 800-749-2477
 Fax 205-592-2455
 lking@nomis.com
 www.nomis.com

3728 4th Avenue South
 Birmingham, AL 35222 USA

Atlas Copco

Bill Warfield
 Product Manager-Ground Engineering Products

Atlas Copco Construction Mining Technique USA LLC
 1708 Monte Bell Court Cell: 916-768-9432
 Roseville, CA 95661 Fax: 916-772-0548
 www.atlascopco.us.com Bill.Warfield@us.atlascopco.com



www.alphaexplosives.com

**DISTRIBUTOR OF A
 FULL RANGE OF EXPLOSIVES
 AND ACCESSORIES**

**EXPLOSIVES STORAGE
 MAGAZINES
 ATFE Type 2, 3, & 4
 Custom fabrication available**

BLASTING SERVICES

**BULK DELIVERY SERVICE
 ANFO, MINI-PRILL
 TITAN EMULSION™
 FRAGMAX™
 FRAGPAK™, SMALL DIAMETER**

**DRILL BITS, DTH HAMMERS
 & STEELS**

**SAFETY TRAINING
 INCLUDING OSHA & MSHA**

*Lincoln, CA (916) 645-3377
 Mojave, CA (661) 824-1356
 Plymouth, CA (209) 245-6977*

Major Credit Cards Accepted

The Primer



GMU
GEOTECHNICAL, INC.

**ENGINEERING
SEISMOLOGY**

BLAST CONSULTING

VIBRATION MONITORING

PRE-BLAST SURVEYS

SEISMIC REFRACTION

RIPPABILITY STUDIES

Contact: Mr. Alan "Bob" Mutchnick, RG, CEG
Director of Engineering Seismological Services
Phone: (949) 888-6513 Email: bmutchnick@gmugeo.com
23241 Arroyo Vista, Rancho Santa Margarita, CA 92688
www.gmugeo.com



The World's Most Trusted Vibration Monitors

Purchase, lease or rent our industry-leading vibration monitors through a national network of qualified dealers.

Your local Instantel Dealer:
Matheson Mining Consultants Incorporated

Contact: Colin Matheson
Telephone: (303) 456-5638
Toll Free: (888) 456-5638
Fax: (303) 456-5639
E-mail: colin@mathesonmining.com



www.instantel.com

<small>Corporate Office 309 Legget Drive, Ottawa, Ontario K2K 3A3 Canada</small>	<small>U.S. Office 808 Commerce Park Drive Ogdensburg, New York, 13669 U.S.A.</small>	<small>Toll Free: 1.800.267.9111 Telephone: 1.613.592.4642 Fax: 1.613.592.4296 E-mail: sales@instantel.com</small>
--	---	---



MUNICON CONSULTANTS
Construction Instrumentation

- Economical Remote Monitoring From Our Offices.
- Vibration Monitoring: Piles, Demolition, Blasting.
- Settlement Platforms, Inclinometers, Tiltmeters, Piezometers, EL Beam Sensors
- Pre-Construction Damage Investigation Photos

San Francisco Office 415-641-2570

The Primer



Your business card ad
could have been here.

Matheson Mining Consultants, Inc.

Seismograph Rental & Sales
888-456-5638

Instantel

Instantel Minimate Plus
\$550/mo

Blastmate III
\$700/mo

Measure 2 - 250 Hz
Blasting, Drilling,
Construction, Pile Driving

LIMIT LIABILITY!

Chapter Activities - 2014

Scholarship Fundraiser- Coon Creek Trap & Skeet– Rio Oso-July 19 or 26th

Annual Winter Business Meeting -Mt Pleasant Hall- Lincoln- January 24, 2015

The Primer



Photo above left from left to right long time member Jock Masson and our treasurer the dessert king Jerry Fulghum.

We had a great meal of fresh crab, tri tip, pasta and salad. We had plenty of different desserts thanks to Jerry.

We appreciate all you do Mr. Fulghum.

Photo above right is our dining area that was set up by the real bosses, Donna Chiurato and Sue Burneson. Thank you ladies for all of your hard work the place looked great and the event was a Blast !

Thank you Alpha Explosives (Brad Langner) for your continued support.



Congratulation Wes Bender - Thank you for this honor Webmaster

Chapter contact information:

President: Mike Chiurato (916) 645-3377

Secretary: Danniell Edwards (916) 645-3377

Treasurer: Gerald Fulghum (916) 481-1421

Board Member / Web Master: Wes Bender (520) 648-3581

Board Member / Newsletter Editor: Mike Burneson (707) 558-1510

The Primer

Fire in the Hole...

Forrest Gump Goes to Heaven...

The day finally arrived: Forrest Gump dies and goes to Heaven. He is met at the Pearly Gates by Saint Peter himself. The gates are closed, however, and Forest approaches the gatekeeper. Saint Peter says, "Well, Forrest, it's certainly good to see you. We have heard a lot about you. I must inform you that the place is filling up fast, and we've been administering an entrance examination for everyone. The tests are fairly short, but you need to pass before you can get into Heaven."

Forrest responds, "It shore is good to be here Saint Peter. I was looking forward to this. Nobody ever told me about any entrance exams. Shore hope the test ain't too hard; life was a big enough test as it was."

Saint Peter goes on, "Yes, I know Forrest. But, the test I have for you is only three questions. Here is the first: What days of the week begin with the letter 'T'? Second, how many seconds are there in a year? Third, what is God's first name?"

Forrest goes away to think the questions over. He returns the next day and goes up to Saint Peter to try to answer the exam questions.

Saint Peter waves him up and asks, "Now that you have had a chance to think the questions over, tell me your answers."

Forrest says, "Well, the first one, -how many days of the week begin with the letter 'T'?"

"Shucks, that one's easy; that'd be Today and Tomorrow!"

The saint's eyes open wide and he exclaims, "Forrest! That's not what I was thinking, but ... you do have a point though, and I guess I didn't specify, so I give you credit for that answer."

"How about the next one" says Saint Peter, "how many seconds in a year?"

"Now that one's harder," says Forrest. "But, I thunk and thunk about that, and I guess the only answer can be twelve."

Astounded, Saint Peter says, "Twelve! Twelve! Forrest, how in Heaven's name could you come up with twelve seconds in a year?"

Forrest says, "Shucks, there gotta be twelve: January second, February second, March second..."

"Hold it," interrupts Saint Peter. "I see where you're going with it."

"And I guess I see your point, though that wasn't quite what I had in mind.

I'll give you credit for that one too."

"Let's go on with the next and final question," says Saint Peter, "Can you tell me God's first name?"

Forest says, "Well shore, I know God's first name. Everybody probly knows It's Howard."

"Howard?" asks Saint Peter. "What makes you think it's 'Howard'?"

Forest answers, "It's in the prayer."

"The prayer?" asks Saint Peter, "Which prayer?"

"The Lord's Prayer," responds Forest: "Our Father, Who art in Heaven, Howard be thy name..."