Lead Lines

Eastern Pennsylvania Chapter
International Society of Explosives Engineers
www.easternpaisee.com

Volume 32 Number 4 Fall 2025

The Eastern PA ISEE welcomes requests for topics, and invites readers' letters and other contributions that relate to drilling, blasting, seismology and explosives engineering.

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Register Today!

2025 Clay Shoot & BBQ

Friday, October 24, 2025
11:30am - 5:00pm
Lehigh Valley Sporting Clays
2750 Limestone St., Coplay, PA

The event is FREE for Members or $35 for Non-Members

Prizes will be awarded!

Eastern PA Chapter
International Society of Explosives Engineers

Our Chapter Mission Statement

Maintain and promote the highest competency standards, safety, and education for drilling, blasting, seismology and explosives engineer professionals.

Letter from The President

Dear Members,

As we transition into Fall, we are excited to see everyone at our upcoming events!

First up is our Clay Shoot & BBQ on Friday, October 24th. Grab your team of 4 or register as an individual for a BBQ lunch and an afternoon on the course at the Leigh Valley Sporting Clays in Coplay, PA. This event is free for members. Non-members just need to pay $35 to join the Chapter. Get registered today! And if you or your company wants to support this event, we still have some station sponsorship positions available. Complete the form on page 5.

Next up is the 21st Pennsylvania Drilling and Blasting Conference on November 13-14 at the Penn Stater Conference Center in State College, PA. We all look forward to this event every other year where our industry gathers to learn and network. You'll hear great presentations, visit with clients in the exhibit hall and network during the receptions. This year the conference will also offer breakout workshops. On Thursday will be the drilling and underground workshop and on Friday you can register, for an extra fee, for the ISEE's Seismograph Certificate Program. More details can be found on page 8. Don't forget to stop by the Chapter table to say hello!

Best regards,

Ron Eichler

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Eastern Pennsylvania Chapter Clay Shoot & BBQ

On Friday, October 24th the Eastern Pennsylvania Chapter will host it's ninth annual Clay Shoot and BBQ. Join us for a BBQ lunch followed by a 1pm start at the Lehigh Valley Sporting Clays course in Coplay, PA.

The event is FREE for members. Non-members will be charged $35 for a Chapter Membership. Registration includes a BBQ lunch, 8 station course with 50 rounds, and friendly competition. Prizes will be awarded for the top three shooters as well as Lewis class shooter placements. We will also be raffling off a Franchi Instinct L Over/Under shotgun.

To register please complete the form at https://www.easternpaisee.com/clay-shoot-bbq-registration/ or on page 4. We also have station sponsorship opportunities available.

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Eastern Pennsylvania Chapter Clay Shoot & BBQ

Friday, October 24, 2025

FREE for Members

$35 for Non-Members

11:30am - 5:30pm

Lehigh Valley Sporting Clays

2750 Limestone St., Coplay, PA

Name_____

Company_____

Address_____

Phone_____ Fax_____

Email _____

Deadline to register is Friday, October 17, 2025

Your registration includes a BBQ lunch, 8 station course with 50 rounds and a golf cart per team of 4. Ear protection is provided. You are encouraged to bring eye protection or purchase glasses for $10.00.
You can bring your own gun and ammo (7.5-9 lead shot only).
Prizes will be awarded!

The event is FREE for Members.
Non-Members will be charged $35 for a Chapter Membership.
Non-members - please complete the membership form on page 24 and this registration form to sign-up.

Send to:

Eastern PA Chapter I.S.E.E.
Attn: Scott Mueller
PO Box 94, Souderton, PA 18964
smueller@bluestonedrilling.com

Eastern Pennsylvania Chapter Clay Shoot & BBQ

Sponsorship Commitment Form

☐	**Clay Shoot Station Sponsor for $250** Your company logo will appear on station sign

Contact Person _____

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Please complete this form and email/fax it to Scott Mueller
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- See real time responses from facility owners who were notified on a current ticket or search the system for stored responses (maximum of 5 years)

Start today by requesting the application from your account

Register Today!

The 21st Pennsylvania Drilling and Blasting Conference

November 13-14, 2025

The Penn Stater Conference Center Hotel
State College, Pennsylvania

For more information, please visit the conference website at https://blasting.outreach.psu.edu/.

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The 21st Pennsylvania Drilling and Blasting Conference

Registration is open for the 21st Pennsylvania Drilling and Blasting Conference that will take place on November 13 - 14, 2025 at the Penn Stater Conference Center in State College, PA. This conference is sponsored by Penn State's College of Earth and Mineral Sciences and the John and Willie Leone Family Department of Energy and Mineral Engineering, the Mid-Atlantic Chapter of ISEE, the Eastern Pennsylvania Chapter of ISEE, and the Pennsylvania Department of Environmental Protection.

The conference will feature presentations on blasting, blast design mistakes, dealing with blasting complaints, misfire management, managing blasting risk, regulatory topics, water wells, pore pressure and fiberoptic sensing for drilling and blasting. Additionally the conference will have a special presentation on the Crazy Horse Memorial as well as breakout sessions on drilling and underground. The ISEE Seismograph Operators Certificate Program will also be offered on Friday morning. There will be a separate fee for the program, but attendees will earn their certificate from the ISEE after completion of the course and test (see page 8 for details).

For more information, please visit the conference website at https://blasting.outreach.psu.edu/.

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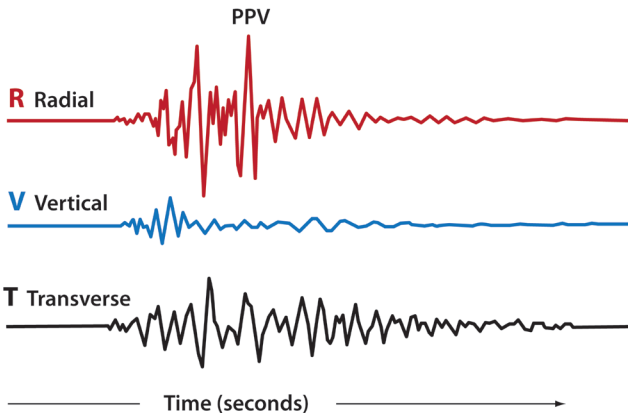
ISEE's Seismograph Operators Certificate Program

to be presented at the

21st Pennsylvania Drilling and Blasting Conference

Friday, November 14, 2025
7:30 – 11:30am



The ISEE Seismograph Operators Certificate Program, sponsored by the Seismograph Section of ISEE, provides expert-led training focused on the proper use of blasting-type seismographs to monitor ground vibration and air overpressure from blasting operations. Designed for professionals working in blasting, construction, mining, and regulatory roles, this program provides hands-on instruction and real-world guidance to ensure accurate and compliant seismograph use in the field.

Program Details
The 3-hour training is followed by a 30-minute test. A certificate of completion will be awarded to those receiving a 75% or better passing score. The certificate will also indicate 3 hours of professional development hours (PDH). The certificate will have an expiration of 3 years.

Registration Information
This training will be presented on Friday, November 14 at 7:30 a.m. during the breakout sessions at the 21st Pennsylvania Drilling and Blasting Conference to be held in State College, Pennsylvania, November 13 - 14, 2025.

Cost: ISEE Members: $50; Non-Members: $100

What's Included
- In-person training led by experienced industry instructors
- Practical instruction on seismograph setup, data recording, and reporting
- Review of regulatory guidelines and best practices
- Certificate of Completion issued by ISEE upon passing the test

ISEE
International Society of Explosives Engineers

Eastern PA Chapter
International Society of Explosives Engineers

MID ATLANTIC CHAPTER
International Society of Explosives Engineers
Serving the Blaster in the Field Since 1983

21st Pennsylvania Drilling and Blasting Conference

Meet Your Instructors: Cathy Aimone-Martin (left) and Doug Rudenko (right).

Space is limited - register early to secure your spot!

www.isee.org

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Blasters Training Held in July

On July 10, 2025 the Eastern Pennsylvania and Mid-Atlantic Chapters ISEE hosted an 8 hour Blasters Training at the Blair County Convention Center in Altoona, PA. There were 31 attendees.

Trooper Brooks and Trooper Burns from the Pennsylvania State Police presented, "Commercial Vehicle Inspection"; Frank Chiappetta, MSc, P. Eng. from Blasting Analysis International presented, "Common Blast Design Mistakes and How to Fix Them"; Ben Alexander from MTI Group presented, "Benefits of Air Decking"; Erika Dominick from PA One Call presented, "Act 287 for the Excavator"; Sandy Tavelli from Dyno Nobel presented, "Electronics: Changing the Way the World Mines"; Benny Staudt, P.G. from Vibra-Tech Engineers, Inc. presented, "Blasting Near Water Wells - Wading Through Murky Waters"; Dennis Gibson & Bob Desjardins from Mitsubishi Materials USA presented, "Top Hammer and DTH Failure"; Adele Abrams, Esq, ASP, CMSP from Littler Mendelson PC presented, "MSHA Silica Rule Status and Blaster Liability"; and Jay Elkin from Wampum Hardware Co. presented, "Preventing Flyrock".

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Stem Charge Blast Resource

Shared by R. Frank Chiappetta, Explosives Applications Engineer

The tables on page 13 are only for use with explosive diameters of 4 inches or greater up to 30 inches. Please do not reference these tables for explosive diameters of less than 4 inches.

Please note the following:

1. The table accommodates both Imperial (English) and Metric units. Make sure you use the correct units.

2. The Imperial calculations are in Green, and the Metric calculations are in RED.

3. The tables contains four boxes each for the Imperial and Metric units to calculate:
   i. SD (Scaled Depth of Burial, (Box 1).
   ii. Stem charge/stab hole explosive mass and placement, (Box 2).
   iii. Distance for stem charge from surface, (Box 3).
   iv. Top stemming, (Box 4).

The most used calculations are in Boxes 1, 2 and 4.

A good way to evaluate stem charges is to split a trial blast in half, whereby one half uses normal stemming with no stem charges, and the other half has a stem charge in the top stemming. This will clearly show the effects of stem charges in the collar zone.

Finally, I'm always interested in stem charge blast results. It also helps me to refine the model, so take some digital images of the muck pile results in both test blast sections and share them with me at rfrank.chiappetta@gmail.com.

If you'd like a copy of the excel spreadsheet, please contact Kristin Klemish at kristink@vibratechinc.com.

Continued on page 13

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Stem Charge Continued

Any questions, please contact R. Frank Chiappetta - Explosives Applications Engineer at:
Cell (610) 533-3667 or email at RFrank.Chiappetta@gmail.com

Only For USE With Explosive Diameters of 4 inches or Greater! For Explosive Diameters of Less Than 4 inches, Contact Frank Chiappetta.

Imperial Units - Only Input Black Numbers!

1

SD = D/W^1/3 Scaled Depth of Burial - Imperial Units

Required Inputs With Imperial Units

Top Stemming (ft)	12	ft
Explosive Diameter (in)	6	in
Explosive Density (g/cc)	1.25	g/cc

CALCULATIONS - DO NOT CHANGE GREEN NUMBERS!

Explosives Loading Density (Lbs/ft)	15.32	lbs/ft
L = Length of 10 Explosive Diameters (ft)	5.00	ft
W = Explosives in 10 Explosive Diameters (lbs)	76.61	lbs
D = Distance From Surface to Center of W (ft)	14.5	ft
SD =Scaled Depth of Burial (ft/lbs^1/3)	**3.42**	**ft/lbs^1/3**

2

W = (D/W)^3 Stem or Stab Charge Quantity - Imperial Units

Required Inputs With Imperial Units

Top Stemming (ft)	12	ft
D = 50% to 65% of Top Stemming Column - Specify in %	60	%
SD = Selected Scaled Depth of Burial (ft/lbs^1/3)	3.42	ft/lbs^1/3
Explosive Diameter (in)	6	in
Exposive Density (g/cc)	1.25	g/cc

CALCULATIONS - DO NOT CHANGE GREEN NUMBERS!

D = Distance to center of stem/stab charge from surface (ft)	7.2	ft
W = Stem or Stab Charge Quantity (lbs)	**9.33**	**lbs**
L1 = Length of Stem Charge (ft)	0.61	ft
D2 = Distance From Surface to Top of Stem Charge (ft)	6.90	ft
D1 = Distance From Surface to Bottom of Stem Charge (ft)	7.50	ft
Top stemming (ft)	12	ft

3

D = SD*W^1/3 Distance for Stem or Stab Charge from Surface Imperial Units

Required Inputs With Imperial Units

SD = Selected Scaled Depth of Burial (ft/lbs^1/3)	3.42	ft/lbs^1/3
W = Selected Stem or Stab Quantity of Explosives (lbs)	9.5	lbs

CALCULATIONS - DO NOT CHANGE GREEN NUMBERS!

D = Distance to center of stem/stab charge from surface (ft)	**7.2**	**ft**

4

Top Stemming Calculation - Imperial Units

Top Stemming = (SD*(0.284*Expl.Den.*Expl.Dia^3)^1/3)-(0.417*Expl.Dia)

Required Inputs With Imperial Units

SD = Selected Scaled Depth of Burial (ft/lbs^1/3)	3.42	ft/lbs^1/3
Explosive Density (g/cc)	1.25	g/cc
Explosive Diameter (in)	6	in

CALCULATIONS - DO NOT CHANGE GREEN NUMBERS!

Top Stemming (ft)	**12.0**	**ft**

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Metric Units - Only Input Black Numbers!

1

SD = D/W^1/3 Scaled Depth of Burial - Metric Units

Required Inputs With Metric Units

Top Stemming (m)	3.66	m
Explosive Diameter (mm)	152.4	mm
Explosive Density (g/cc)	1.25	g/cc

CALCULATIONS - DO NOT CHANGE RED NUMBERS!

Explosives Loading Density (Kg/m)	22.8	Kg/m
L = Length of 10 Explosive Diameters (m)	1.524	m
W = Explosives in 10 Explosive Diameters (Kg)	34.7	Kg
D = Distance From Surface to Center of W (m)	4.4	m
SD = Scaled Depth of Burial (m/Kg^1/3)	**1.36**	**m/Kg^1/3**

2

W = (D/W)^3 Stem or Stab Charge Quantity - Metric Units

Required Inputs With Metric Units

Top Stemming (m)	3.66	m
D = 50 to 65% of Top Stemming Column - Specify in %	60	%
SD = Selected Scaled Depth of Burial (m/Kg^1/3)	1.36	m/Kg^1/3
Explosive Diameter (mm)	152.4	mm
Exposive Density (g/cc)	1.25	g/cc

CALCULATIONS - DO NOT CHANGE RED NUMBERS!

D = Distance to center of stem/stab charge from surface (m)	2.20	m
W = Stem or Stab Charge Quantity (Kg)	**4.2**	**Kg**
L1 = Length of Stem Charge (m)	0.18	m
D2 = Distance From Surface to Top of Stem Charge (m)	2.10	m
D1 = Distance From Surface to Bottom of Stem Charge (m)	2.29	m
Top stemming (m)	3.66	m

3

D = SD*W^1/3 Distance for Stem or Stab Charge from Surface Metric Units

Required Inputs With Metric Units

SD = Selected Scaled Depth of Burial (m/Kg^1/3)	1.36	m/Kg^1/3
W = Selected Stem or Stab Quantity of Explosives (Kg)	4.20	Kg

CALCULATIONS - DO NOT CHANGE RED NUMBERS!

D = Distance to center of stem/stab charge from surface (m)	**2.2**	**m**

4

Top Stemming Calculation - Metric Units

Top Stemming = (SD*(Expl.Dia^3*Expl.Den/127500)^0.333)-(Expl.Dia/200)

Required Inputs With Metric Units

SD = Selected Scaled Depth of Burial (m/Kg^1/3)	1.36	m/Kg^1/3
Explosive Density (g/cc)	1.25	g/cc
Explosive Diameter (mm)	152.4	mm

CALCULATIONS - DO NOT INPUT RED NUMBERS

Top Stemming (m)	**3.7**	**m**

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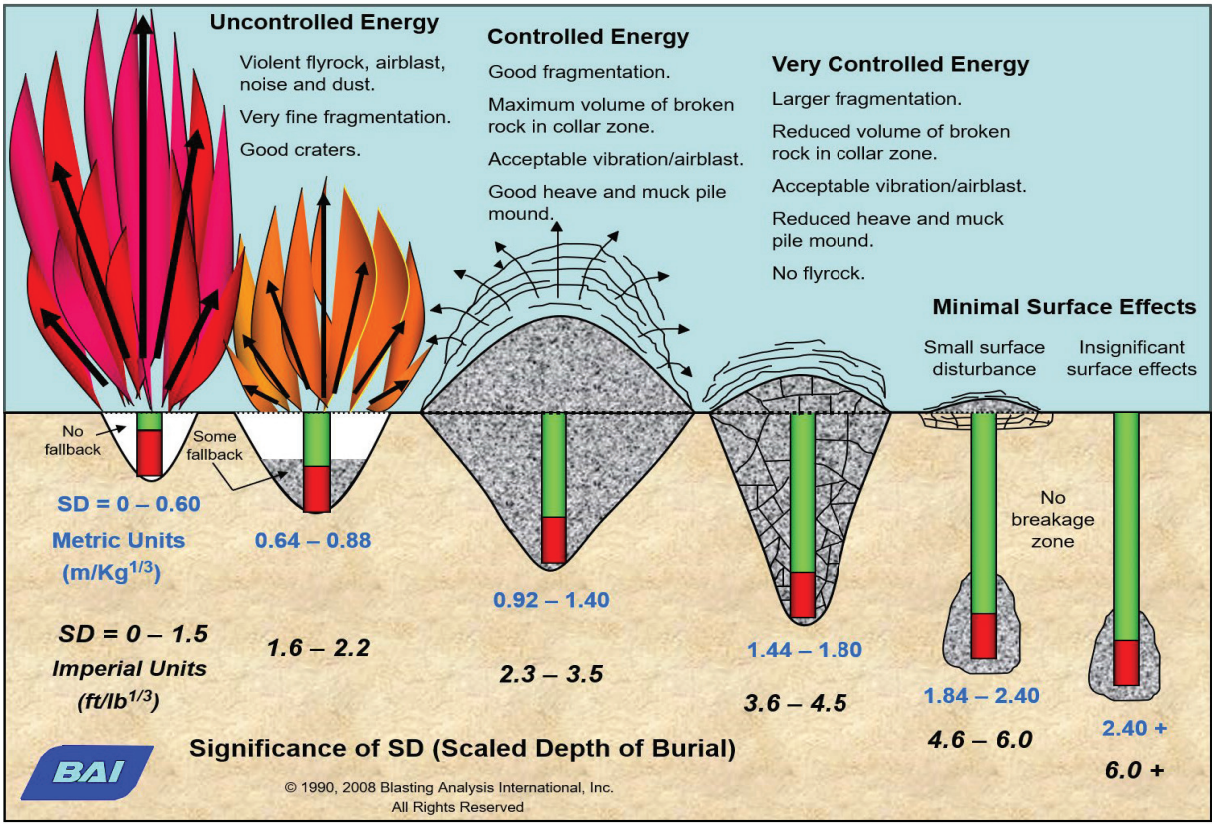
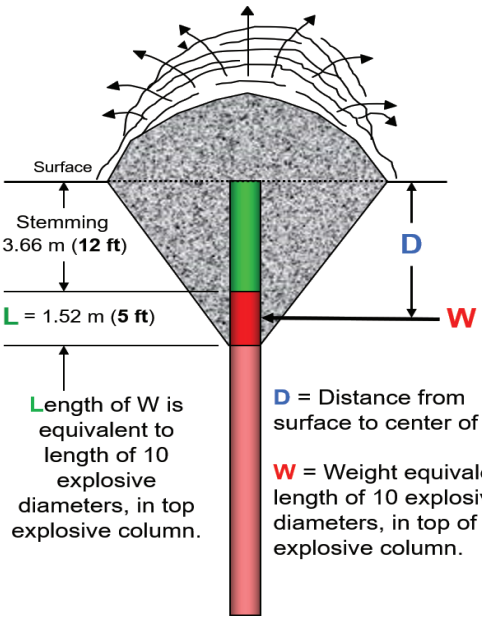
Kirk Whitaker, President

Effects of SD Values in Collar Zone - Block 1



Example SD Calculations - Use Block 1

$SD = D/W^{1/3}$



Borehole diameter = 152 mm (**6 in**)

Explosive density = 1.25 g/cc

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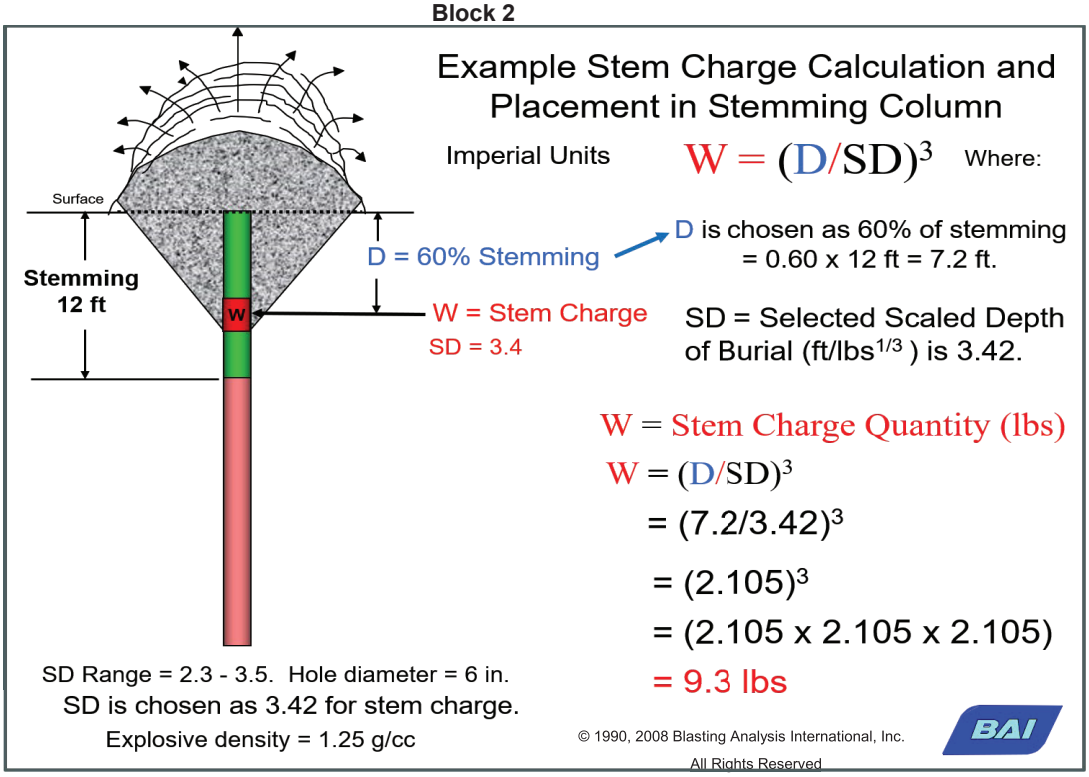
Imperial Units	Metric Units
Explosive density = 1.25 g/cc Explosive diameter = 6 in Stemming = 12 ft	Explosive density = 1.25 g/cc Explosive diameter = 152 mm Stemming = 3.66 m
Length of 10 borehole diameters = (6 in/12 in) x 10 = 5.0 ft One linear foot of explosives at a density of 1.25 g/cc in a 6 in hole weighs 15.3 lbs.	Length of 10 borehole diameters = (152 mm/1000 mm) x 10 = 1.5 m One linear meter of explosives at a density of 1.25 g/cc in a 152 mm hole weighs 22.68 Kg.
D = Stemming + ½ (L) = 12 + ½ (5) = 14.5	D = Stemming + ½ (L) = 3.66 + ½ (1.52) = 4.42
W = 5 ft x 15.3 lb/ft = 76.5 lbs and $W^{1/3} = 76.5^{1/3} = 4.24$ lbs$^{1/3}$	W = 1.52 m x 22.68 Kg/m = 34.5 Kg and $W^{1/3} = 34.5^{1/3} = 3.25$ Kg$^{1/3}$
$SD = \frac{D}{W^{1/3}} = \frac{14.5}{4.24} = \mathbf{3.42}$	$SD = \frac{D}{W^{1/3}} = \frac{4.42}{3.25} = \mathbf{1.36}$

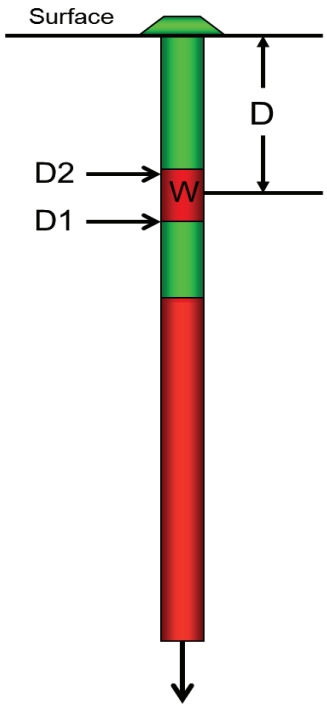
Alternatively, $D = SD \times W^{1/3}$ and $W = (D/SD)^3$

BAI

Example Calculation of Stem Charge Quantity and Placement in Stemming Column
Block 2



Definition of D, D1 and D2 for Stem Charge - Block 2



For Stem Charge and Stab Hole Calculations

$W = (D/SD)^3$

D = Distance from surface to center of stem charge, (m) or (ft).

SD = Selected Scaled Depth of Burial, ($m/kg^{1/3}$) or ($ft/lbs^{1/3}$).

W = Stem charge mass, (kg) or (lbs).

D1 = Distance from surface to bottom of stem charge, (m) or (ft).

D2 = Distance from surface to top of stem charge, (m) or (ft).

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In Memory of Joseph W. Lozosky

Joseph W. Lozosky, 78, passed away peacefully on August 13, 2025, at Hershey Medical Center following a bone marrow transplant that he received in February of this year.

He is survived by his loving wife of 48 years, Monica (Gido) Lozosky, and his devoted dog, Chaz.

Joe began his career with Vibra-Tech Engineers, Inc. in 1969 and recently celebrated an extraordinary 56 years working in the Hazleton office. Over the course of more than five decades, he became a respected colleague, mentor, and friend to many. Known for his dedication, expertise, and unwavering professionalism, Joe earned the admiration of co-workers and clients alike. His commitment to his work and his community left a lasting impact that will be deeply missed.

Memorial donations may be made to the Leukemia and Lymphoma Society, PO Box 22324, New York, NY 10087 or online at lls.org or to the Hazleton Animal Shelter, PO Box 481, Hazleton, PA 18201.

Back to School Driving Safety Tips

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Across the country, students are heading back to classroom for the 2025–2026 school year. This seasonal shift means bright yellow buses returning to their routes, children in crosswalks and bike lanes, and increased traffic from parents and young drivers—all requiring extra caution and good back to school driving safety practices from motorists.

To help keep everyone protected during this busy time of year, drivers should prepare for the changes in traffic and congestion with the following back to school driving safety tips:

Respect the Yellow Bus

- Know and abide by the laws for sharing the road with school buses, especially:
  - It is illegal in all 50 states to pass a school bus that is stopped to load or unload children. Yellow flashing lights mean the bus is preparing to stop; red flashing lights and an extended stop sign arm indicate that children are getting on or off the bus.
  - Traffic in both directions must stop on undivided roadways when students are entering or exiting a school bus. State laws on divided highways vary, but all states require that traffic traveling in the same direction as the bus must stop.

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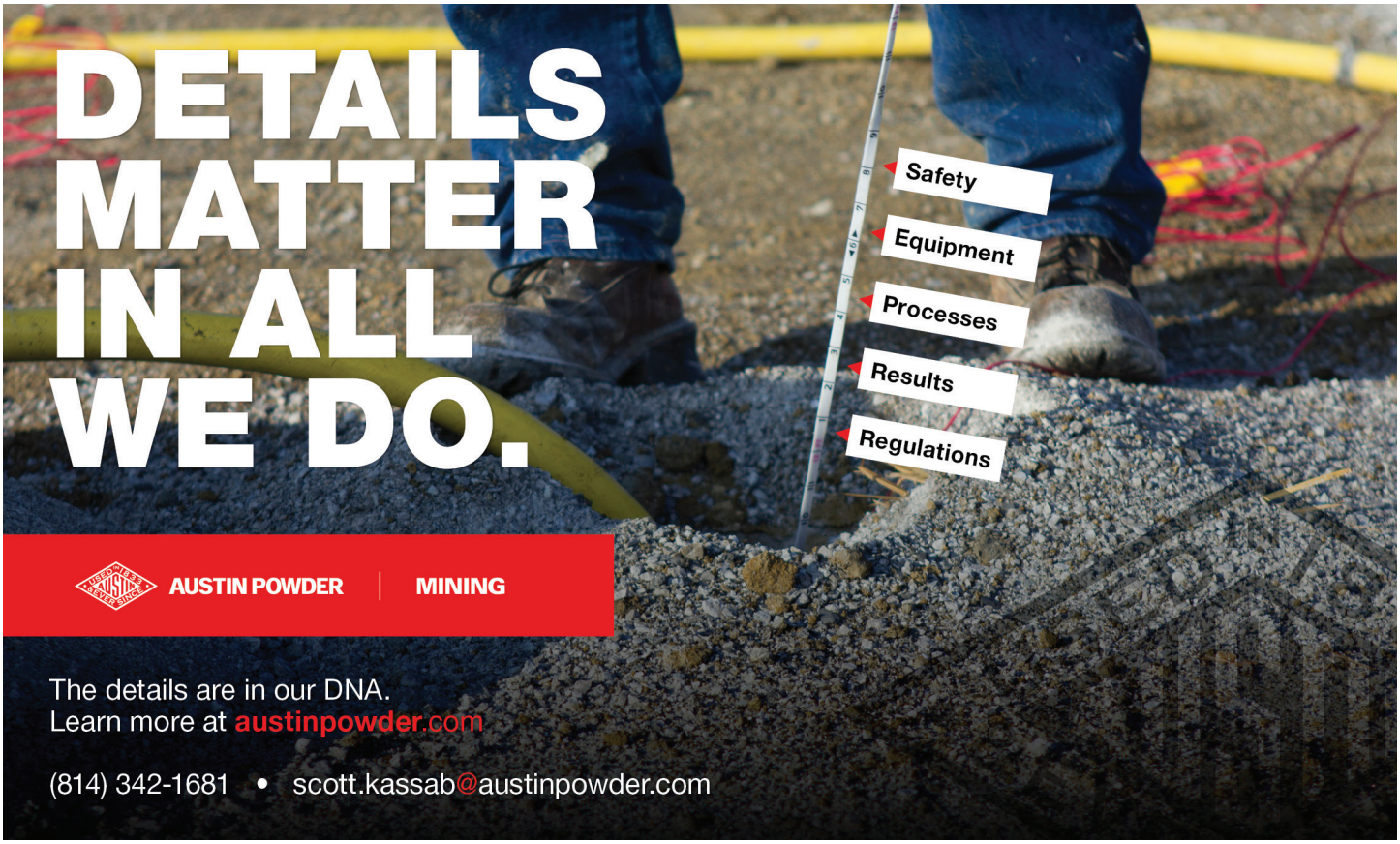

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Back to School Continued

- Give children plenty of space to safely enter and exit the bus. Children are at the greatest risk of being hit within ten feet of a school bus. Watch for children arriving late for the bus, as they may dart into the street without checking for traffic.

- Remain stopped until the red lights stop flashing, the extended stop sign arm is withdrawn, and the bus begins moving.

- Follow school buses at a safe distance. Remember that they make frequent stops and must stop at all railroad crossings.

Watch for Pedestrians & Riders

- Scan for pedestrians, bicyclists, scooter riders, and skateboarders not only on the street and sidewalk but also emerging from driveways and hidden behind parked cars or other obstructions. Also, note that children may be especially difficult to see behind parked sport-utility vehicles.

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Back to School Continued

- Recognize that youngsters can be impulsive. They will often take risks, ignore hazards, and fail to look both ways before crossing the street or running after a ball. Remain vigilant, particularly for children distracted by cell phones, headphones, or friends, and be prepared to stop.

- Pay extra attention in school zones and residential areas, as well as near playgrounds and parks. Youngsters can be difficult to see, especially at dawn or dusk or in poor weather when visibility is reduced.

- Don't block a crosswalk when stopped at a red light or waiting to make a turn. Forcing youngsters to go around your vehicle puts them in the path of moving traffic. In school zones with blinking warning flashers, stop and yield to pedestrians and bicyclists whether there is a marked crosswalk or not.

- Avoid honking the horn or revving your engine when children are in front of your vehicle in a crosswalk. You can startle them and potentially endanger their lives. Wait patiently for youngsters to finish their crossing before you proceed.

Continued on page 23

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Back to School Continued

- Give children riding bikes, scooters, or skateboards a wide berth. If passing, do so slowly and smoothly. If you don't have sufficient room, do not attempt to pass.

- Use your turn signals and allow riders to pass before making a turn. The most common causes of collisions with bicycles are when drivers are turning left in front of an oncoming bicycle or turning right across the path of the bicycle.

- Be aware that children riding bikes, scooters or skateboards may swerve, brake suddenly, or even fall. There can also be obstacles on the roadway such as debris or potholes that can be challenging even for experienced riders.

Remember the School Zone Safety Rules

- Keep in mind that traffic patterns around school zones may have changed since the last school year. Also remember that children are often outside at various times for recess, lunch and for certain classes, so it's important to remain alert throughout the day to maintain school zone safety.

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Back to School Continued

- Abide by the posted speed limit and be prepared to brake. The speed limit in most active school zones is 25 mph; however, local municipalities may change the speed limit to meet community needs. Severe weather may also necessitate lower speeds.

- Obey all school zone safety warning signs and instructions from patrol officers and crossing guards. Proceed with caution once the crossing guard returns to the sidewalk and lowers the stop sign.

- Slow down around teen drivers who are still developing their skills and judgment behind the wheel. Keep in mind that you may also encounter new school bus drivers who may be adjusting to their routes and vehicles. Stay vigilant and lead by example through safe, responsible driving.

- Expect heavy traffic backups near schools, and avoid school zones during peak times, if possible. If you encounter a backup, slow down and be patient. Importantly, stop if there is not enough space to execute your maneuver safely. Also note that some school districts may be staggering schedules due to bus driver shortages. This means that school zones may be active for longer or active at unexpected times.

While sharing the road safely is always important, the start of a new school year calls for heightened awareness in school zones and residential neighborhoods. By following these back to school driving safety tips, drivers can help reduce the risks and ensure safe travel for all.

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