



Pennsylvania Aggregates and Concrete Association

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UNDERGROUND STONE CONFERENCE

Wednesday, February 26th, 2025, CEC - Moon Township, PA

Presiding: Mike Clark, Chair

AGENDA

Session times & speakers are subject to change

Registration opens at **8:30 am** with Continental Breakfast

Welcome, Introductions and Review PACA Antitrust Statement & Confidentiality Policy
(9:00 am) Clark & Dennis

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| 9:15 – 9:50 am | <u>Emergency Response Communication and Information Management.</u> (in-person)
Paul Schmidt, NIOSH |
| 9:50 – 10:30 am | <u>Not Divorced, Just Separated:</u> A practical approach to understanding roof movements. (in-person)
Joseph Rankin, Simplified Mine Instruments |
| 10:30 – 10:45 am | <u>Networking Break</u> |
| 10:45 – 11:30 am | <u>Analyzing Leading Factors Associated with Massive Ground Collapses in Underground Stone:</u> (in-person)
Nicole Evaneck, NIOSH |
| 11:30 – 12:15 pm | <u>Underground Stone Community Dialog:</u> (in-person)
Mike Clark, Chair, NESL & Ron Clister, Heidelberg & Megan Dennis, PACA |
| Lunch & Networking (12:15 pm) | |
| 1:30 – 2:00 pm | <u>Using VR for Mine Safety Training:</u> (in-person)
Tim Orr, NIOSH |
| 2:00 – 2:30 pm | <u>Research on Gas Wells in Limestone Pillars:</u> (in-person)
Dr. Peter Zhang, NIOSH |

Adjournment (2:30 pm)

*Note: Virtual Link will be provided prior to the meeting. PDH Credits will be awarded.



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Available Presentation Abstracts

Title: Emergency Response Communication and Information Management

Presenter: Paul Schmidt

Abstract: Among the key aspects of responding successfully to mine incidents are communication and information management. Lack of communication, miscommunication, communication in a confused or disorganized fashion as well as missing or improperly managed information can cause delays that increase the likelihood of adverse outcomes. The presentation will identify critical elements of incident centric operations and enumerate how different aspects of mine environment affect information dissemination.

Title: Analyzing Factors Associated with Massive Ground Collapses in Underground Stone Mines

Presenter: Nicole Evanek

Abstract: Over the past three years, researchers at the National Institute for Occupational Safety and Health (NIOSH) have studied leading factors associated with massive ground collapses in the underground stone industry. Throughout this time, researchers have focused on massive ground collapses on an individual basis, utilizing tools to identify adverse geologic conditions and accurately model mine layouts at each of the recent massive ground collapse sites. This presentation aims to summarize research findings to date and discuss correlations between massive ground collapses studied thus far, in an effort to reduce the potential of these events from occurring in the future and provide safe conditions for the underground stone miner.

Title: Using VR for Mine Safety Training

Speaker: Tim Orr

Abstract: Discussing the NIOSH virtual reality mine rescue training tool (closed beta testing) and general use of VR for training.

Title: NIOSH Research on Gas Wells in Coal and Limestone Pillars

Speaker: Dr. Peter Zhang

Abstract: Gas wells have long been an issue not only in coal mines but also in limestone mines. The recent shale gas boom has created safety concerns on the interaction between shale gas wells and underground mining. NIOSH has recently conducted substantial research to address the shale gas wells in longwall pillars – significant findings have been made about subsurface ground movements and casing deformations induced by longwall mining, and engineering considerations have been developed for protecting gas wells in longwall coal pillars. By comparison, much less research has been conducted for gas wells in underground limestone mines, and, therefore, no scientific investigations have been conducted for potential interactions between underground limestone mining and adjacent gas wells. Underground limestone mines greatly differ from the longwall coal mines in many aspects such as mining methods, entry dimensions, ventilation system, rock properties, and, importantly, the concerns about massive pillar collapses. Accordingly, NIOSH researchers have begun a new project to investigate the interactions between limestone mining and gas wells, aiming to determine the optimal gas well setback distance and potential impact on the ventilation system in case a breach occurs. This presentation includes (1) lessons learned from coal gas wells that are applicable to limestone gas wells; (2) other critical risk factors that need to be studied for gas wells in limestone pillars; (3) preliminary study of the effects of limestone mining on minimum gas well setback distances; and (4) a research plan on mine ventilation considerations related to a gas well's potential breach due to a local abnormal geology, a potential massive collapse, and dynamic effects of blasting. The objective of this research is to help mine operators safely mine by gas wells and mitigate any risks associated with a potential gas well breach.

