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INCIDENT NOTICE

(Kindly direct all correspondence to the Secretary General)

INCIDENT TITLE: PETN Burning Ground Explosion

DATE POSTED 18 December 2020	**REFERENCE** IN 20-06	**SOURCE** Austin Powder
INCIDENT OUTLINE		
When did it happen?	November 6, 2020 at 5:00 pm	
Who experienced it?	Austin Star Detonator	
Where did it happen?	Burning ground, Matamoros/Mexico	
What material was involved?	Dry PETN waste	
What happened?	Two detonations in quick succession occurred at the burning ground. An operator had placed dry PETN fines in two of the 4 bays; each bay containing approximately 2.5kg of PETN (Total of 5Kgs/10lbs). The PETN fines were generated from the drying and sieving explosive preparation process that supplies the base charge loading process. From a sheltered area approximately 30 meters away, the operator initiated the burn using pyrotechnics. According to the operator, two detonations occurred approximately 3-5 minutes after he had remotely initiated the bays and visually confirmed smoke arising from the bays. Debris such as cinder block fragments and parts of the bay galvanized metal roofs were ejected in the air directing westwards toward fallow land owned by the company. Debris was found up to 100 meters away.	
Why did it happen – theory?	Recently, the main supplier of PETN had been switched and the new source produced significantly more fines than the previous supplier. The fines then became waste material for disposal (PETN had not been burned before). An operating procedure was then generated for the new waste stream. The procedure was drafted without including important details such as establishing a schedule to collect the fines on a regular basis, and institute explosive limits. The absence of details led the operator and others to create their own routine where dry PETN fines were collected on a weekly basis on Fridays (up to 4 – 5 kg). Methods for safe burning of PETN (mixing with sawdust) were neither reviewed nor implemented. It is assumed that, though the PETN was poured on a tray in an 'S' type pattern, there was variation of the PETN track in width and height that allowed the	

	material to become self-confined. Simulations with fine sand support this theory.
What was the impact?	No injuries, significant damage to the bays (brick debris) and the vent ducts

ADDITIONAL INFORMATION

Enclosure	Photos showing damage and array of PETN on burning tray (simulated with sand)
Subsequent report	Follow-up report (if any)

COMMENT

Value of incident	Changes to process and its consequences (explosive waste for disposal) are to be assessed and reviewed in all detail. SOP's must not leave room for interpretation and give clear instruction (how to ..?, step by step). Safe methods for disposal (here PETN fines) have to be reviewed and experts be consulted if needed. Change of specification of purchased material (here PETN) with the supplier are to be considered to avoid creation of waste in the first place.
Comment	Specific observations and requests.
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ENCLOSURE

Simulation w/ Sand