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**INCIDENT NOTICE**

(Kindly direct all correspondence to the Secretary General)

**INCIDENT TITLE:**

22 November 2015: South Africa –Shock  
Tube Extrusion Line – HMX/Al detonation

DATE POSTED	REFERENCE	SOURCE
15 January 2016	IN01-16	Member
INCIDENT OUTLINE		
When did it happen?	Sunday, 22 November 2015 at 03:17 am	
Who experienced it?	AEL Mining Services	
Where did it happen?	Shock Tube Extrusion Plant, Modderfontein, South Africa	
What material was involved?	Approximately 250g HMX / Aluminium powder.	
What happened?	An initial flash was observed, via the video footage, from the bottom of the 1st extruder head and the detonation of HMX/Al in the funnel takes place ~14 seconds later. No injuries occurred, but serious damage to the powder feed system was caused.	
Why did it happen – theory?	The most likely root cause of the initial flash was accumulated HMX/Al powder within the extrusion head, which ignited most likely due to the exposure of the powder to high temperatures for an extended time in the head. The ingress of powder into the head is possible from the bottom of the extruder, as well as from the top. Confinement of the HMX/Al in the funnel caused the ignition to build up to a detonation. The confinement was from the top by the charging valve, and from the bottom by the dosing roller, and this prevented sufficient venting of ignited powder.	
What was the impact?	No people were injured in the explosion. Damage to the extrusion line, particularly the powder dosing system.	

**ADDITIONAL INFORMATION**

Enclosure	None
Subsequent report	None

**COMMENT**

Value of incident	The confinement of HMX/Al powder played a major role in the extent of the damage.
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**Comment**

**DISTRIBUTED BY:**

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