

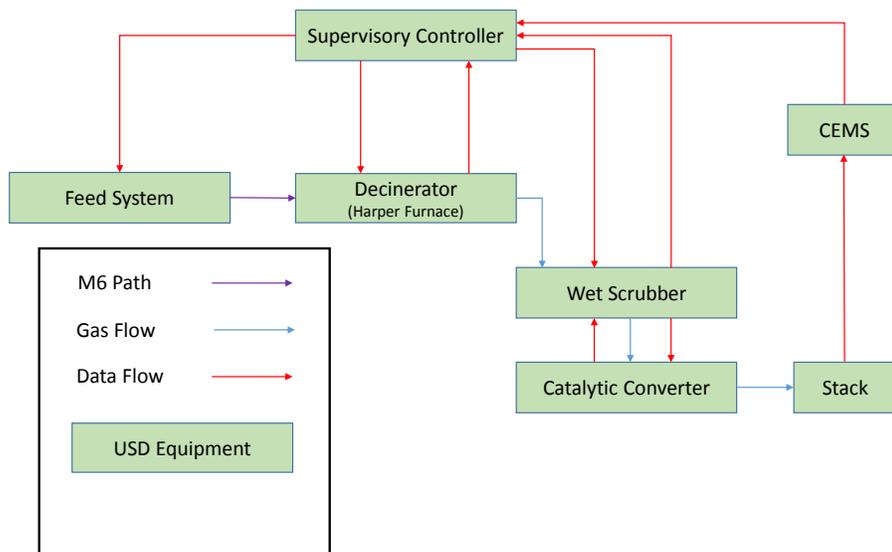
1. How would USD prevent Flashback / Fire in the Feed System?

The Decineration™ feed system is designed to meet the DDESB / QASAS safety requirements. Beyond that is the fact the Decineration™ furnace operates at temperatures around 400-450°F which is above the decomposition temperature of nitrocellulose but well below the auto ignition temperature.

2. How would USD prevent M6 Propellant from burning in the rotary kiln?

Propellants are self-oxygenating to only a 23–27% level. The unconsumed carbon – hydrogen "fuel" burns off when the projectile exits the gun tube and is evidenced by the "muzzle flash". This said, the Decineration™ furnace is NOT a rotary KILN; the word kiln implies incineration or calcination. As stated above, the unit operates at low temperatures so ignition is not expected. If there is an accidental ignition, the furnace and installation is designed to meet the guidelines of the DDESB for operator safety.

3. Process Flow Diagram.



4. Identify successful demilitarization projects.

Federal Contracts –

W15QKN-11-C-0112

- B620 Cartridge Ignition
- B621 Cartridge Ignition
- G212 M9 Bomb Fuze Delay Element
- M810 Primer Percussion
- MD65 Cartridge Impulse

Approximately 1.1 tons of these DODICs were processed. The loading rates and volumes were set by NY DEC and the US Army.

Contract W15QKN-09-9-1001, PO #PO10119299

Over 20 DODICs were processed – USD will need to get permission from the US Army to release more detailed information

Approximately 21.8 tons of these DODICs were processed. The loading rates and volumes were set by Utah DEQ and the US Army.

Ron Hagar

1. Has US Demil, LLC processed M6 propellant?

US Demil has not processed bulk M6 propellant, but has processed other munition items containing propellants which have similar ingredients as M6 propellant; such as WC 890 [ingredients include Nitrocellulose, Nitroglycerine, Diphenylamine, Dibutylphthalate, Graphite, Potassium Nitrate, Sodium Sulfate, Calcium Carbonate & Tin Oxide] and IMR 4198 [ingredients include DNT at 6%].

US Demil has not processed CBI propellant, but the ingredients [Nitrocellulose, Diphenylamine, Potassium Nitrate & Graphite glaze] are similar to the propellants mentioned above. Note there are no chlorine containing ingredients in CBI.

US Demil processed the munitions containing the WC890 propellant during a Relative Accuracy Test Audit (RATA) where samples were collected from the emissions system with acceptable results per the Utah DEQ.

2. Fuel Used?

The Decineration™ system is electric; no gas or liquid fuel is required.

3. Estimated Fuel (energy) consumption / ton M6 / day

4,000Kwh/ton M6 or 48,000Kwh/day

4. Production Rate of 1500 pounds per hour?

Until formulation runs can be performed, USD is estimating a production rate of 1,000 pounds M6 per hour on a continuous 24/7 basis. It is expected the actual production rate will be higher after formulation has been completed.

5. Maximum Stack Flow

The flow rate through the Decinerator™ is produced by a variable speed fan which is driven by the system's Supervisory Controller. Fan speed is dependent upon production load, CEMS input, etc. The fan is capable of 7,500 ACFM at 800°F.

6. Can DNT & DBP emissions meet 99.99% DE of MACT?

Yes, the EAS equipment builder was selected for their decades of experience in abatement systems for the petroleum industry. They routinely design for VOCs and SVOCs produced by refineries and specialty chemical plants. Beyond properly sizing their equipment for flow, they model and select the catalyst specifically for the type and quantity of organic vapors present in the process stream.

Frances Kelly

1. Hold / Test / Release

The USD Decinerator™ Environmental Abatement System (EAS) is equipped with a Continuous Emissions Monitoring System (CEMS) as required by the Permitting Authority, which continuously samples the post abated gas stream prior to discharge by the stack. The stack is equipped with ports as required by the Permitting Authority for sample collection and testing. There are similar ports in the duct connecting the Decineration™ furnace with the EAS. Samples can be collected from these ports and tested as desired. As the USD process is continuous, there is no way to "hold" the exiting process gases until testing is completed. Additional emissions monitoring/testing can be included in the final cost proposal if requested, required or allowed.

2. Are you able to test for hazardous air pollutants and specifically organic compounds?

As each CEMS is engineered and assembled for the unique process and the Permitting Authority's requirements, a CEMS can be tailored to meet any need. TOVs can be monitored as a composite or an individual VOC or SVOC can be monitored (as long as the instrumentation is commercially available).

3. Laboratories used by USD

<u>Collection / Report</u>	<u>Laboratory</u>
2008 / 2011 Reports Conestoga-Rovers & Associates Niagara Falls, NY	ALS Laboratory Group Burlington, ON I7I 6A4
2014 Report CCI Environmental Consultants, Inc. Salt Lake City, UT	Chester Lab Net Tigard, OR 97223 Maxxam Analytics, International Mississauga, ON L5N 2L8

For the Camp Minden project, a properly certified laboratory would be selected for any required analyses.