Storage Snapshot

As of 31 Jan 05

- Tons in Storage 119,621
  - Conventional 56%
  - Missile 44%
- Dollar Value $6,434,465,708
  - Serviceable 45%
  - Unserviceable 55%
- Storage Occupancy Rate 59%

Missile and Rocket Storage

The ADMC is a prime storage site for the following missile/rocket systems:

TOW

DRAGON

HELLFIRE

HARPOON

MLRS

SHILLELAGH

LANCE

AT4

JMC has approved ADMC as the prime storage site for the Theater High Altitude Area Defense (THAAD) Missile System.

Out-loading Capabilities

- ADMC's Army Strategic Mobility Program out-loading requirement is 160 containers per day
- ADMC initially used 110 Ammo Personnel for mobilization out-loading
- 802d Ordnance (Ammo) Company affiliated with ADMC for out-load
- ADMC can ship contingency stocks to 1 of 4 locations within 16 hours of notification

ADMC HAS DAY 1 REQUIREMENTS FOR MISSILES!

Container Handling Facilities

- *Three (3) Pads*
  - *(2) pads 300' x 150'*
  - *(1) pad 600' x 150'*
  - *Steel Reinforced Concrete Surface*
  - *Lighting to Facilitate 24 Hour Per Day Operations*

- *Capabilities*
  - *Rail & Highway Capable*
  - *Two Pads Capable of Handling 52 ea 20' x 8' x 8'/8.6'*
  - *One Pad Capable of Handling 104 ea 20' x 8' x 8'/8.6'*
  - *Containers Simultaneously*

- *Explosive Limits*
  - *North Pad 250,000 lbs.*
  - *South Pad 150,000 lbs.*
  - *Dock 627 250,000 lbs.*

ADMC Outload Capabilities

- Container Outloading Capability – 160 per day
- 3 Primary Outloading Pads (2 @ 300' x 150'; 600' x 150')
- 8 Raised Receiving Docks and Yards (200' x 100' each)
- Container Processing/Receiving Areas at Primary Outload Pads
- 2 Rail Classification Yards (Hold 119 Rail Cars Combined)
- 2 Rail & Truck Explosive Holding Yards (1860' x 100' & 250,000 lb Net Explosive Weight each)
- CROP Holding Yards (At Rail Explosive Holding Yards)
- 2 Container Inspection Facility (60' x 60' each)
- Primary Missile Outloading Installation

Contingency Stocks

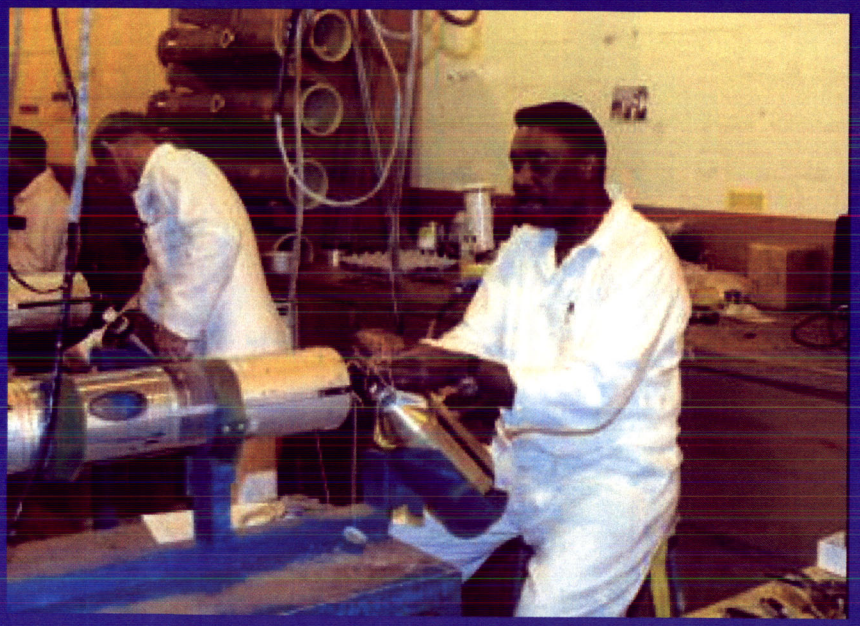
ADMC maintains contingency stocks for:

75th Ranger Regiment, Ft. Benning, GA

- ✓ Plans include Class I, V and VIII
- ✓ All plans have pre-positioned MROs
- ✓ Total of 177 rigged pallets
- ✓ 85 Tons Stored in 9 Stradley Igloos
- ✓ Call forward by specific pallets is possible
- ✓ ADMC maintains a 24-Hour on call duty roster
- ✓ Requirement to ship to 4 locations within 16 hours of notification

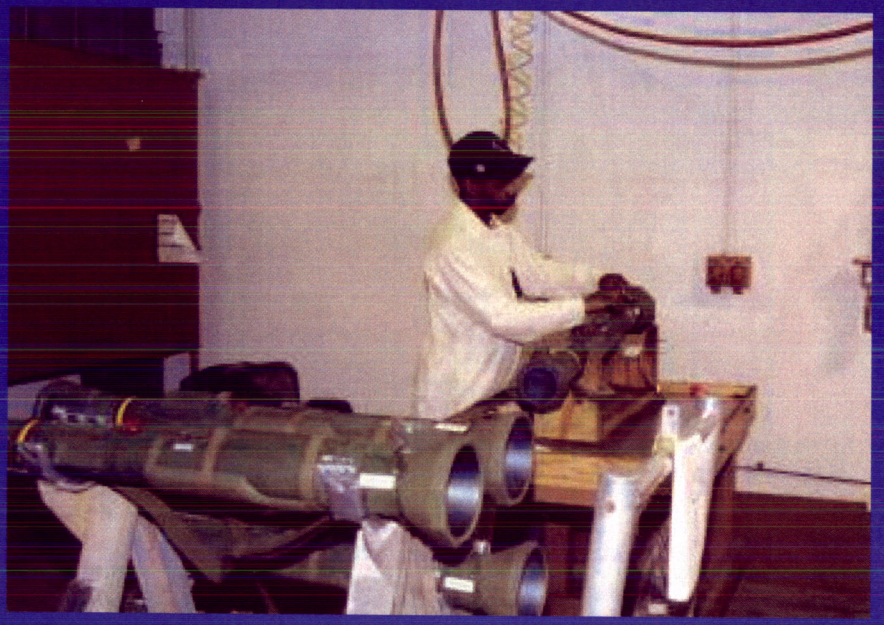
Maintenance Capabilities

Missile Maintenance



TOW Conversion to "Bunker Buster"

Ammunition Maintenance



AT4 Trigger Mechanism Clean-up

ADMC has 30+ years of missile maintenance experience

Ammo Maintenance Buildings

BLDG.	EXPL WT.	SQ. FT	BAYS	UTILITIES
58	4,000	12,998	5	Substantial Dividing Walls, IDS, Humidity Control, Conveyer Ready, 1 Paint Booth
65	5,000	4,716	3	Substantial Dividing Walls, IDS, Future Slurry Processing
168	5,000	10,080	9	Substantial Dividing Walls, IDS, Humidity Control, Conveyer Ready, 1 Paint Booth
380	125,000	9,134	7	Substantial Dividing Walls, 2 Cat. I Storage Cells, IDS
381	5,000	14,578	20	Substantial Dividing Walls, IDS, 1 Drying Oven, 2 Overhead Monorails, Remote Operations, MRC
600	5,000	11,059	6	Substantial Dividing Walls, IDS, Humidity Controlled, Overhead Cranes, Category I Storage
652	5,000	10,000	1	IDS, 2 Overhead Monorails, 4 Paint Booths, 155 mm Wheelabrator, Swing Brush
658	5,000	2,508	2	IDS
670	5,000	4,072	2	IDS, Overhead Crane, 1 Paint Booth
Total		79,145		

Future

695	5,000	17,450	8	Substantial Dividing Walls, IDS, Humidity Control, 1 Conveyor, 1 Overhead Bridge Crane, 2 Paint Booths

Building 600 (Renovation and Maintenance)

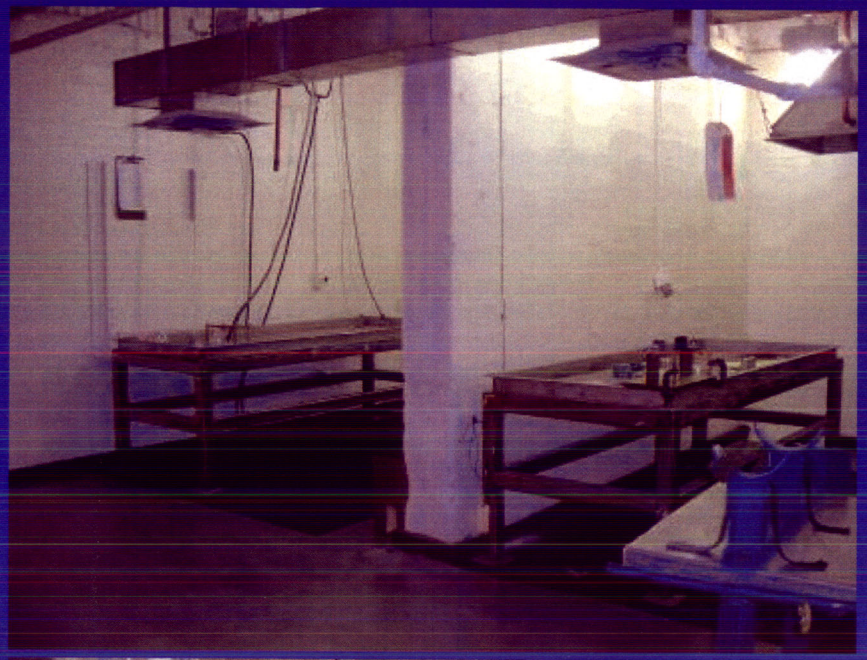
- Missile
- Conventional
- Large Bays
- Two Crane Systems
- Category I Facility
- Bunker Storage

Building 652 (Refurbish and Paint)

- 10,000 Square Feet
- Open Floor Plan
- Four Paint Booths
- Monorails

Wheelabrator (155MM)

Building 168 (Renovation, Rebuild, Modification)



- 10,080 Square Feet
- Multi-Bay Floor Plan
- Conveyor Ready
- Missile Test Sets
- Large Paint Booth adjacent

Demilitarization Capabilities

Open Burning:

- ✓ 13 pans
- ✓ 2000 lbs. per pan (not to exceed 50,000 lbs. per day)
- ✓ 2 burns per day with local approval

Open Detonation:

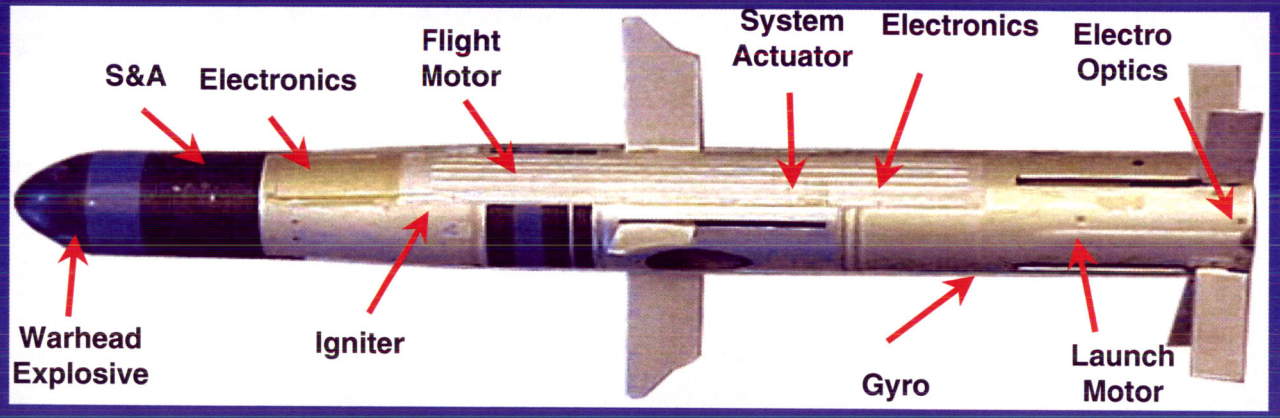
- ✓ 9 pits
- ✓ 15 lbs. above ground
- ✓ 1000 lbs. below ground

Line Demil:

- ✓ Capability to break down/disassemble a wide variety of ammunition items
- ✓ Examples are various missile systems, 90mm, 105mm, etc.

Missile Recycling Definition

- 98% of TOW missile components are recyclable
  - Missile Warheads
  - Rocket Motor Propellants
  - Rocket Motor Cases
  - Rocket Motor Nozzles
  - Launch Tubes
  - Guidance & Control Components
  - Airframe Components
  - Shipping Containers

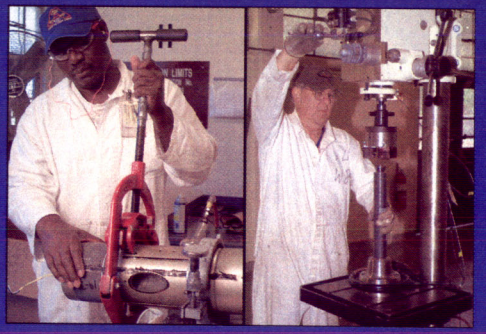


Phase I (Mechanical): FY03
- Missile Disassembly
- Rocket Motor Denozzling
- Propellant Removal
- Warhead Explosive Removal
- Component Reuse

Phase II (Chemical): FY05
- Energetics Size Reduction
- Slurry Explosive Manufacturing
- Energetics Processing
- Hardware Decontamination
- Material Handling & Shredding

Missile Recycling Center (MRC)

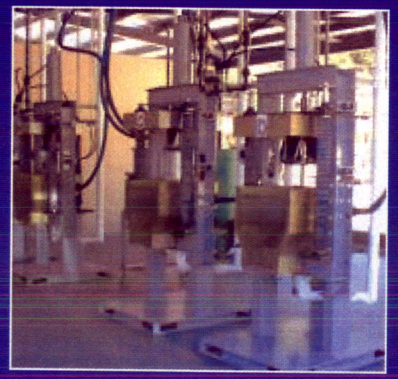
- US Army Aviation and Missile Command (AMCOM) established first MRC at ADMC
- Ribbon cutting ceremony held 8 December 2002
- Provides unprecedented recycling capability for environmentally superior and cost effective dispositions of tactical missiles as an alternative to Open Burn/Open Detonation (OB/OD) process
- Defense Ammunition Center (DAC) invested $20M+ R&D in the technology developed at AMCOM
- A partnership consisting of the DAC, AMCOM, ADMC and ANAD worked diligently to transition the technology and equipment from Huntsville to ADMC
- Low Rate Initial Production (LRIP) started Jan 03: 5,080 TOWs processed during LRIP
- Various components being studied for reuse
- Raytheon Corporation purchased 2,708 launcher tubes for a new production line with requirement for additional 15,000 tubes over the next three years



Missile Recycling Center: Phase I

Missile Disassembly Bay

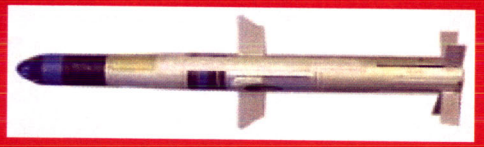
1



Warhead Billet Splitting Bay

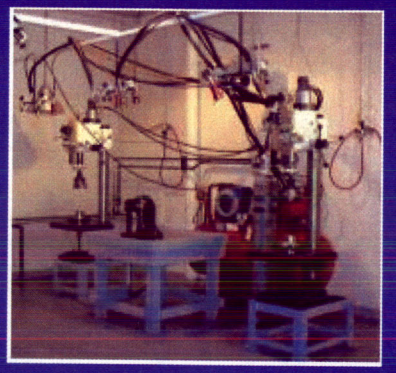
5

ADMC Missile Recycling Center



TOW Missile System Recycling

2



Launch Motor Denozzling Bay

Warhead Billet Press-out Bay

4

3

Flight Motor Denozzling Bay

- Resource Recovery and Recycling (R^3) Minimizes Air, Ground, & Water Contamination
- Recycling Provides Low Cost Components for Project Office Reuse
- Environmental Compliance: *"Recycling is the Future, and the Future is Now"*

Missile Recycling Center – Value

Background:

- AMCOM with a $20M DAC R&D investment, established the first Missile Recycling Center (MRC) at ADMC in FY03. The MRC has been a success through the collaborative efforts of AMCOM, AMTEC Corporation and ADMC.
- The original intent of the MRC was to provide an environmentally superior and cost effective alternative to Open Burn/Open Detonation demilitarization of tactical missiles. After the MRC was operational, AMCOM investigated the possibility of reusing/recycling components from the missiles being demilitarized.
- In FY04, 2,708 missile cases were sold back to the manufacturer for a total cost avoidance of $3.5M. This was made possible through a thorough review of the MRC processes to ensure the components met the exacting specifications of the manufacturer.
- In FY05, an additional five components have been ordered by the manufacturer that will equate to an additional cost avoidance of $6.7M. For these additional components, ADMC also reviewed its processes to ensure the components meet the specifications required by the manufacturer.
- The MRC was established from it's inception with processes designed to ensure minimal defects and maximum efficiency. The MRC processes are regularly reviewed and enhanced in a continual process of improvement. As the MRC has shifted its focus from simple demilitarization to the reuse of components, ADMC has placed increased emphasis on the quality of components.

MRC Funding Level:

- FY03: $1,300,000 (completed 5,085 rounds)
- FY04: $2,323,700 (completed 9,640 rounds)
- FY 05: $3,855,920 (15,700 rounds in progress)

Cost Avoidance to Manufacturer:

- FY03: $0
- FY04: $3,520,400
- FY 05: $6,695,000 (projected)

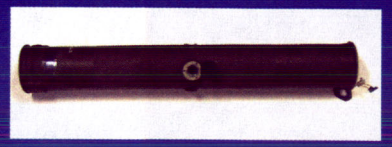
Potential Future Return to Government*

- From FY03: $0
- From FY04: $1,196,700
- From FY 05: $2,839,080 (projected)

* Exact savings will only be determined after components have been reused by the manufacturer and new missiles sold back to DoD.

MRC Component Reuse

Missile Case

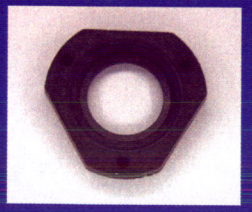


Aft Fixed Coupling

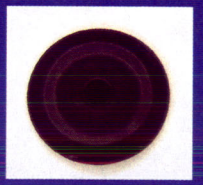
Quick Release Coupling

Forward Fixed Coupling

Retainer Seal



Flex Seal



Case Hardware Components

FY04 (complete)

Component	Quantity Sold	New Cost	Recycle Cost	Component Cost Avoidance	Total Cost Avoidance
Missile Case	2708	$1500	$200	$1300	$3,520,400

FY05 (ordered)

Missile Case	5000	$1500	$207	$1293	$6,465,000
Case Hardware	5000	$85	$39	$46	$230,000

Total Projected Cost Avoidance FY04 + FY05 = $10,215,400

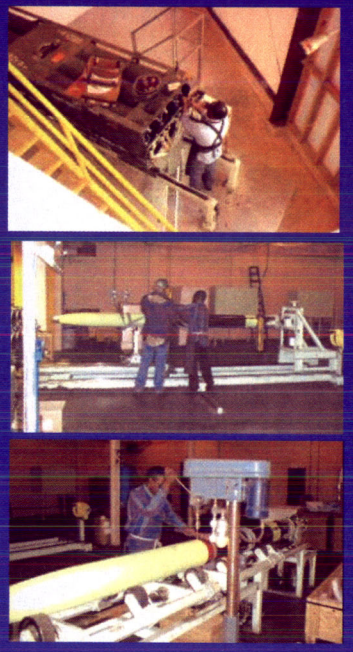
MRC Future Capabilities

Energetics Processing Module

- Recovers high value, energetic oxidizers (HMX, RDX)
- Recovers and recycles liquid ammonia processing solvent within a closed-loop system
- Construction begins in 2005

Slurry Explosives Module

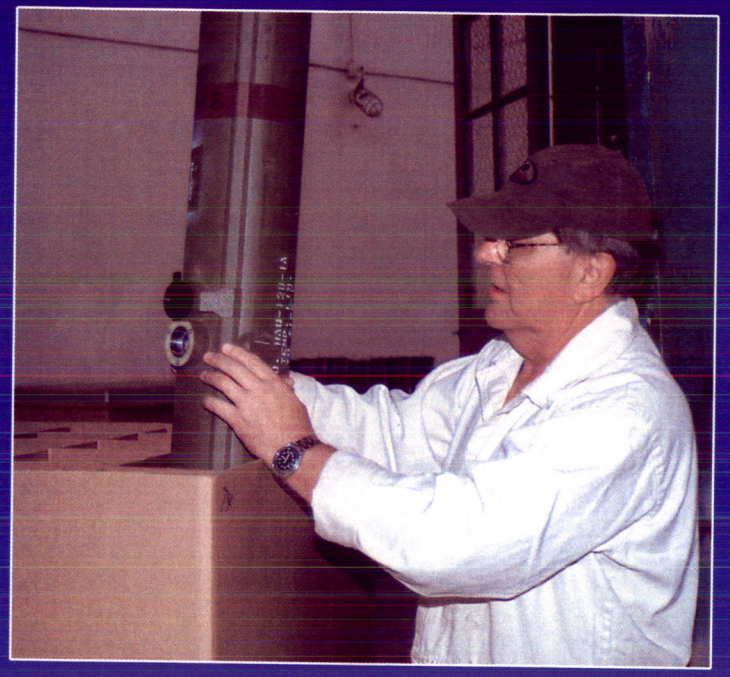
- Uses low value energetic materials as supplemental additives in commercial slurry blasting explosives
- Construction final in 2005



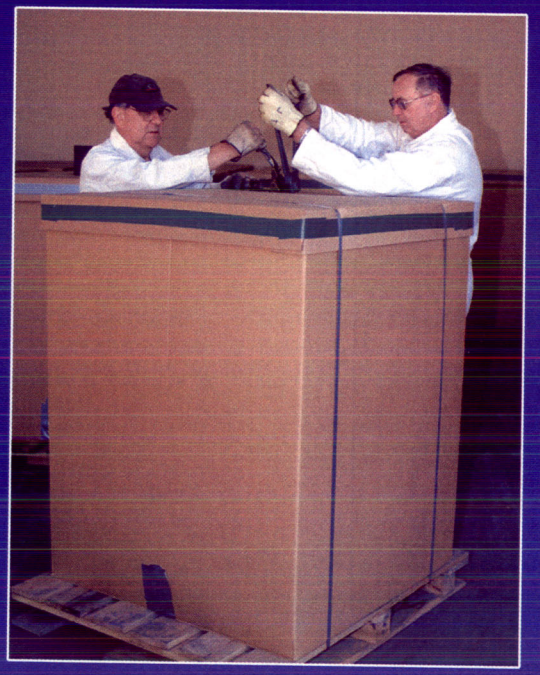
MLRS

- Similar to TOW Recycling
- Initial capability in FY05

MRC Component Reuse



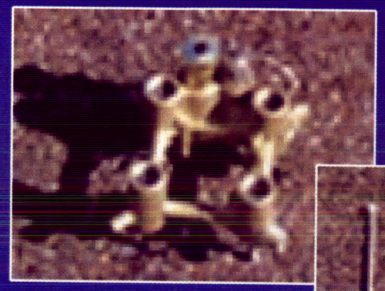
Packaging of Launch Tubes for Shipment

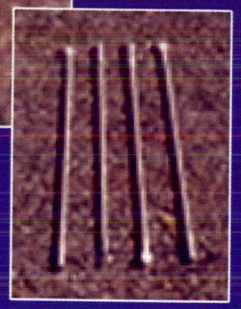


Each Box Contains 25 TOW Launch Tubes

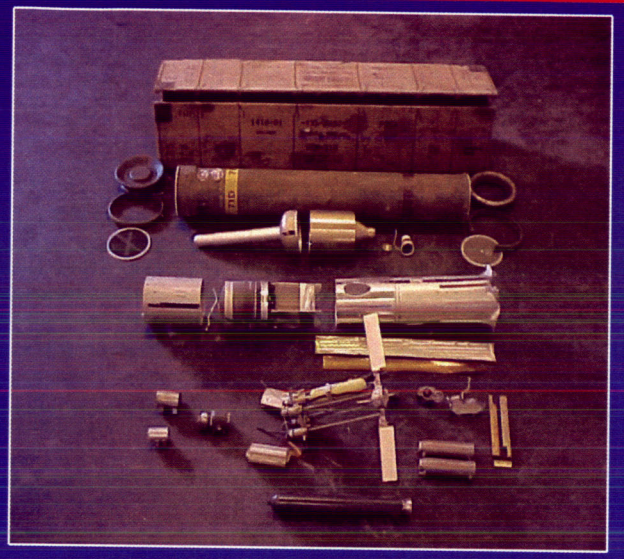
- As of 25 March 04, 2,708 Launch Tubes shipped to Raytheon, Inc for reuse in FMS new missile builds
- Contract reimbursement of ~$200 per tube is realized
- Additional ~5,000 tubes/year to be shipped for reuse in FMS and Army new missile builds

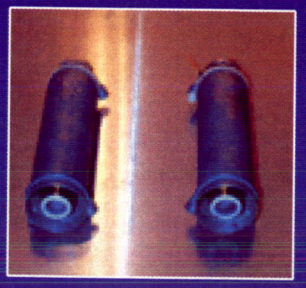
MRC Future Component Reuse



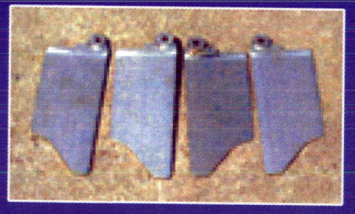


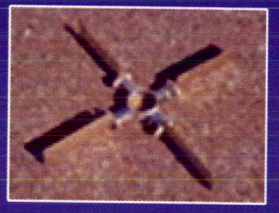
Actuator Parts:
- Regulator
- Pistons (4)
- Sleeves (4)
- Solenoids (4)
- Poppits (4)
- Push Rods (4)



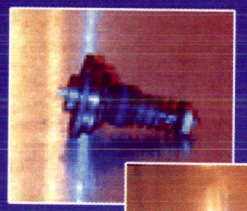


Wire Bobbin Shrouds (2)





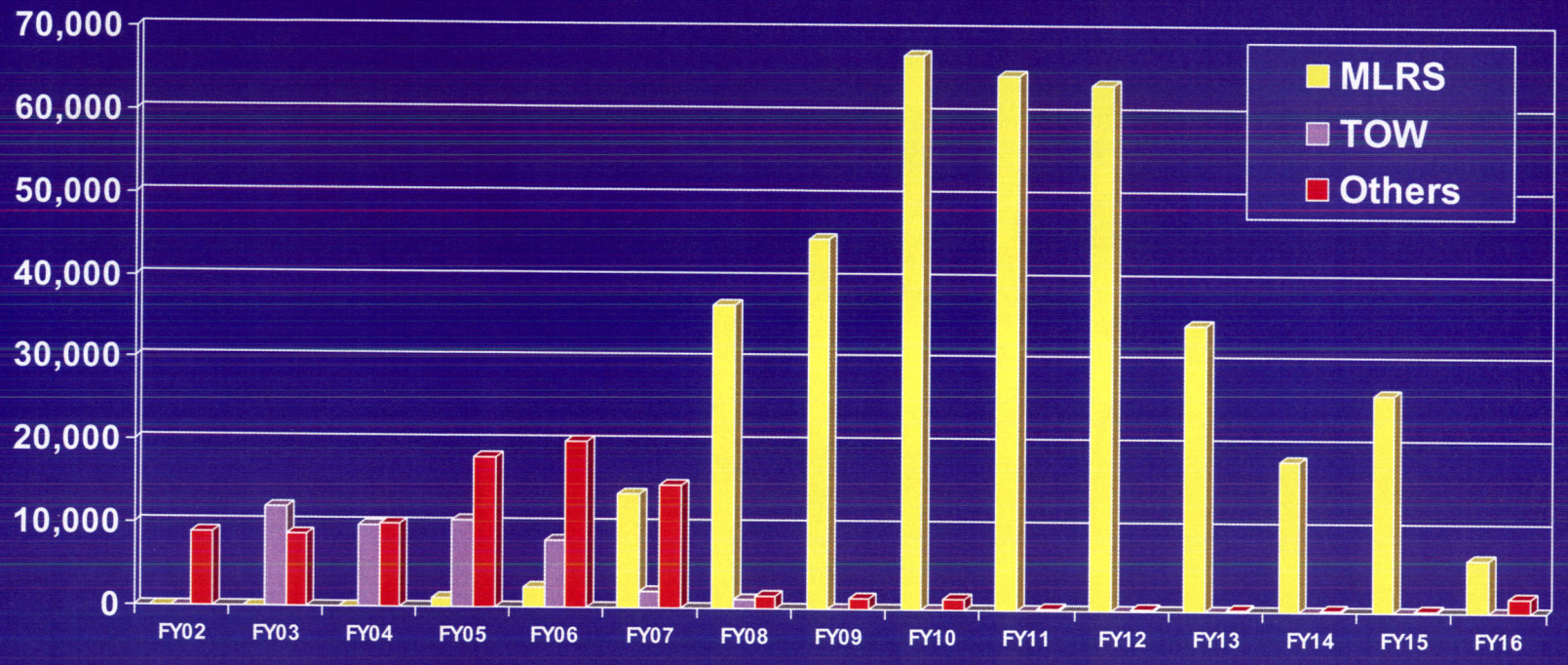
Bulk Head Control Surfaces (4)
Aft Wings (4)
Aft Spacer Ring



Holdback Pin Seal Retainer
Holdback Pin Seal
Aft Fixed Coupling
Forward Quick Release

Negotiations are currently underway with Raytheon to purchase and reuse 36 individual parts in new missile builds

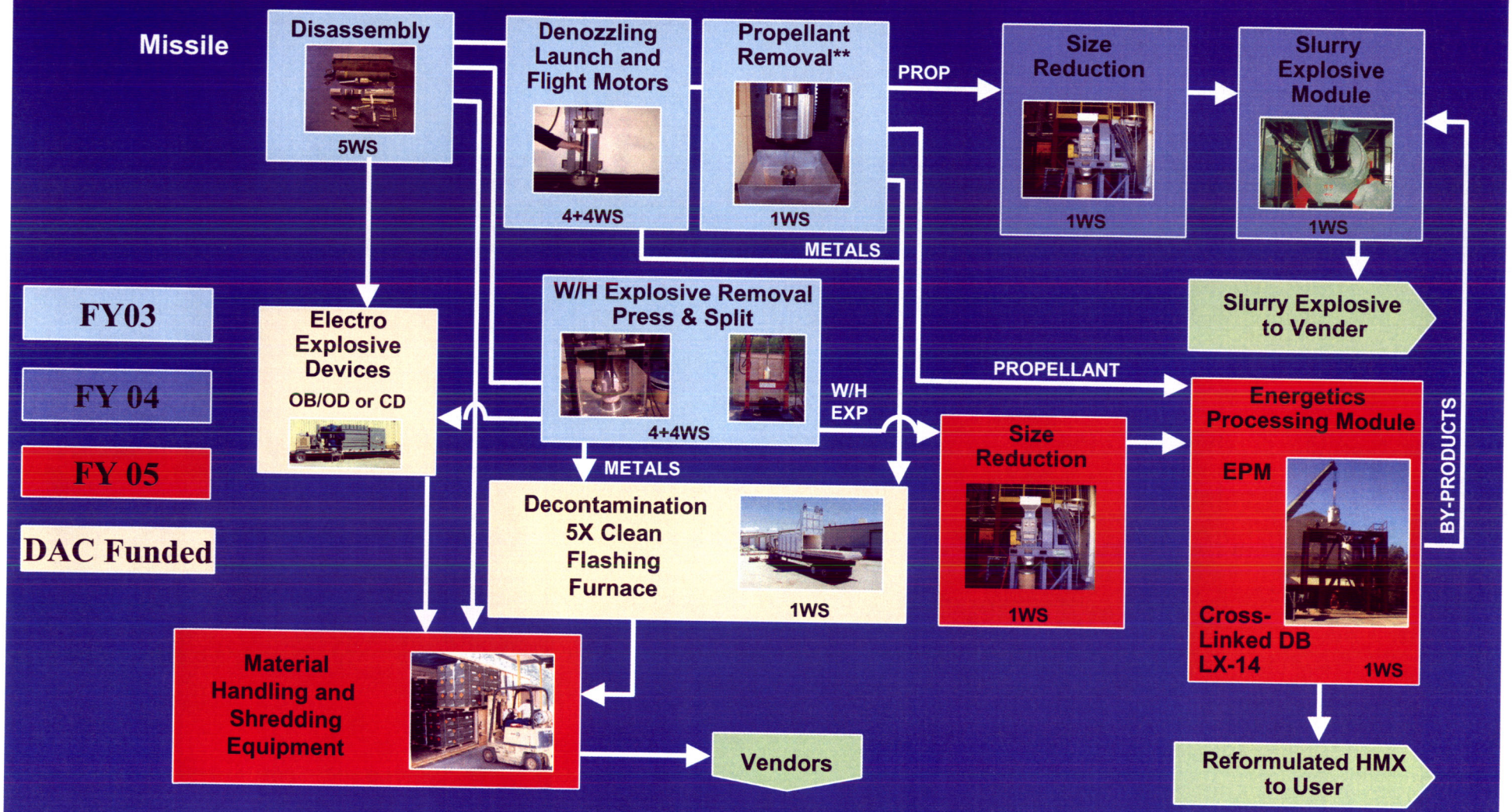
Demilitarization/Recycle Schedule



38% of Army tactical missile stockpile is stored at ADMC.

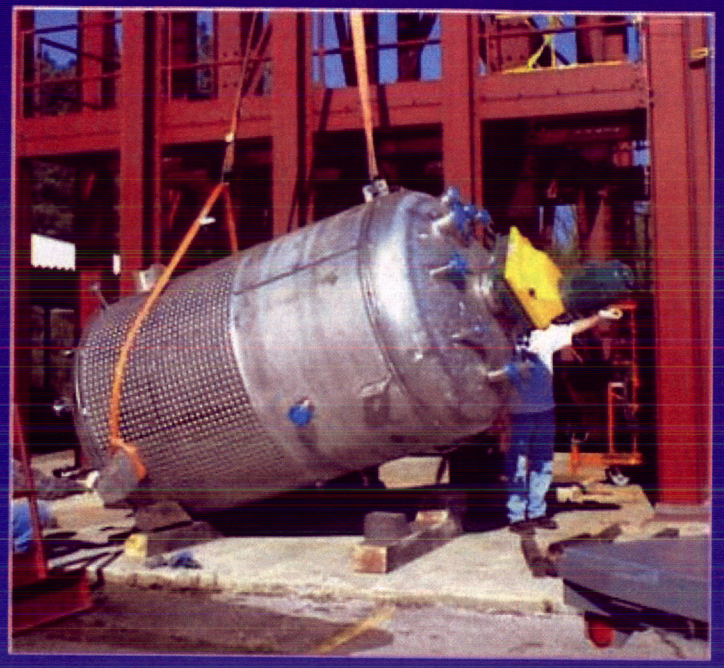
Demilitarization operations at ADMC minimize transportation and overall costs.

Current and Future MRC Capabilities



**2nd Propellant milling machine for TOW to be completed in FY 05

MRC Energetics Processing Module

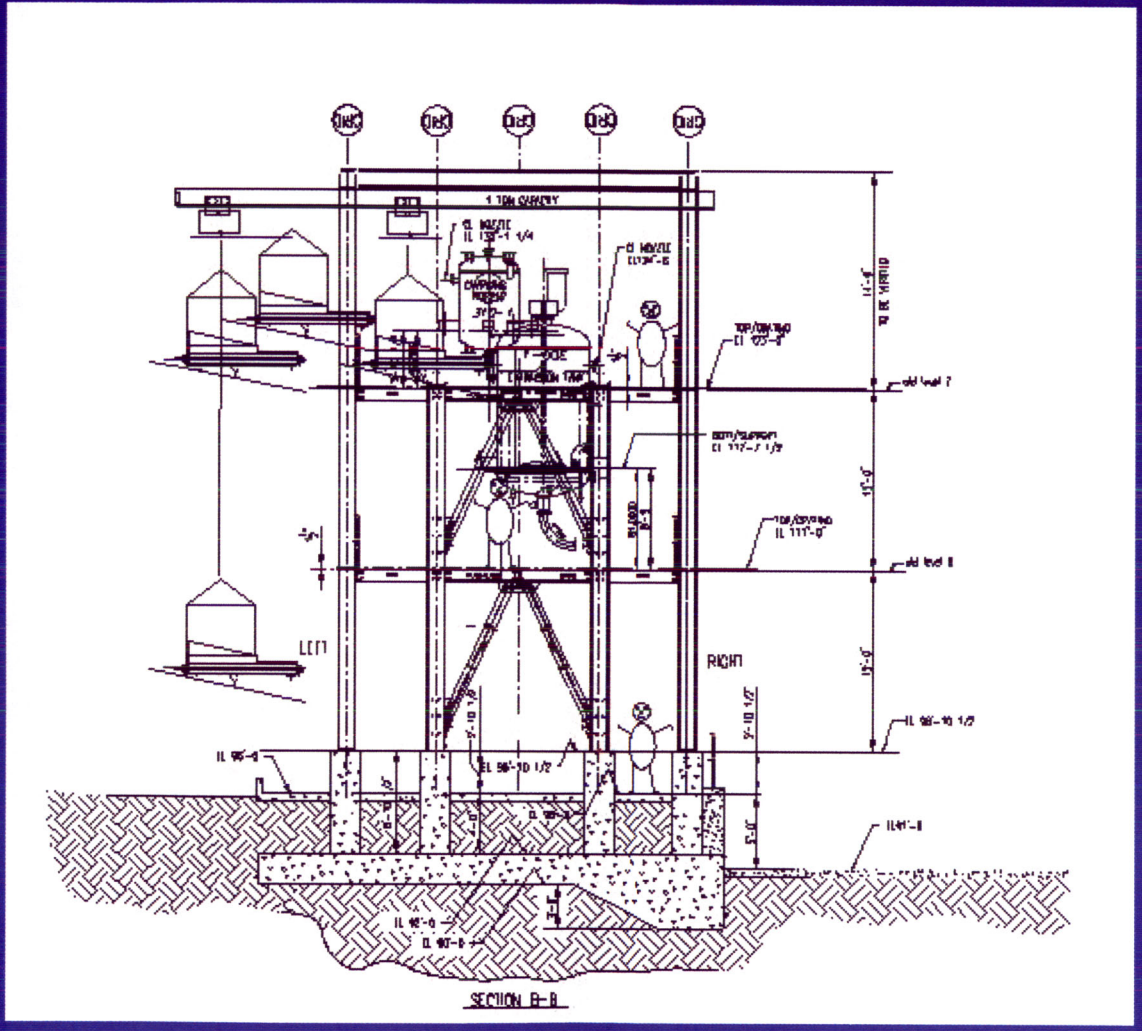


Extraction Vessel

EPM Construction

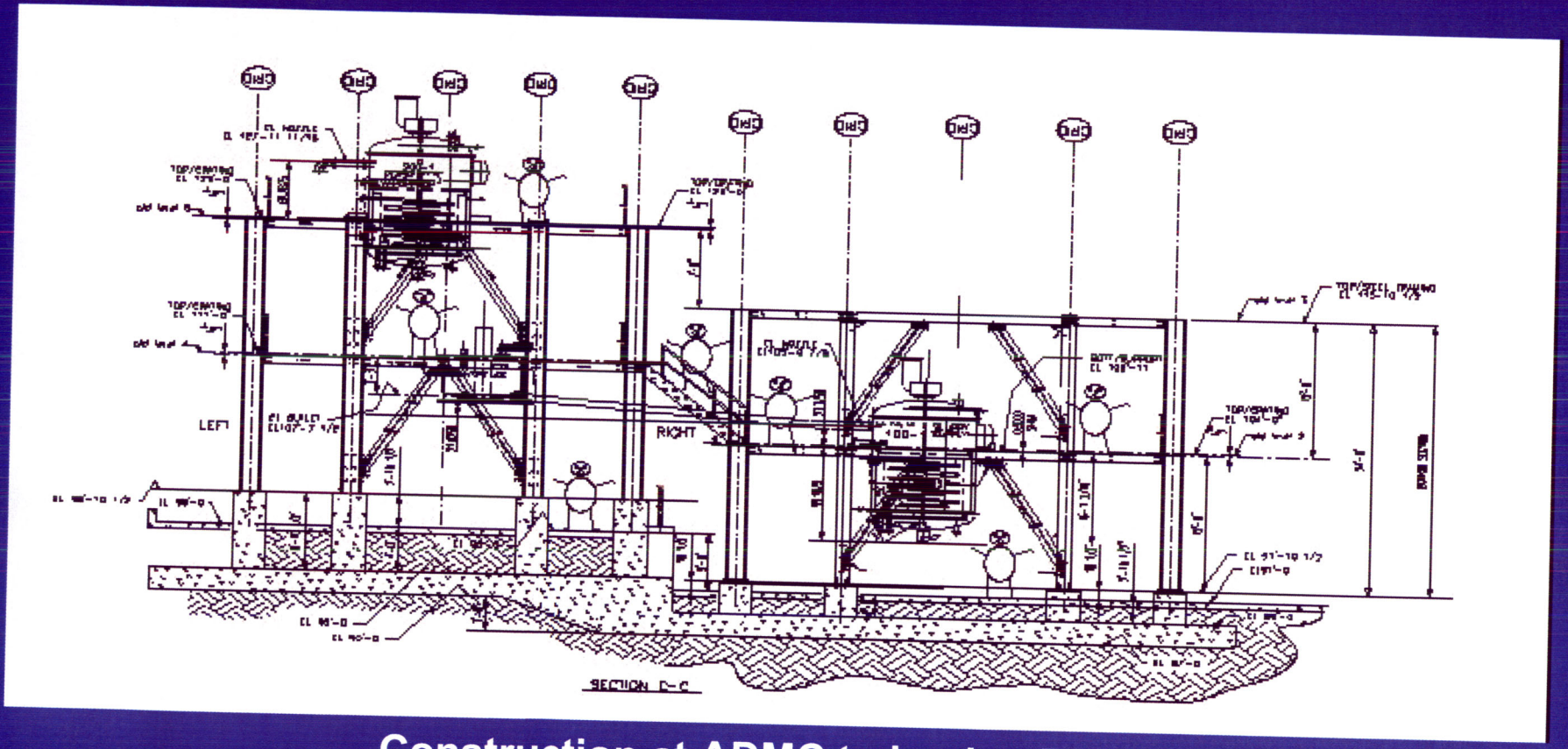
- Recovers high value, energetic oxidizers (HMX, RDX, & AP) from propellant and warhead feedstocks
- Recovers and recycles liquid ammonia processing solvent within a closed-loop system
- Construction to begin at ADMC Fall 2004

MRC Energetics Processing Module



Construction at ADMC to begin ~Fall 04

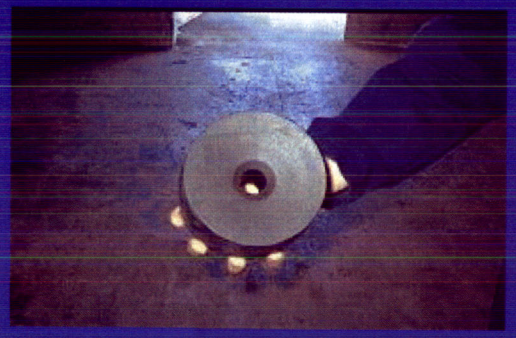
MRC Energetics Processing Module



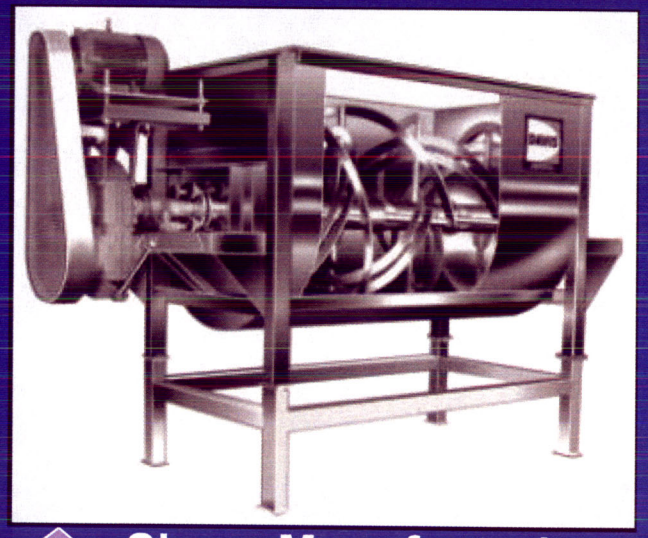
Construction at ADMC to begin ~Fall 04

MRC Slurry Explosive Module

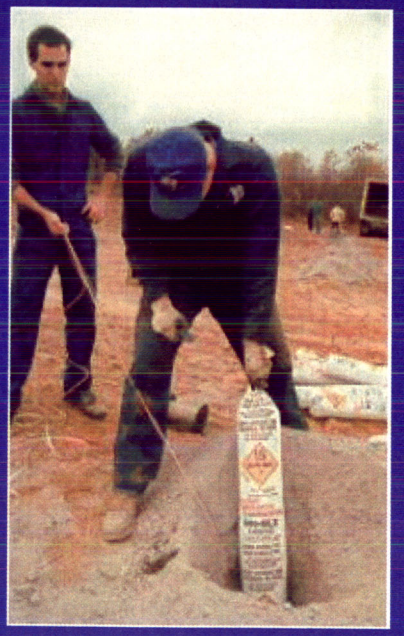
Launch Motor Propellant



Flight Motor Propellant



Slurry Manufacturing



Mining Explosive Product

Utilizes low value energetic materials as supplemental additives in commercial slurry blasting explosives