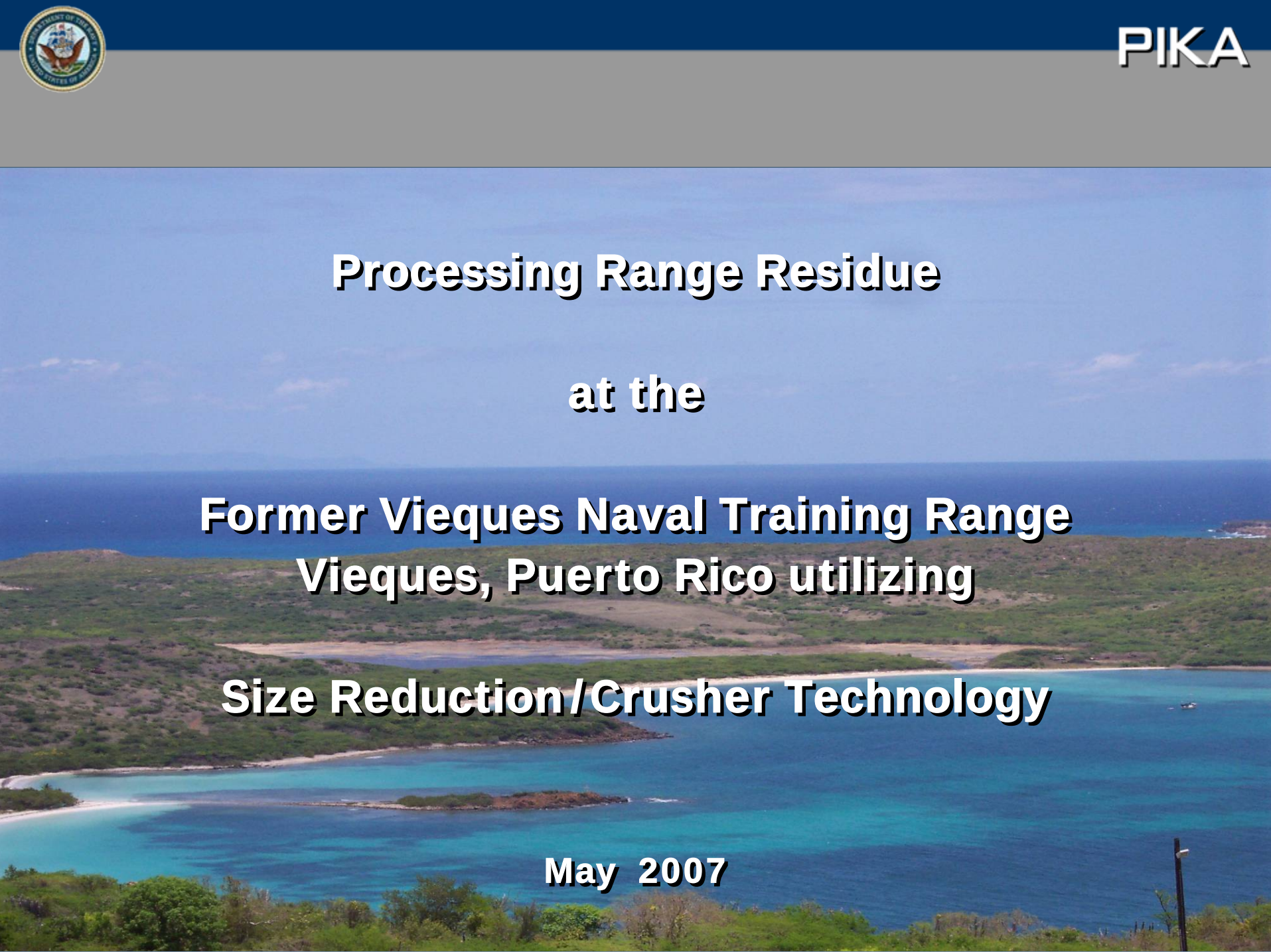

PIKA
Processing Range Residue
at the
Former Vieques Naval Training Range
Vieques, Puerto Rico utilizing
Size Reduction/Crusher Technology
May 2007

PIKA

Objectives

- Establish a Central Processing Center (CPC) for Scrap Management
  - ✓ To shred, mutilate, deform, flash and 5X-certify all Munitions Debris (MD) prior to releasing it to a qualified recycler
  - ✓ Ensure all MD and Range Related Debris (RRD) is managed as required by the Department of Defense (DoD) and the Department of the Navy directives, as well as applicable Federal, State, and local laws

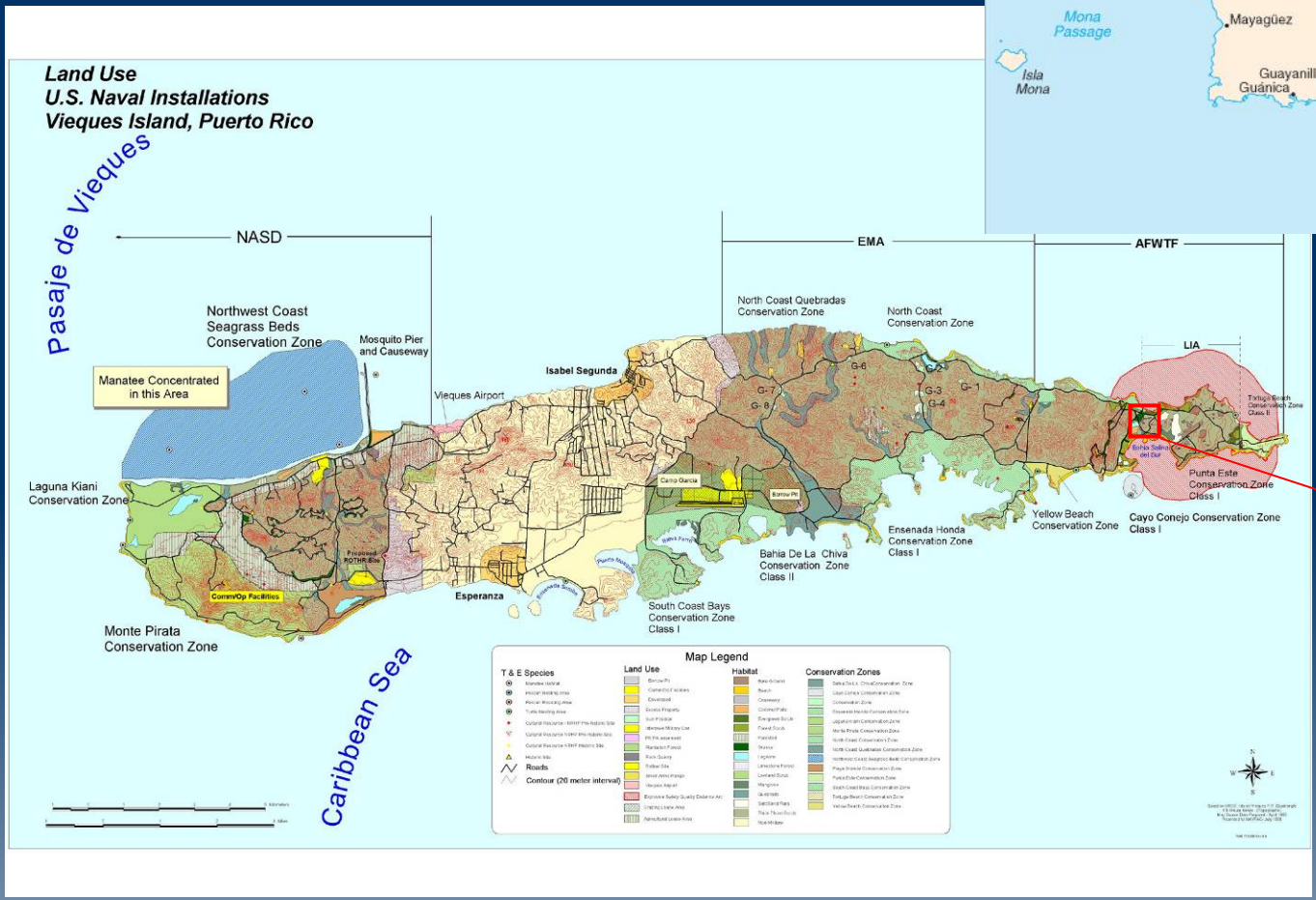
PIKA

Processing Requirements

- Central Processing Center is the Single Source for Processing Munitions Debris and Range Related Debris
- Qualified UXO Technicians Manage Entire Scope of Operations
- Senior PIKA Management Provide Oversight and Direction on Development and Implementation of the Safety and Quality Program

PIKA

Location of VNTR

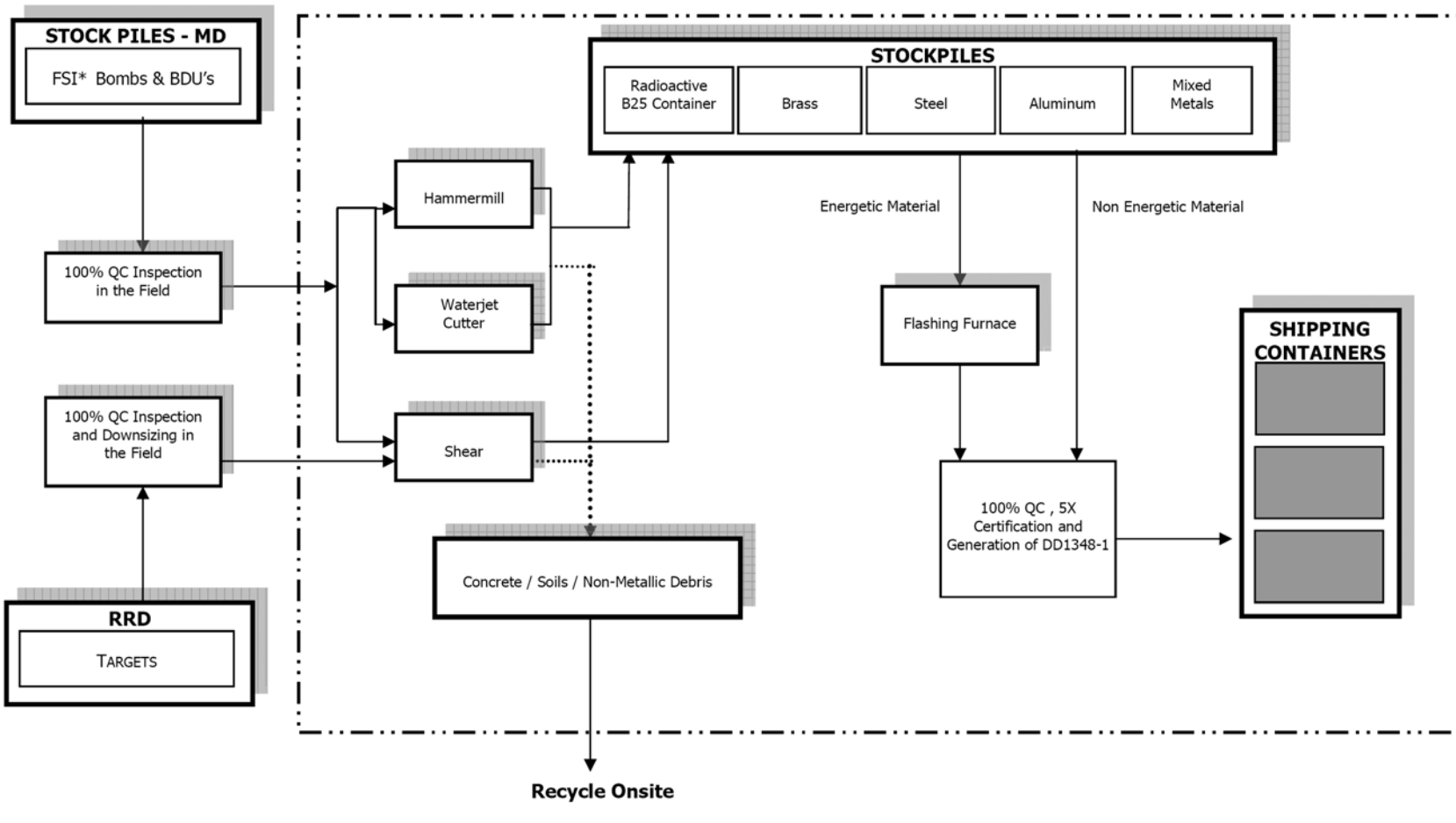


Central Processing Center

MPPEH and Processing Technologies

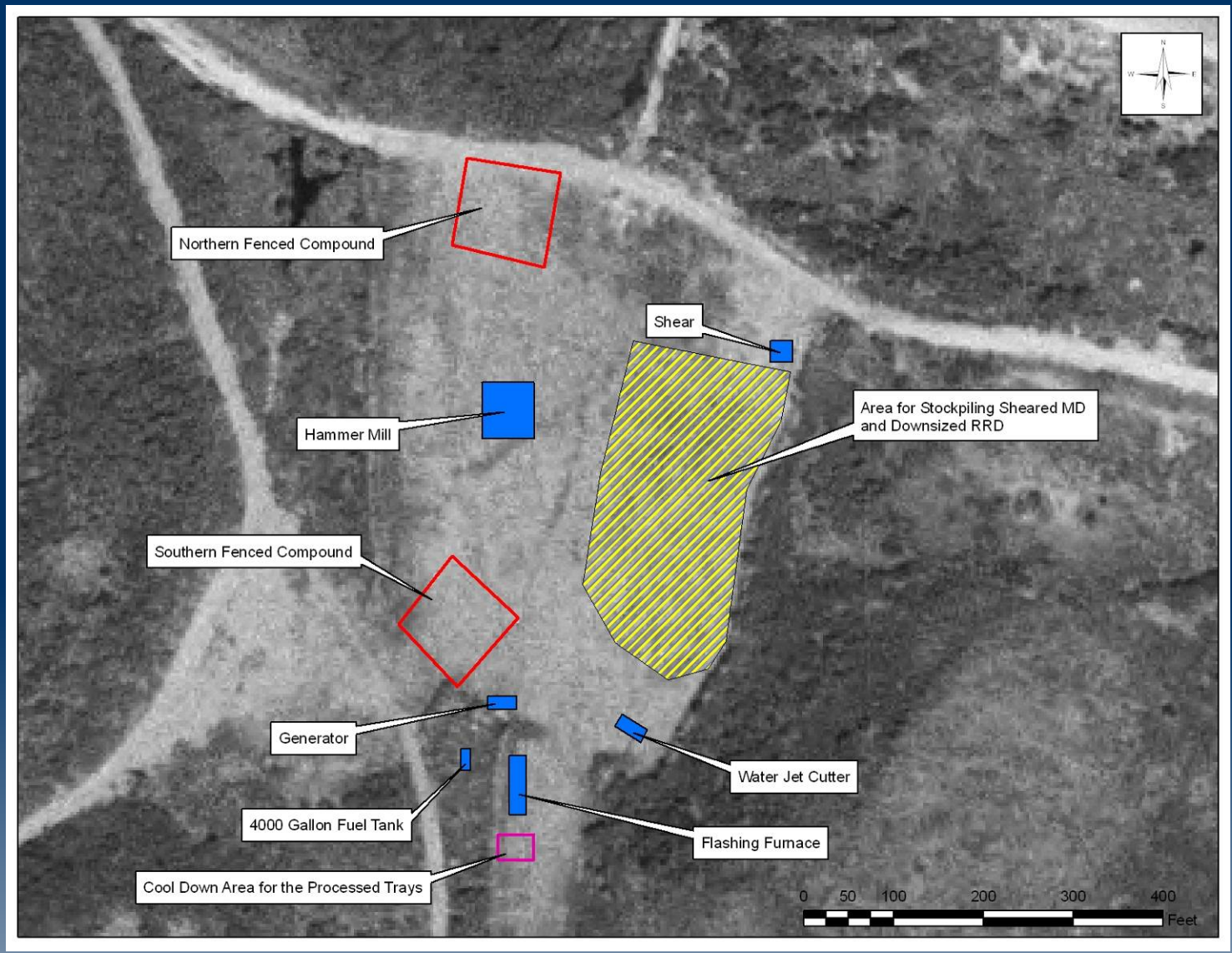
MPPEH	Technology Employed
RRD	
Targets	Petrogen Torches & Hydraulic Shear
MD	
MK-80 Series Bombs	Hydraulic Shear
20, 25, 30 and 40mm Projectiles and Fuzes	Smaller Crusher (TBD)
75, 105mm Ejection Projectiles, 2.75 Rockets, BDU-33, BDU-48, 60 and 81 mm Mortars	Impact Crusher
API Rounds, 155 mm and 5 inch Projectiles	Waterjet Cutter, Flashing Furnace & Petrogen Torches
All Processed MD & Scrap	Flashing Furnace

Operations Flow Chart



PIKA

Central Processing Center (CPC)



PIKA

Processing of RRD - Targets

- All targets are inspected and downsized in the field before recovery to the CPC
- Downsizing of targets is performed using a combination of Petrogen Torches and the Hydraulic Shear and then transported back to the CPC using a dump truck

Downsizing target using the Shear

Downsizing target using the Petrogen Torches

Recovery of Targets

Processing of MD – Various Technologies

Hydraulic Shear – MK80 Series Bombs & Targets

Impact Crusher – BDU33


Waterjet Cutter – API Rounds


Flashing Furnace – Flashing of all MD

PIKA

Impact Crusher

- Far Less preventative and corrective maintenance because more simple mechanism (far less moving parts)
- No hydraulics or electronics
- Design permits operation even when maintenance is required
- Long standing proven technology over decades of use
- Impact technologies are more destructive
- Impact is one of the methods to 5X demil designation
- Broader range of Munitions processing capabilities
- Less chance of break downs in remote locations
- Self powered, does not need generator
- Wear items are easily field replaced and comparatively inexpensive
- Opportunity to buy rebuilt unit at fraction of original cost

Equipment Updates – Impact Crusher

- Schedule for deployment of Impact Crusher is as follows:

Process	Estimated Completion Date	Status
Run Off Test at SLC-Hagerstown	October 13, 2006	Completed
Order Placement	October 16, 2006	Completed
Completion of De-commissioning	October 24, 2006	Completed
Shipment from SLC-Hagerstown	November 20, 2006	Completed
Arrival in Vieques*	December 5, 2006	Completed
Commissioning begins*	December 11, 2006	Completed
Fully Operational*	December 22, 2006	Completed

Equipment Updates – Impact Crusher

Arrival of Impact Crusher in Vieques

Unloading the Impact Crusher at the CPC

Equipment Updates – Impact Crusher

Installation of Impact Crusher using a Crane

Coninue Installation

Impact Crusher – Fully Commissioned

Impact Crusher – Processing BDU33's

Loading Inert BDU-33's into the Hammermill

Processed BDU-33's

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Flashing Furnace - Technical Specifications

- Transportability: complete system highway transportable on a 48’ trailer
- Heat cycle time: 45 to 90 minute depending upon load size and type
- Operating temperature range: 1000ºF - 1600ºF
- Load capacity: 10,000 lbs. per batch
- Throughput: 2 tons/ hour, typical
- Nominal internal dimension: 5' high x 7' wide x 17' long

Flashing Furnace - Technical Specifications Contd.

- Insulation: ceramic wool allows rapid heat up and cool down
- Cooling air input system: for rapid cool down
- Unfired afterburner: to minimize emissions

- Instrumentation: ability to record and verify each load temperature
- Burners: oil-fired dual burners with propane pilots; 6M BTU/hr capacity

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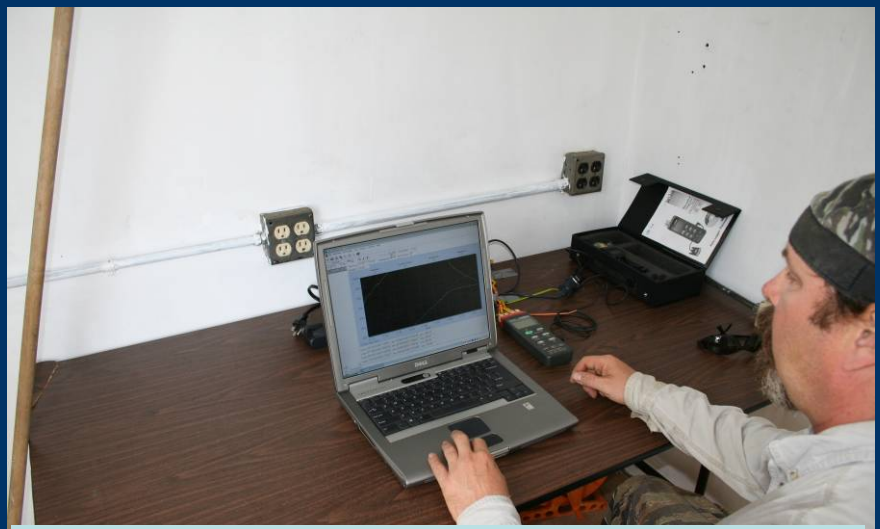
Thermal Flashing of Scrap



Monitoring & Recording Core Temperatures using Computers

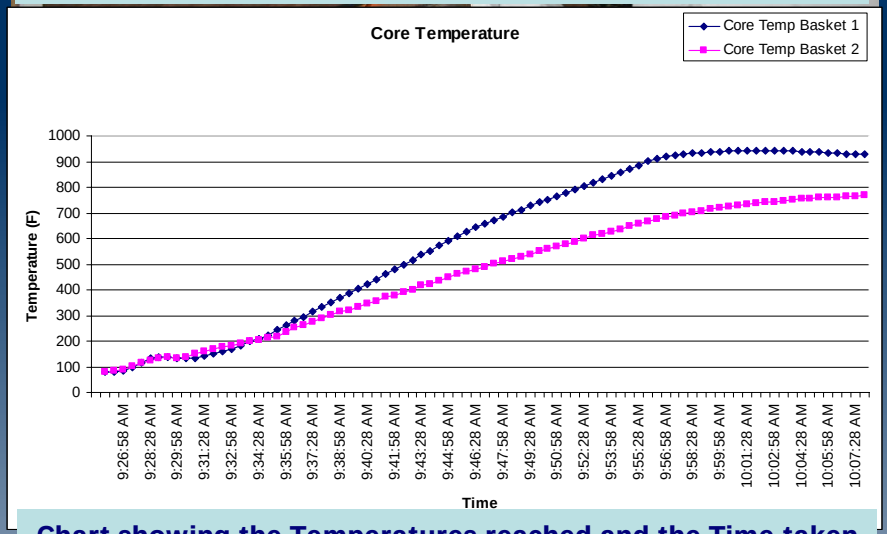


Chart showing the Temperatures reached and the Time taken

PIKA WEIGHT TICKET

FURNANCE BASKETS 4 APR 2007

#12	#1
11:43:53 04/04/2007	11:51:07 04/04/2007
Axle 1: 3460 lb	Axle 1: 3580 lb
Total Truck Weight : 3460 lb	Total Truck Weight : 3580 lb
Tare Wt: 1220	Tare Wt: 1200
Net Wt: 2240 lbs	Net Wt: 2380

Gross furnace basket weights should not exceed 4200 lbs.

TYPE OF FLASHED SCRAP:

☑ MD Steel ☐ MD AL ☐ MD Steel Projectile ≥ 5" ☐ Re-flash

BATCH NUMBER: 4

BASKET TARE WEIGHTS:

☐ Basket #1: 1200 lbs.	☐ Basket #5: 1200 lbs.	☐ Basket #9: 1180 lbs.
☐ Basket #2: 1200 lbs.	☐ Basket #6: 1200 lbs.	☐ Basket #10: 1180 lbs.
☐ Basket #3: 1340 lbs.	☐ Basket #7: 1340 lbs.	☐ Basket #11: 1180 lbs.
☐ Basket #4: 1320 lbs.	☐ Basket #8: 1340 lbs.	☑ Basket #12: 1220 lbs.

Drip Pan Tare Weights:

☐ Drip Pan A: 760 lbs.	☐ Drip Pan C: 760 lbs.
☑ Drip Pan B: 800 lbs.	☑ Drip Pan D: 780 lbs.

Signature: David W Rice

Printed Name: DAVID W RICE

Documentation Prepared for Each Cycle of Flashing Operations

Thermal Flashing of Scrap

- Scrap flashed for safety reasons and recycled – therefore not considered to be a “waste”
- Scrap may have trace quantities of explosive contamination, but does not exhibit D003 characteristic – therefore not classified as “hazardous” by RCRA
- RCRA regulations not applicable; RCRA permits not required for operation

5X Certification and Scrap Recycling

- All processed MD or RRD is 5X certified and then loaded into containers to be transported to a Scrap Recycling Facility


Loading of 5X Material


Securing the Containers


Containers Ready for Transportation


Loading of 5X Material


Final Inspection by NAVY


Containers Loaded onto Ferry

PIKA

Central Processing Center

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