

Anniston Army Depot

Information Booklet

for

Commissioner Josue (Joe) Robles, Jr.

9 June 1995



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Benefits Resulting from the DOD Recommendation to Consolidate Ground Combat Vehicle Maintenance

- ◆ **Reductions of Excess Infrastructure and
Costs**

**Improved Operating Efficiencies and
Reduced Costs**

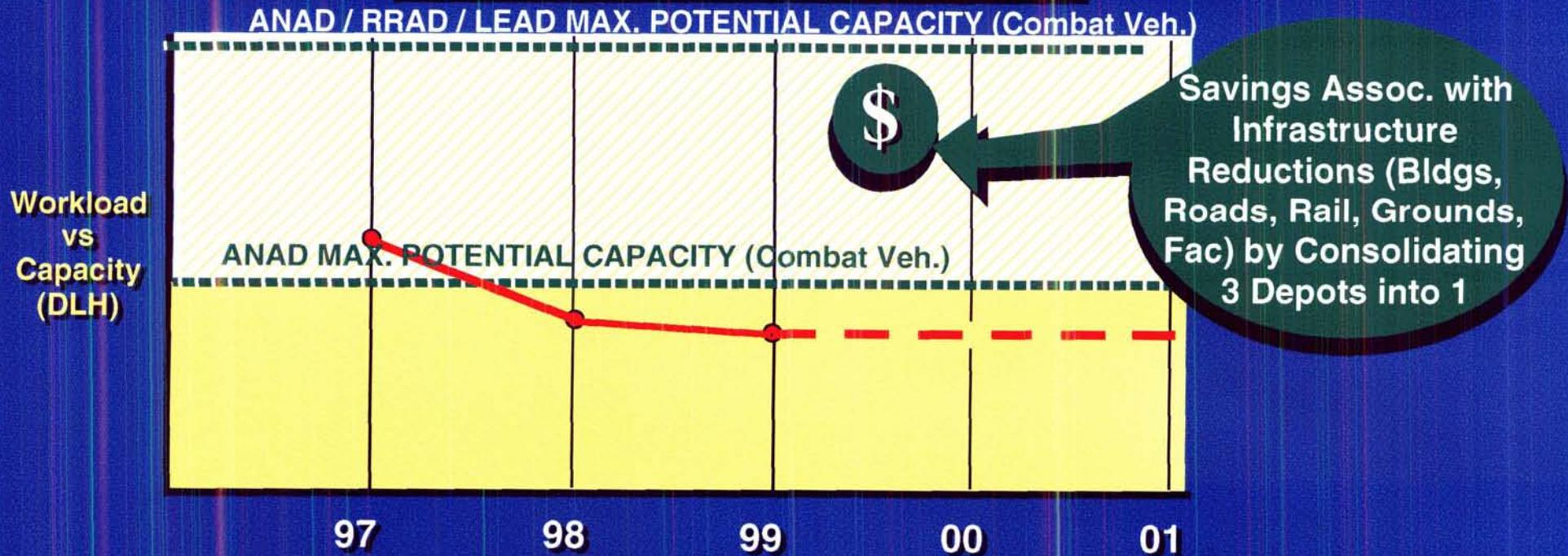
Improved Readiness

Excessive Capacity



Excessive Infrastructure

Excessive Costs!



- ◆ Capacity & Workload Source: BRAC 95 Data Calls
- ◆ Maximum Potential Capacity = Max. Cap. A Depot Can Achieve on a 1-8-5 Workshift with No Restrictions on Equipment or Personnel

Reduction of Infrastructure
without
Adversely Affecting Maintenance of
Ground Combat Vehicles During...



PEACETIME

MOBILIZATION/WARTIME

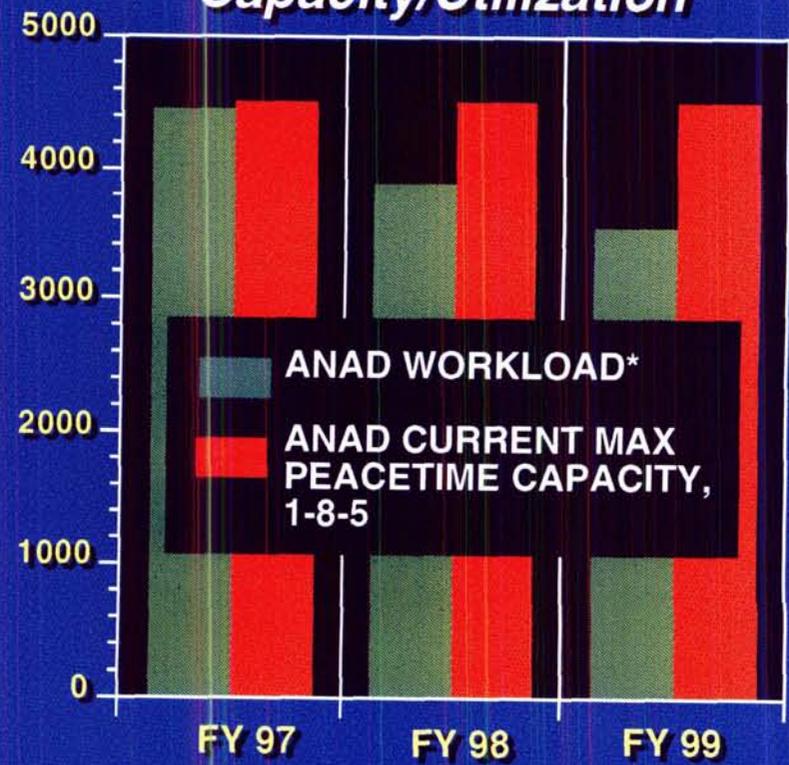
PEACETIME

DoD Recommended Total Consolidated Workload vs Anniston Total Capacity (1-8-5)

Commodity	FY 97	FY 98	FY 99
LEAD			
SP Howitzers	1208	618	416
Towed Howitzers	35	32	42
ANAD			
Electro-Optics	86	74	69
Engines & Comp	392	392	385
Combat Vehicles	1787	1146	1058
Ground Spt Equip	89	182	232
RRAD			
Aircraft	29	36	37
Engines & Comp	122	118	120
Combat Vehicles	1887	1261	1142
Construction Equip	25	17	17
Ground Spt Equip	0	4	4
Total Workload	5660	3880	3522
Total Consolidated Wkld*	4417	3880	3522
ANAD Max Capacity	4512	4512	4512
ANAD Utilization(%)	98	86	78

Manhours
(K)

Anniston Capacity/Utilization



* RRAD transition in FY 97 & LEAD transition in FY 98

PEACETIME

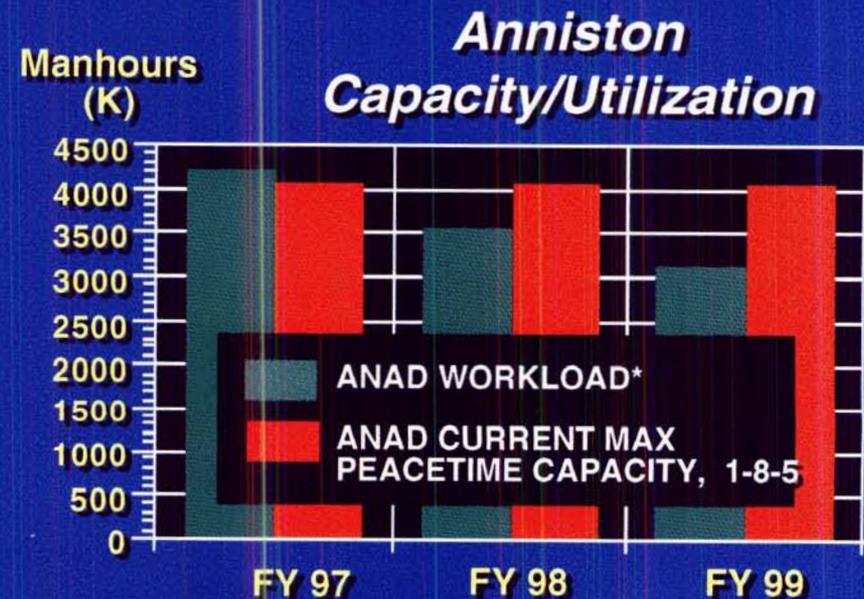
DoD Recommended Consolidated Combat Vehicle Workload vs Anniston Combat Vehicle Capacity (1-8-5)

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Construction Equip	25	17	17
Total Workload	5421	3552	3138
Total Consolidated Workload*	4213	3552	3138
ANAD Max Capacity	4042	4042	4042
ANAD Utilization(%)	104	88	78

* RRAD transition in FY 97 & LEAD transition in FY 98

CAPACITY BY	CBT VEHICLE	OTHER
Vehicle	3118	
Engines	924	
Missile		107 **
Ground Spt & Other		364
TOTAL	4042	471

** Transitioning to LEAD & TOAD as part of BRAC 93 & BRAC 95



Conclusions:

Anniston can accommodate the consolidated tracked vehicle workload with 4% overtime in FY 97 and no overtime in FY 98/99.

Anniston's maximum peacetime capacity will increase with the transfer of equipment from RRAD and LEAD and the opening of laid away facilities.

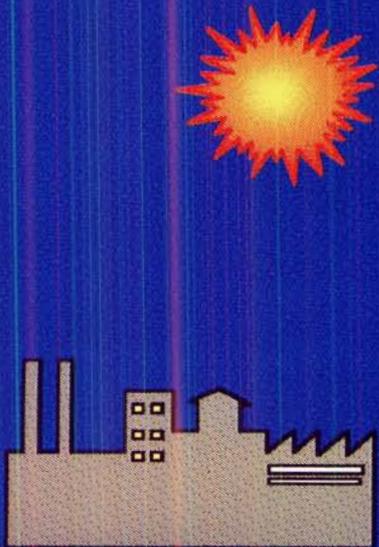
Anniston's maximum peacetime Combat Vehicle capacity (4042 mhhrs) is based on a 1-8-5 operation.

MOBILIZATION/WARTIME

PEACETIME

Reduction of Infrastructure
without
Adversely Affecting Maintenance of
Ground Combat Vehicles During...

Depot Combat Vehicle Support During Mobilization/Wartime

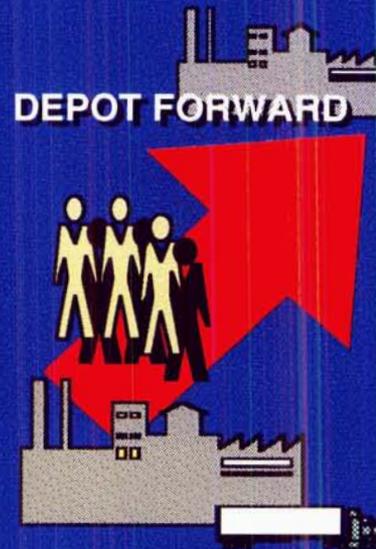


PEACETIME



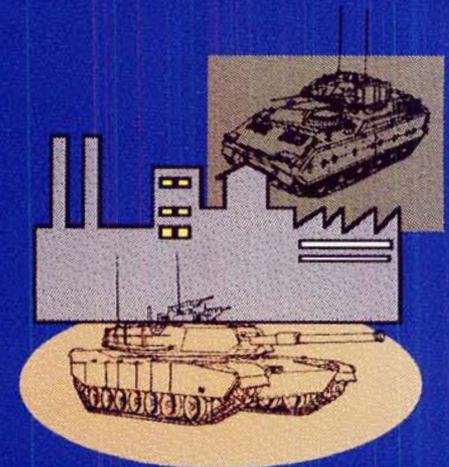
**MOBILIZATION/
DEPLOYMENT**

Technicians w/ toolboxes provide quick support to field units preparing equipment/systems for deployment.



SUSTAINMENT

Depot technicians & craftsmen set up depot-forward in theater of operation. Depot produces components & subassemblies for shipment to theater of operation.



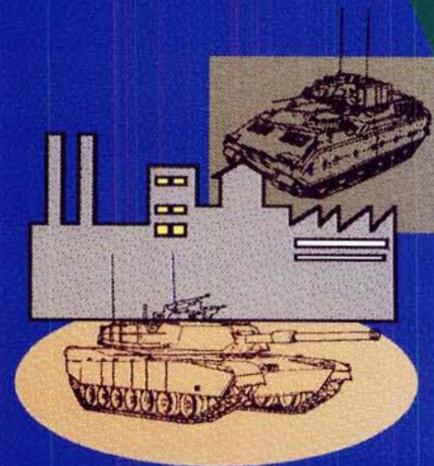
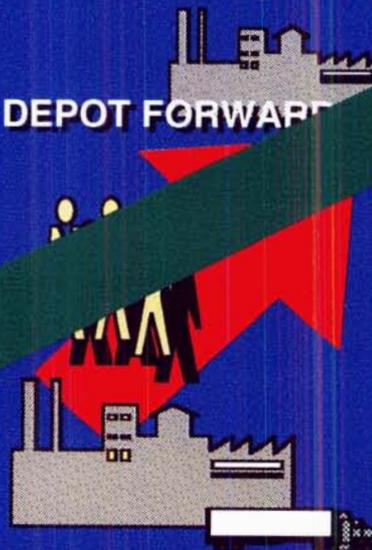
RECONSTITUTION

Weapon systems/end items process through depots in route to home station.

Depot Combat Vehicle Workload Levels During Mobilization/Wartime

DEPOT WORKLOAD

DEPOT FORWARD



PEACETIME

**MOBILIZATION/
DEPLOYMENT**

Technicians w/ toolboxes provide quick support to field units preparing equipment/systems for deployment.

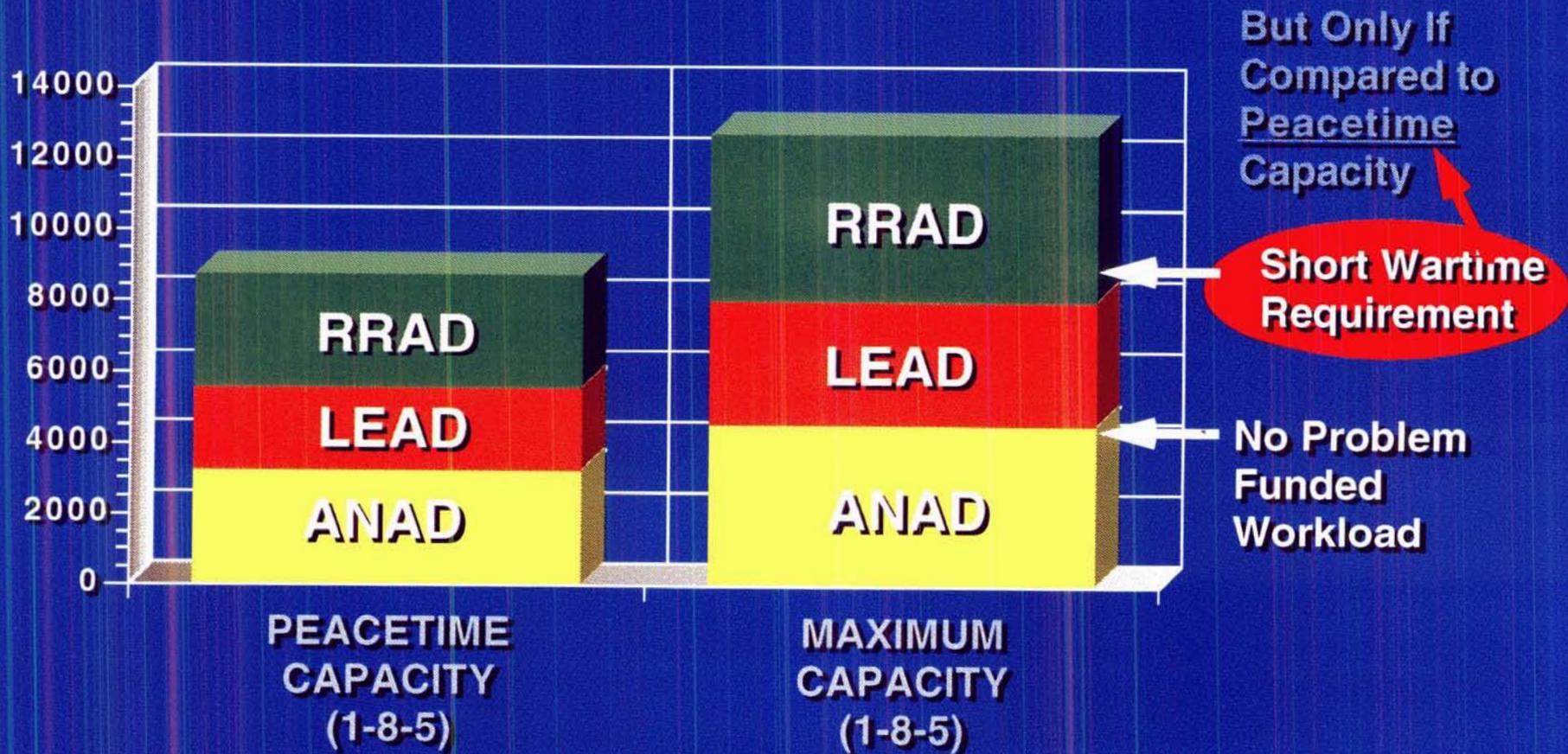
SUSTAINMENT

Depot technicians & craftsmen set up depot-forward in theater of operation. Depot produces components & subassemblies for shipment to theater of operation.

RECONSTITUTION

Weapon systems/end items process through depots in route to home station. (Not time sensitive)

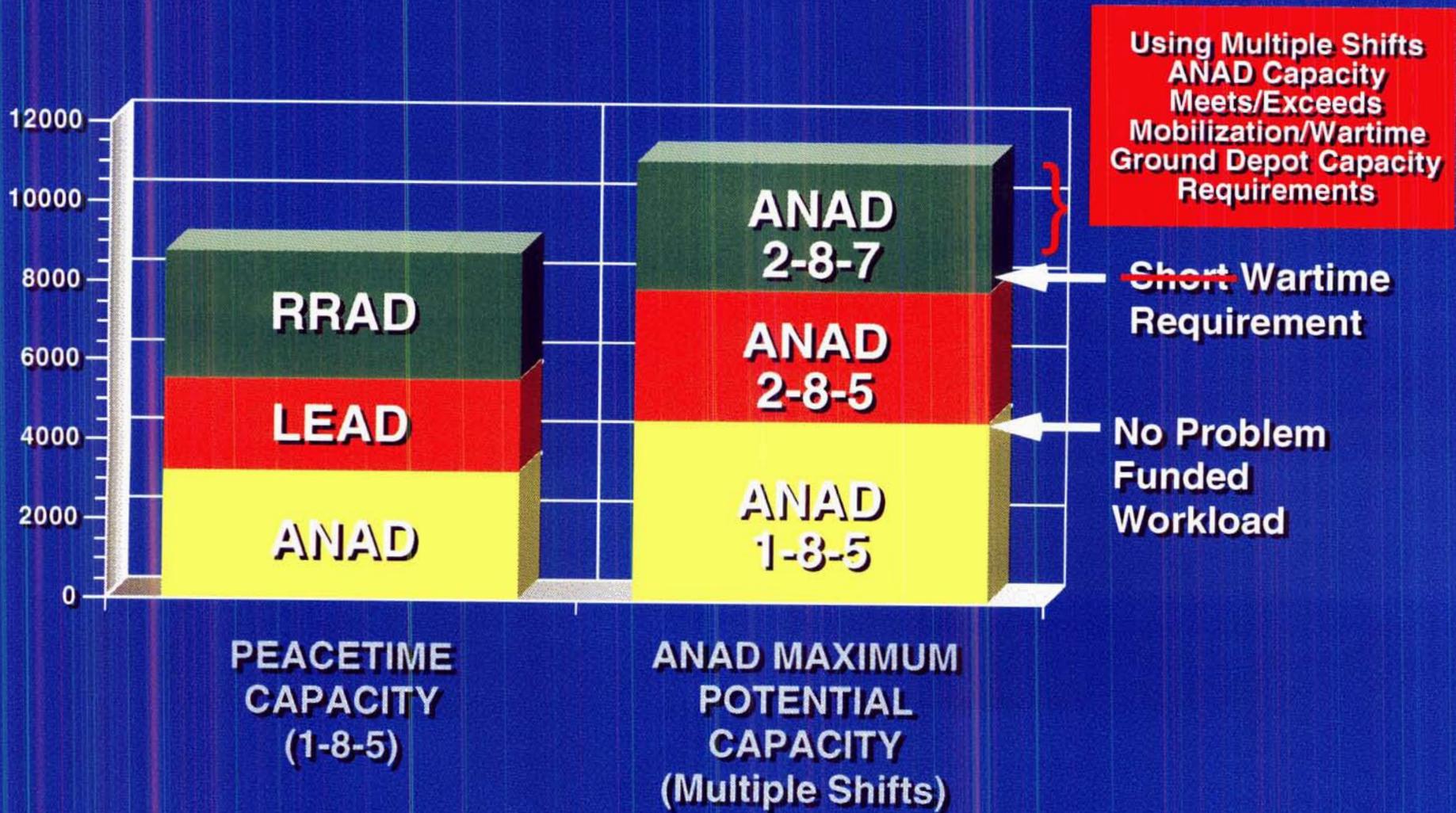
MOBILIZATION/WARTIME Impact Closing 2 Ground Depots



If compared to Potential Surge/Mobilization Capacity However....

MOBILIZATION/WARTIME

Actual Impact Closing 2 Ground Depots



Capability Comparisons

ANAD / RRAD / LEAD

CONSOLIDATED GROUND COMBAT VEHICLES

	Heavy	LIGHT / MEDIUM	Artillery
	M1 FOV, M60 FOV, M88	M113 FOV, Bradley, MLRS	Towed & Self Propelled
CAPABILITY/ CONSIDERATIONS	ANAD	RRAD	LEAD
70 + Ton Ship/Receive Crane	✓	✗	✗
High Speed Test Track (sized to accommodate all combat vehicles)	✓	✗	✗
Firing Range	✓	✗	✓
Classified Armor Capability	✓	✗	✗
Turbine Engine Overhaul Capability	✓	✗	✗
Turbine Engine Testing	✓	✗	✗
Reciprocating Engine Overhaul	✓	✓	✓
Reciprocating Engine Testing	✓	✓	✓

CONT.

CONSOLIDATED GROUND COMBAT VEHICLES CONT.

Heavy M1 FOV, M60 FOV, M88	LIGHT / MEDIUM M113 FOV, Bradley, MLRS	Artillery Towed & Self Propelled		
CAPABILITY/ CONSIDERATIONS	ANAD	RRAD	LEAD	
Transmission Overhaul/Testing				
1100	✓	X	X	
1410	✓	✓	✓	
850	✓	✓	✓	
250	✓	✓	✓	
Hydrostatic Steering Unit Test Capability	✓	X	X	
Automated Blast Facility (sized to accommodate all combat vehicles)	✓	X	X	
9 1/2" Thick Shop Floors & Roads	✓	X	X	
Recoil Maintenance Capabilities	✓	X	✓	
Combat Veh. Bridge Maintenance Capability	✓	X	X	

CONT.

CONSOLIDATED GROUND COMBAT VEHICLES CONT.

Heavy M1 FOV, M60 FOV, M88	LIGHT / MEDIUM M113 FOV, Bradley, MLRS	Artillery Towed & Self Propelled		
CAPABILITY/ CONSIDERATIONS	ANAD	RRAD	LEAD	
Drive through Paint Booths (sized to accommodate all combat vehicles)	✓	X	✓	
Fire Control/Optics Maintenance Capability	✓	✓	✓	
Hydraulic Maintenance Capability	✓	✓	✓	
Stabilized Gun System Repair	✓	✓	X	
Turret Repair/Testing	✓	X	X	
OverPressure NBC Systems	✓	X	X	
Steel/Classified Ballistic Armor Welding	✓	X	X	
Laser Range	✓	✓	X	
Material Engineering Lab	✓	X	X	

CONT.

* CONSOLIDATED GROUND COMBAT VEHICLES CONT.

Heavy M1 FOV, M60 FOV, M88	LIGHT / MEDIUM M113 FOV, Bradley, MLRS	Artillery Towed & Self Propelled		
CAPABILITY/ CONSIDERATIONS	ANAD	RRAD	LEAD	
Heavy Combat Vehicle Machining				
CNC	✓	X	X	
Conventional	✓	X	X	
Cleaning & Finishing	✓	✓	✓	
Chain Gun Overhaul	✓	✓	X	
Aluminum Ballistic Armor Welding	✓	✓	✓	
Heavy System Peculiar Equipment	✓	X	X	
Medium System Peculiar Equipment	X	✓	X	
Artillery System Peculiar Equipment	X	X	✓	
Artillery Recoil Maintenance & Testing	X	X	✓	
Tritium Storage	✓	✓	✓	

* Complete support within the fenceline of a single depot.

Benefits Resulting from the DOD Recommendation to Consolidate Ground Combat Vehicle Maintenance

Reductions of Excess Infrastructure and Costs

- ◆ Improved Operating Efficiencies and
Reduced Costs**

Improved Readiness

Annual Operating Cost Savings Resulting from Consolidation of Workload

\$90 MIL ANNUAL SAVINGS!

...Which Equates to Overhauling an Additional...

189 M1/A1 Tanks

OR

206 Bradleys

OR

295 M109 Paladins

OR

1,118 M113/A3s

Consolidation of Ground Combat Vehicle Workload from 3 to 1 Depots Produces Annual Savings by Reducing Overhead Costs!

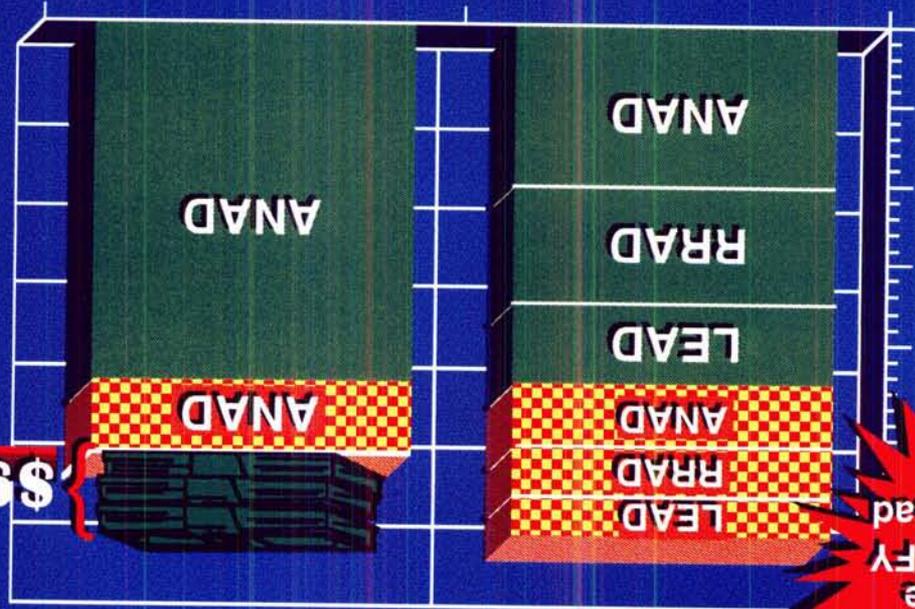
OVERHEAD COSTS



DIRECT LABOR COSTS



CURRENT VS CONSOLIDATED



Actual Example Based on FY 97 Workload

\$ COSTS

Cost Advantages of Consolidating Ground Combat Vehicle Maintenance

Total FY95 Overhead Cost = \$79,037,000

Assuming Same Overhead Costs in FY97 (\$79,037,000) and Comparing the Effect Workload has on rates....

FY97

ANAD ONLY		RATE	CONSOLIDATE WORKLOAD		RATE
Direct Hours	2,354,000 HRS	- - -	Direct Hours	5,660,000 HRS	- - -
Direct Labor	\$51,246,580 or	\$21.77/hr	Direct Labor	\$123,218,200 or	\$21.77/hr
Overhead	\$79,037,000 or	\$33.58/hr	Overhead	\$100,377,445 * or	\$17.73/hr
Total		\$55.35/hr	DIFFERENCE		
			\$15.85/HR	Total	\$39.50/hr

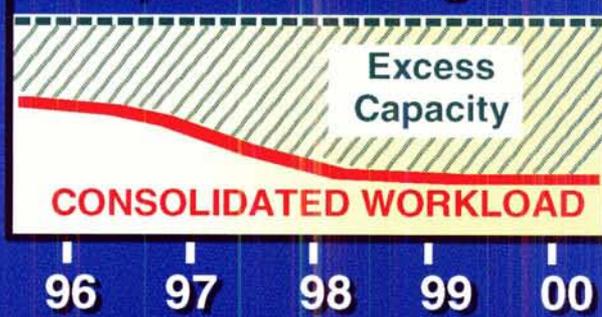
Annual Savings \$15.85 x 5,660,000 DLH = \$89,711,000

*INCLUDES increases in variable overhead costs (utilities, within shop OH) that would increase with additional Direct Labor. Fixed costs would remain the same.

Recap of Infrastructure & Cost Benefits

◆ Workload Spread among 3 Depots...

Workload
&
Capacity

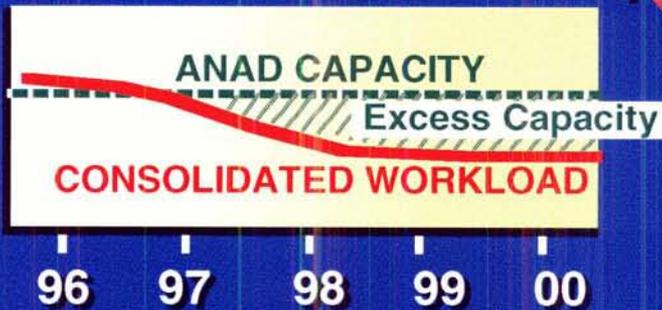


Ave
Rate
\$/ Hr.

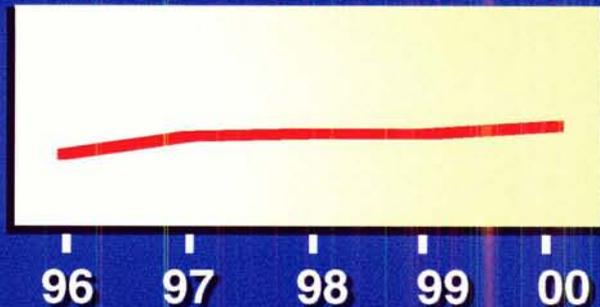


◆ Workload Consolidated at 1 Depot...

Workload
&
Capacity

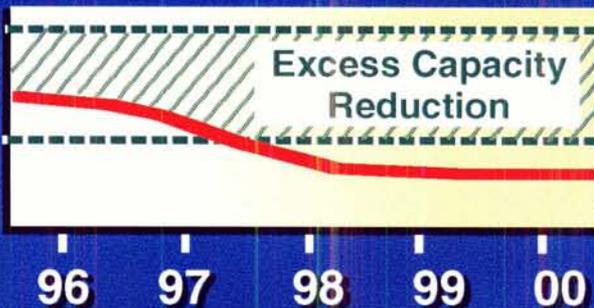


Rate
\$/ Hr.

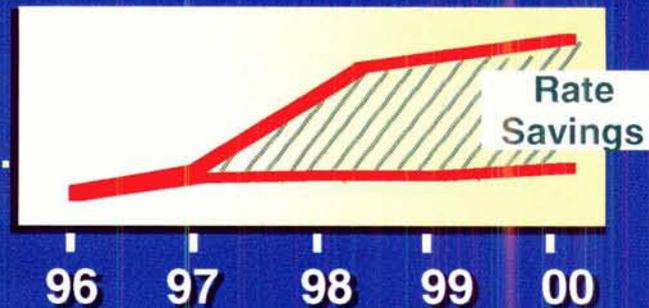


Consolidation Savings

Workload
&
Capacity



Rate
\$/ Hr.

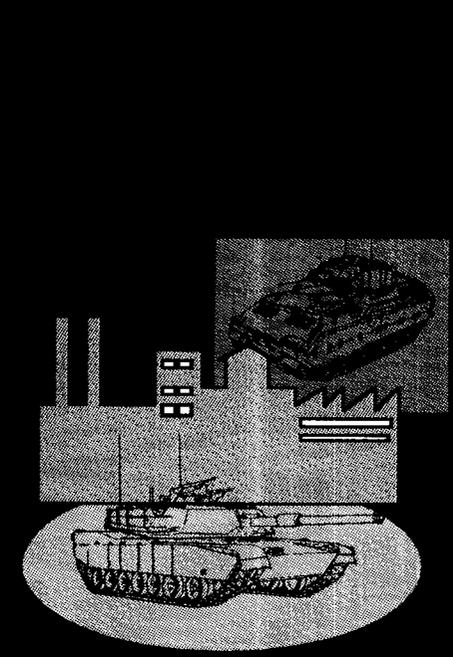
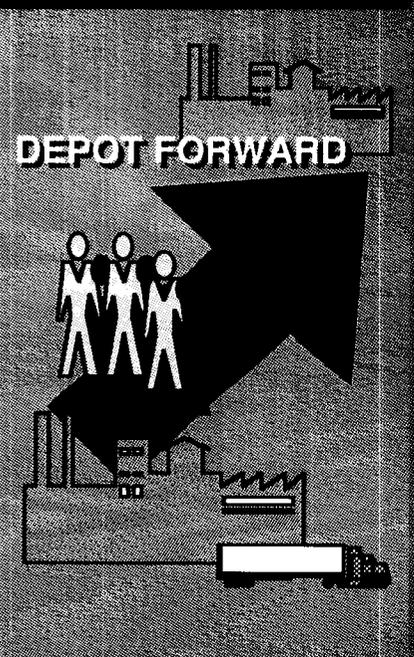
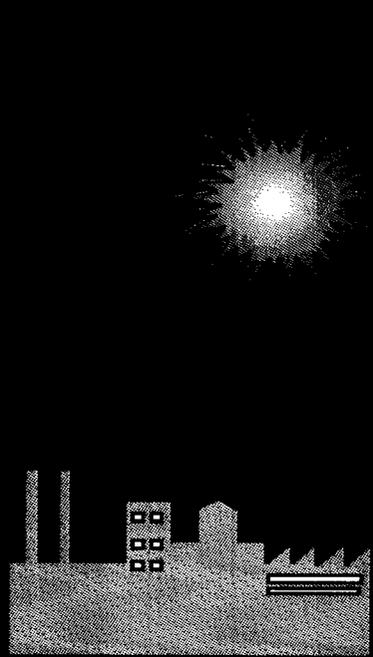


Benefits Resulting from the DOD Recommendation to Consolidate Ground Combat Vehicle Maintenance

Reductions of Excess Infrastructure and
Costs
Improved Operating Efficiencies and
Reduced Costs

◆ Improved Readiness

Combat Vehicle Readiness Improvements During Mobilization/Wartime



PRODUCTION

Consolidation =
Improved
Readiness

**MOBILIZATION/
DEPLOYMENT**

Technicians w/ toolboxes provide quick support to field units preparing equipment/systems for deployment.

SUSTAINMENT

Depot technicians & craftsmen set up depot-forward in theater of operation. Depot produces components & subassemblies for shipment to theater of operation.

RE-MANUFACTURE

Depot technicians & craftsmen set up depot-forward in theater of operation. Depot produces components & subassemblies for shipment to theater of operation.

Readiness Improvements

Consolidation of Ground Combat Vehicle Maintenance
at a Single Site Increases Readiness During
Mobilization/Wartime...

CROSS-TRAINED TECHNICIANS THAT CAN SUPPORT ALL
GROUND SYSTEMS

"ONE FACE" TO THE CINC AND SUPPORTED TROOP UNITS

IMPROVED CONTROL/COORDINATION

REDUCED ADMINISTRATIVE/SUPPORT BURDEN

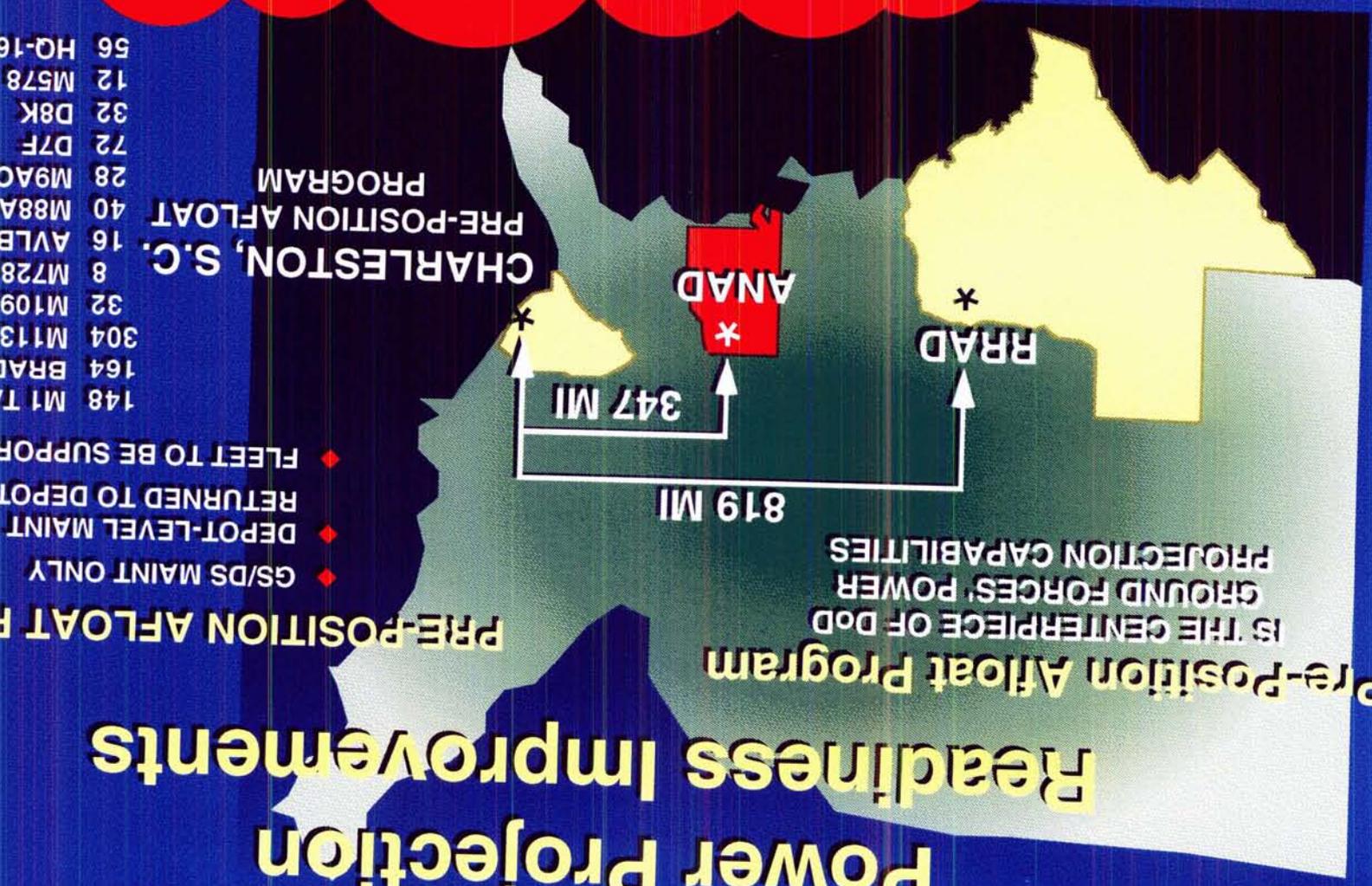
FEWER PERSONNEL = REDUCED COSTS AND INCREASED
EFFICIENCY

Power Projection Readiness Improvements

Pre-Position Afloat Program
IS THE CENTERPIECE OF DOD
GROUND FORCES' POWER
PROJECTION CAPABILITIES

PRE-POSITION Afloat PROGRAM
◆ GS/DS MAINT ONLY
◆ DEPOT-LEVEL MAINT
RETURNED TO DEPOT
◆ FLEET TO BE SUPPORTED...

- 148 M1 TANKS FOV
- 164 BRADLEYS FOV
- 304 M113 FOV
- 32 M109
- 8 M728
- 16 AVLB
- 40 M88A1
- 28 M9ACE
- 72 D7F
- 32 D8K
- 12 M578
- 56 HQ-16M



Depot Support of Pre-Position Afloat Program
 CLOSER = QUICKER RESPONSE= IMPROVED
 READINESS = REDUCED COSTS

Summary

There is NOT ENOUGH Defense Funding and Workload to Support 2 or 3 Hard Iron Depots in the Outyears...

THE CHOICES:

DOD Recommendation

- ◆ HIGH CAPACITY UTILIZATION
- ◆ LOW OPERATING COSTS / RATES
- ◆ REDUCED INFRASTRUCTURE / COSTS
- ◆ IMPROVED READINESS
- ◆ REDUCTION OF CORE REQUIREMENTS
- ◆ IMPROVED UTILIZATION OF RESOURCES
- ◆ STABLE WORKFORCE



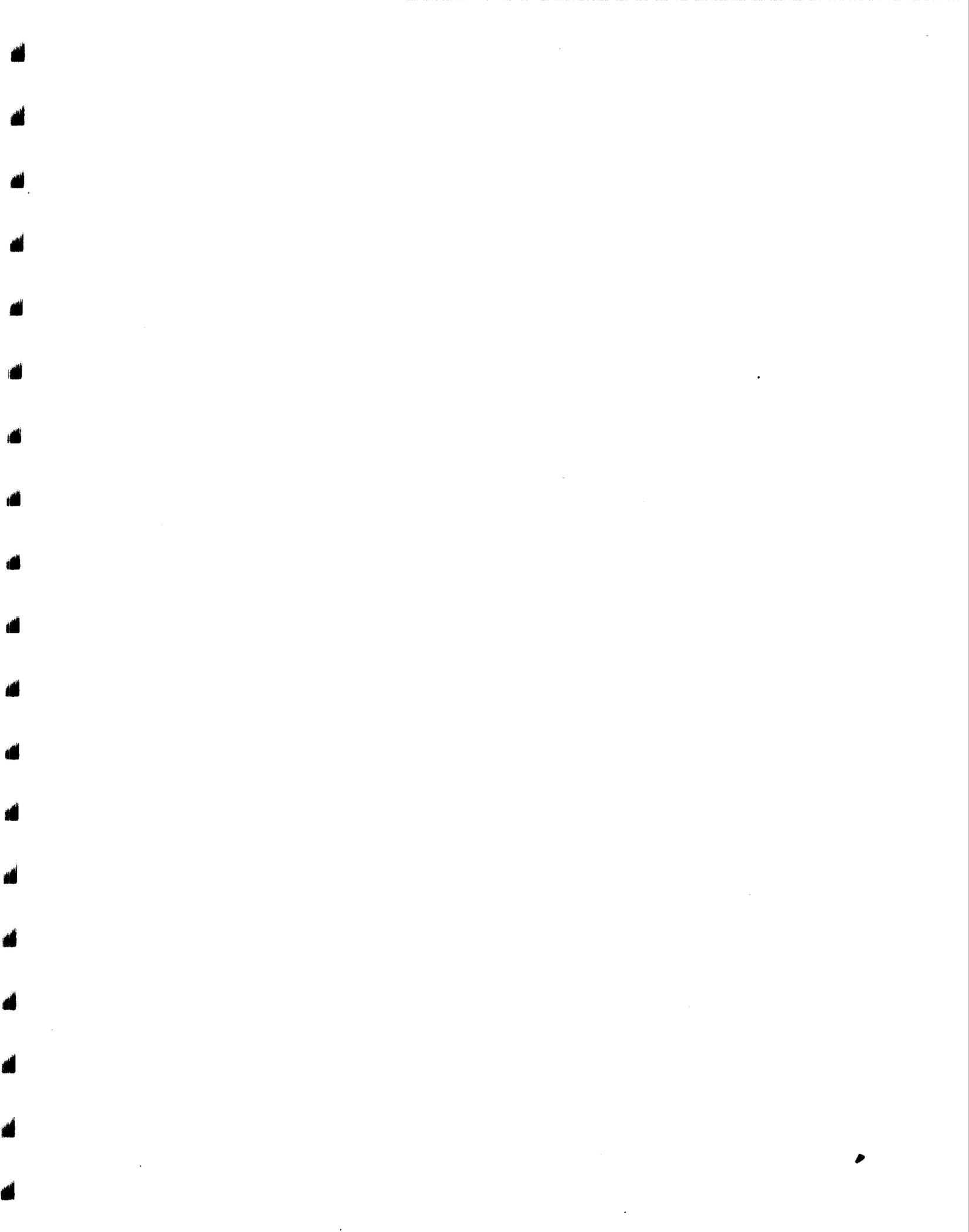
Inefficient Operations

- ◆ LOW CAPACITY UTILIZATION
- ◆ HIGH OPERATING COSTS / RATES
- ◆ EXCESSIVE INFRASTRUCTURE / COSTS
- ◆ STATUS QUO / REDUCED READINESS
- ◆ DUPLICATION OF CORE CAPABILITIES
- ◆ UNDER FUNDED
- ◆ WORKFORCE LEVELS BELOW MINIMUM
- ◆ READINESS REQUIREMENTS

The DOD Recommendation Supports Readiness

and

Makes Good Business Sense !!!



MILITARY VALUE



ANNISTON ARMY DEPOT

MILITARY VALUE

CONSIDERATIONS...

- MAINTENANCE CAPACITY
- MAINTENANCE FLEXIBILITY
- STORAGE CAPACITY
- AMMO CAPACITY
- DEPLOYMENT NETWORK
- FACILITIES & UTILITIES
- INFORMATION MISSION AREA
- TEST & EVALUATION FAC/EQUIP
- ENVIRONMENTAL
- ENCROACHMENT
- BUSINESS EFFICIENCY INDICATORS
- UNIQUE FEATURES/CAPABILITIES

PURPOSE

Summarize BRAC 95 Installation
Assessment Data used to measure
the military value of
Anniston Army Depot

MAINTENANCE CAPACITY

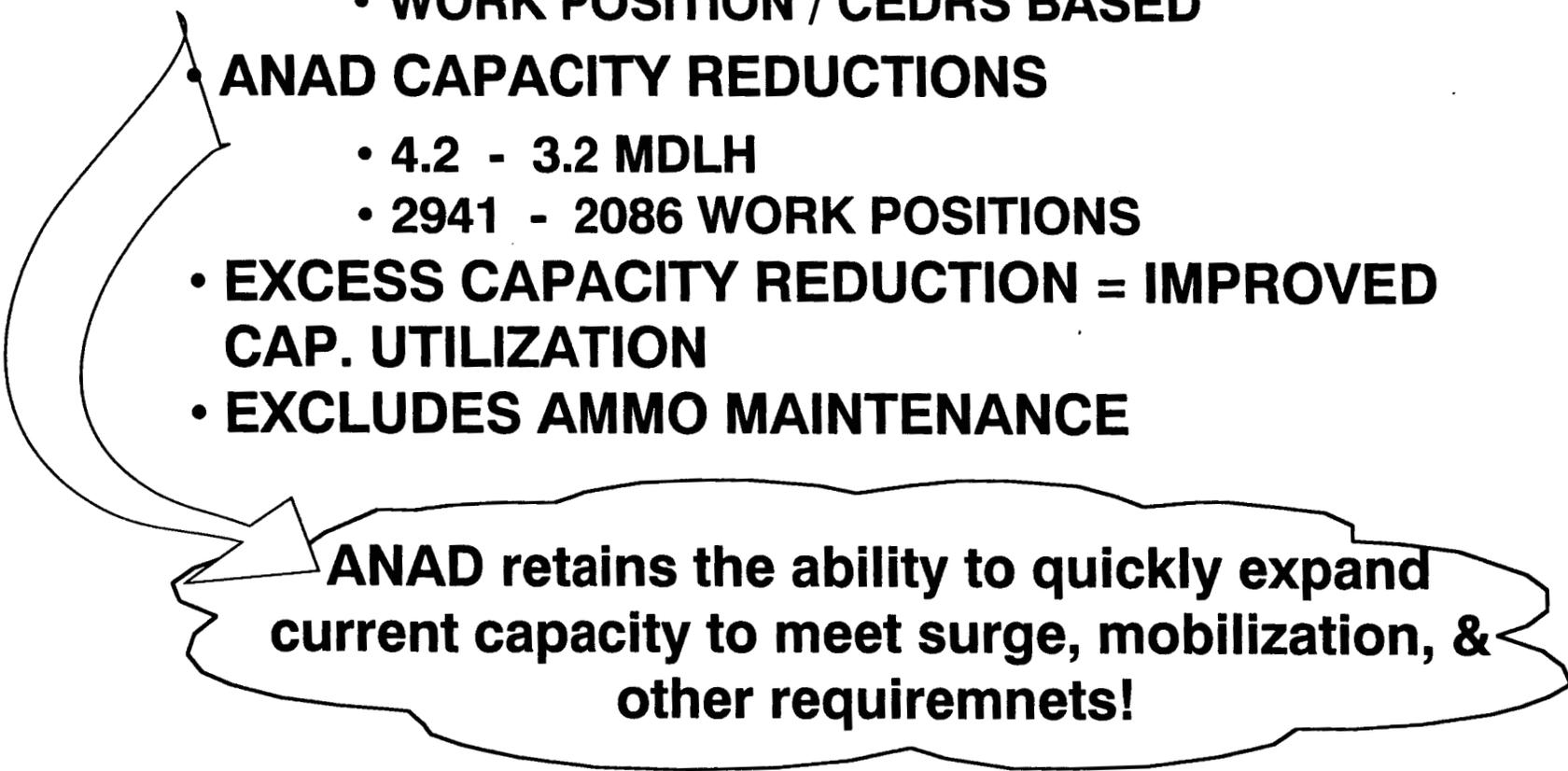
- **CALCULATIONS**

- DOD 4151.15 H
- WORK POSITION / CEDRS BASED

- **ANAD CAPACITY REDUCTIONS**

- 4.2 - 3.2 MDLH
- 2941 - 2086 WORK POSITIONS

- **EXCESS CAPACITY REDUCTION = IMPROVED CAP. UTILIZATION**
- **EXCLUDES AMMO MAINTENANCE**



ANAD retains the ability to quickly expand current capacity to meet surge, mobilization, & other requirements!

MAINTENANCE FLEXIBILITY

OPS 29 COMMODITY LISTINGS

COMMODITY

ANAD CAPABILITY

Aircraft	25%
Automotive Equipment	100%
Combat Vehicles	100%
Construction Equipment	100%
Communications-Electronic Equipment	100%
Missile Systems	100%
Watercraft	50%
Munitions Armament	100%
Weapons Armament	100%
Rail Equipment	100%
General Equipment	100%
Commodity Groups	100%
Computer Hardware	100%

MAINTENANCE FLEXIBILITY

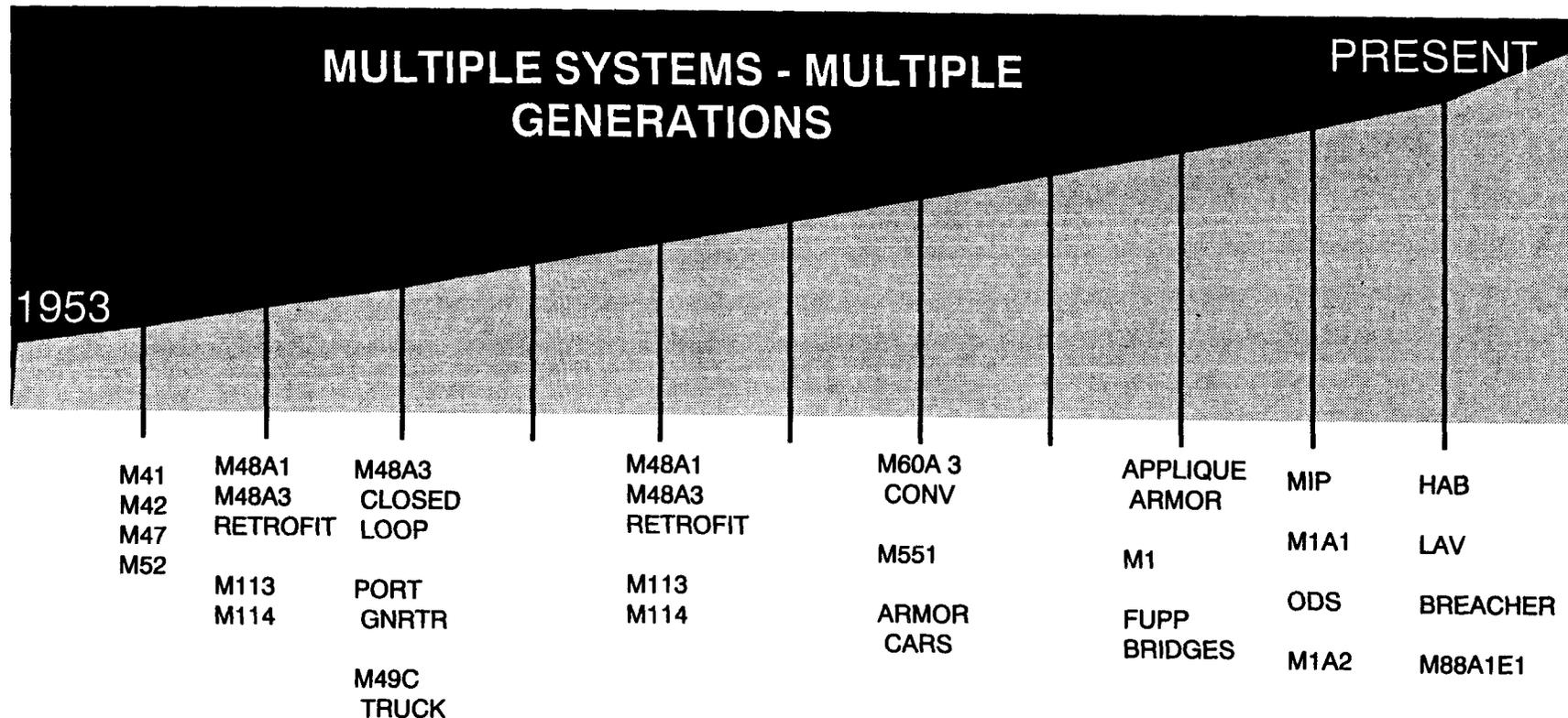
Facilities & Equipment Designed to Support
Any System Smaller than an M1 Abrams Tank!

- CRANES
 - SHOP 60T
 - GANTRY 75T
- "FLEXIBLE" SHOP FLOOR SPACE
- 9 1/2" THICK REIF. CONCRETE ROADS & SHOP FLOORS
- TURBINE AND COMBUSTION ENGINE MAINT. & TESTING
 - 0 - 1500 HP
- TRANSMISSION MAINT & TESTING TO 1500 HP
- FCIM/RAMP
- TEST TRACK
- 6 AXIS MACH CENTER

MAINTENANCE FLEXIBILITY

INSTITUTIONAL KNOWLEDGE

VEHICLE PRODUCTION HISTORY



SUPPLY/ STORAGE CAPACITY

AVAILABLE AND EXCESS

**AMC STORAGE SPACE MCIT
REPORT (DLA/SUPPLY W'HOUSES) - 1,542,000 SF**

**OTHER ANAD STORAGE SPACE - 419,646 SF
TOTAL - 1,961,646 SF**

OTHER CONSIDERATIONS:

- **ASRS CUBIC STORAGE**
- **HIGH SECURITY STORAGE OF SMALL ARMS
COLLOCATED WITH SMALL ARM MAINT. OPERATIONS**

AMMUNITION STORAGE CAPACITY

ANAD 2,800,265 SF

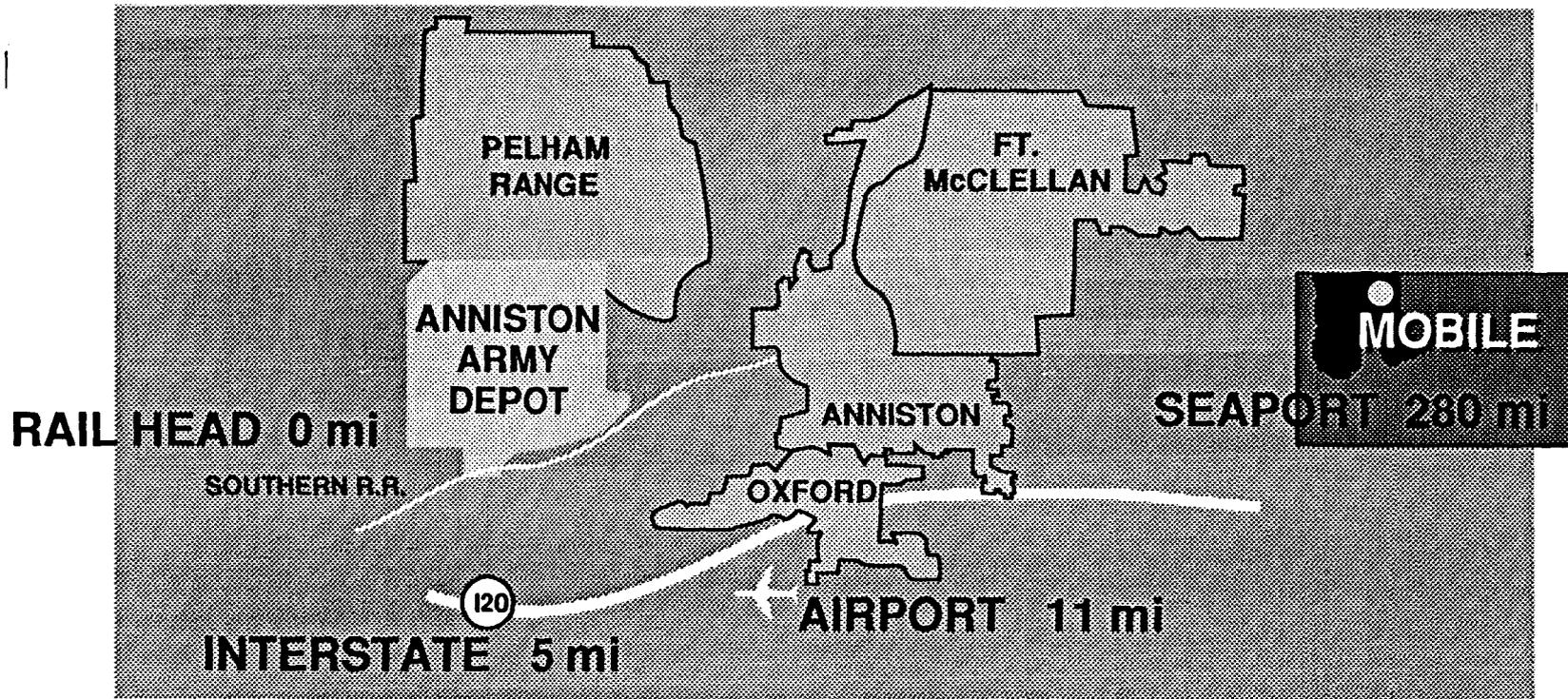
COOSA RIVER STORAGE ANNEX 348,036 SF

TOTAL 3,148,301 SF

OTHER CONSIDERATIONS:

- **155 HIGH SEC. CHEMICAL STORAGE MAGAZINES**
- **198 HIGH SEC. CAT. I STORAGE MAGAZINES**
- **478 STADLEY MAGAZINES**
- **ANAD CURRENTLY STORES 47% OF ALL ARMY'S CAT I MUNITIONS**

DEPLOYMENT NETWORK



Closest Army Depot (394 miles) to Army's Prepositioned Maintenance Facility at Charleston, S.C. Naval Weapons Station

FACILITIES AND UTILITIES

FACILITIES

- NO WWII WOOD BUILDINGS
- NO TEMPORARY BUILDINGS
- 99% PERMANENT FACILITIES

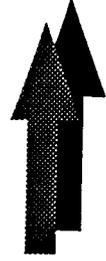
UTILITIES	TOTAL CAPACITY	CURRENT USE	AVAIL. CAPACITY
• WATER	5.7 MGD	1.2 MGD	4.5 MGD
• SEWER	.62 MGD	.2 MGD	.42 MGD
• INDUSTRIAL WASTE	.25 MGD	.113 MGD	.137 MGD
• ELECTRICAL	720,000 KWH/DAY	12,000 KWH/DAY	708,000 KWH/DAY
• NATURAL GAS	UNLIMITED	200 KCF/DAY	ANY NEEDED

INFORMATION MISSION AREA

Network Capabilities

- FIBER BACKBONE
- LOCAL AREA NETWORK
- 800 PC's INSTALLED - 725 PC's NETWORKED
- ADDITIONAL FIBER UNDER CONSTRUCTION

cont.



INFORMATION MISSION AREA *cont.*

Wide Area Network

- CHEMICAL STOCKPILE EMERGENCY PREPAREDNESS PROGRAM (CSEPP)
- DEFENSE DATA NETWORK (DDN)
- MEDDAC (U.S. ARMY MEDICAL DEPARTMENT ACTIVITY)
- DCA (DLA COMMUNICATIONS NETWORK)
- GDLS (GENERAL DYNAMICS LAND SYSTEM) - PRIVATE INDUSTRY
- CHEMICAL STOCKPILE DISPOSAL PROGRAM (CSDP)

cont. 

INFORMATION MISSION AREA cont.

JLSC Systems

- **PDMSS (Program & Depot Maintenance Scheduling System)**
- **HMMS (Hazardous Material Management System)**
- **FCIM/RAMP (Flexible Computer Integrated Manufacturing/Rapid Acquisition of Manufactured Parts)**
- **JEDMICS (Joint Engineering Data Management Information & Control System)**

TEST & EVALUATION FACILITIES AND EQUIPMENT

- **FACILITIES**

- 18 BUILDINGS TOTALING 82,694 SF

- **EQUIPMENT**

- 104 PIECES WORTH \$56.62 MIL

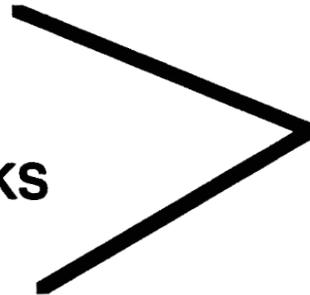
- **RANGES**

- 24 RANGES TOTALING 1399 ACRES

ENVIRONMENTAL

- **TOTAL COMPLIANCE WITH ALL PERMITS**

- AIR
- WATER
- HAZ / SOLID WASTES
- UNDERGROUND ST. TANKS
- ASBESTOS
- RADON



**\$40 MIL INVESTED
SINCE 1982**

- **HAZARDOUS WASTE MINIMIZATION**

- 50 % REDUCTION SINCE 1984

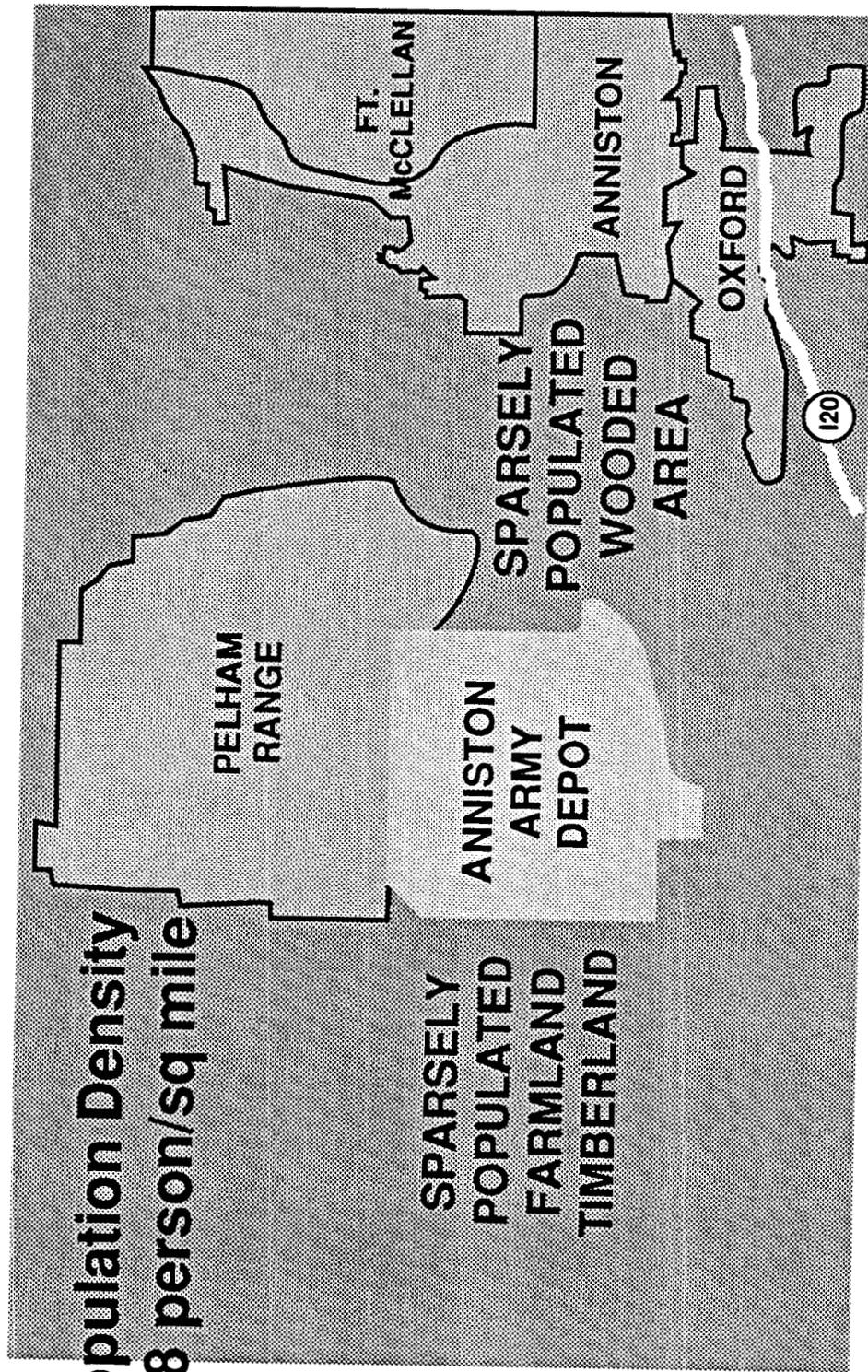
- **LED ARMY EFFORTS TO IMPLEMENT TECHNOLOGIES**

- HIGH PRESSURE PARTS WASHERS
- ION VAPOR DISPOSITION OF ALUM.

- **NATIONAL PRIORITY LIST (NPL) IN 1989**

- GROUNDWATER CONTAMINATION
- CLEAN-UP - \$77MIL THROUGH 2030

ENCROACHMENT



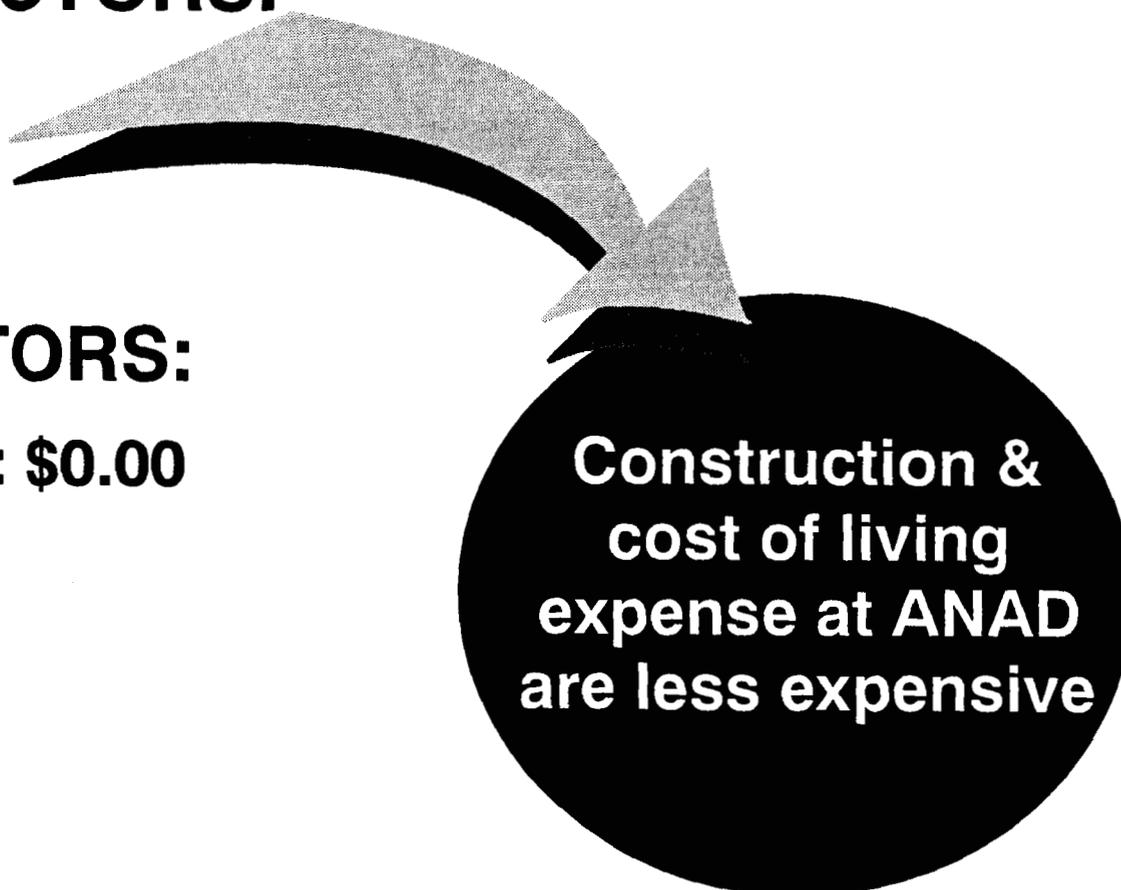
BUSINESS EFFICIENCY INDICATORS

- **MCA COST FACTORS:**

- **ANAD: .77**

- **VHA FACTORS:**

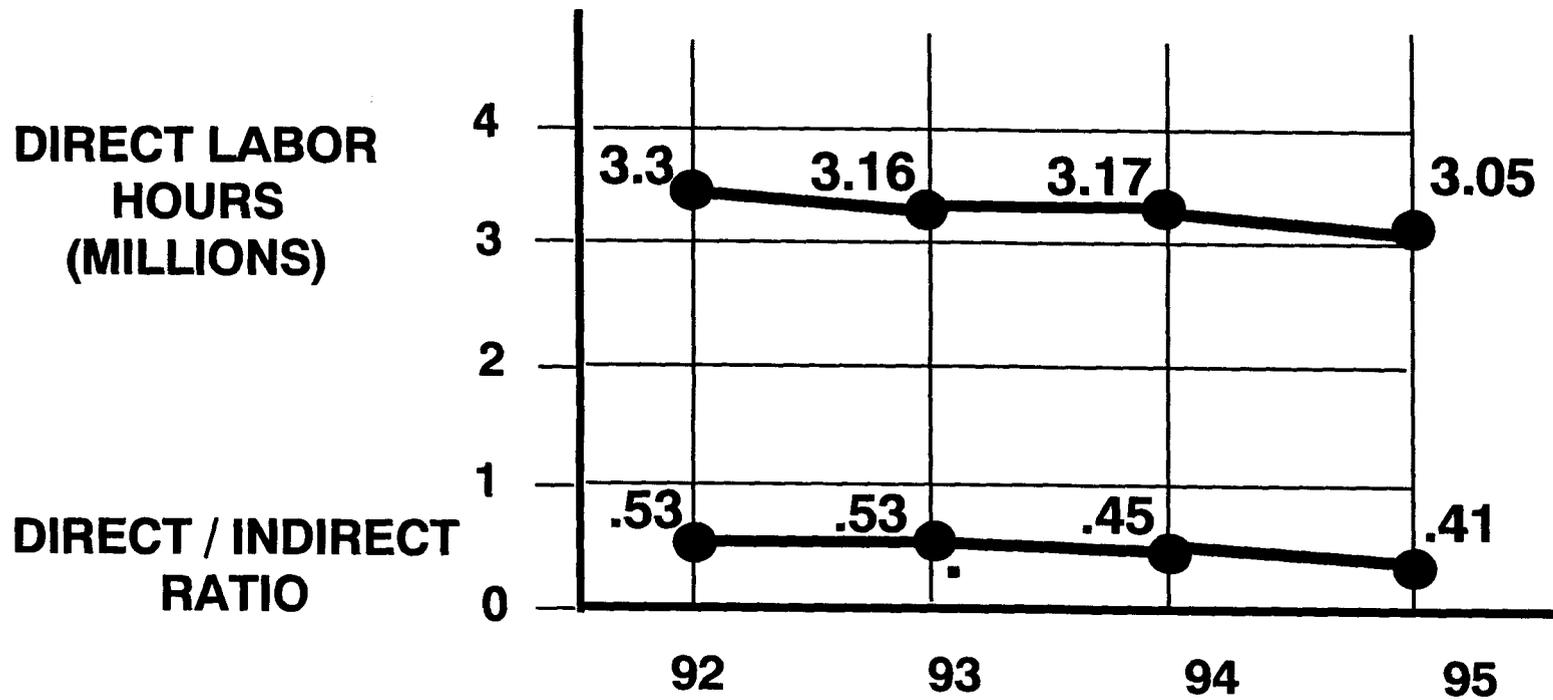
- **ANAD: \$0.00**



**Construction &
cost of living
expense at ANAD
are less expensive**

BUSINESS EFFICIENCY INDICATORS

43

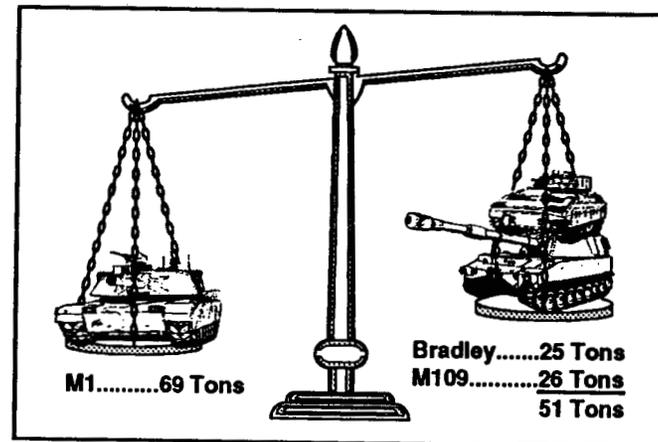


UNIQUE FEATURES AND CAPABILITIES

SHIPPING & RECEIVING FACILITY



- 75 Ton Gantry Crane
- 600' Rail & Truck Dock
- Lighting for 24 Hour Operation

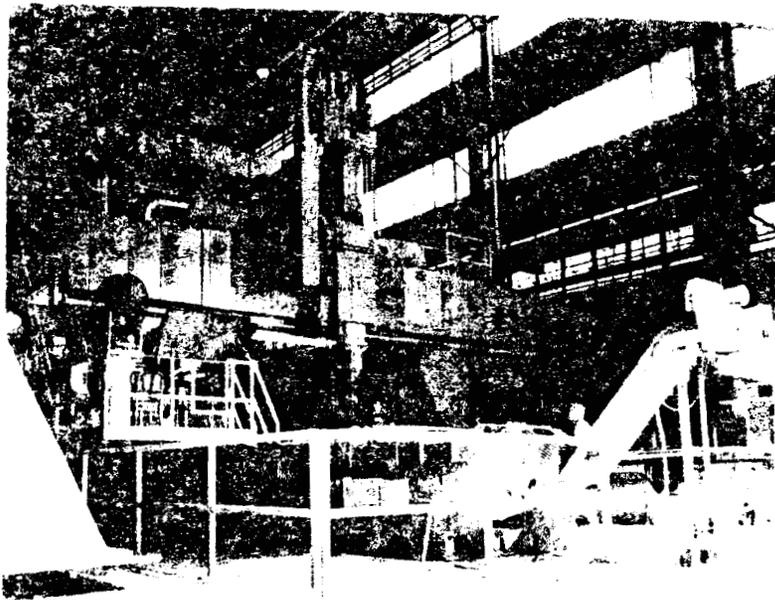


BLDG. 400 MAINTENANCE FACILITY



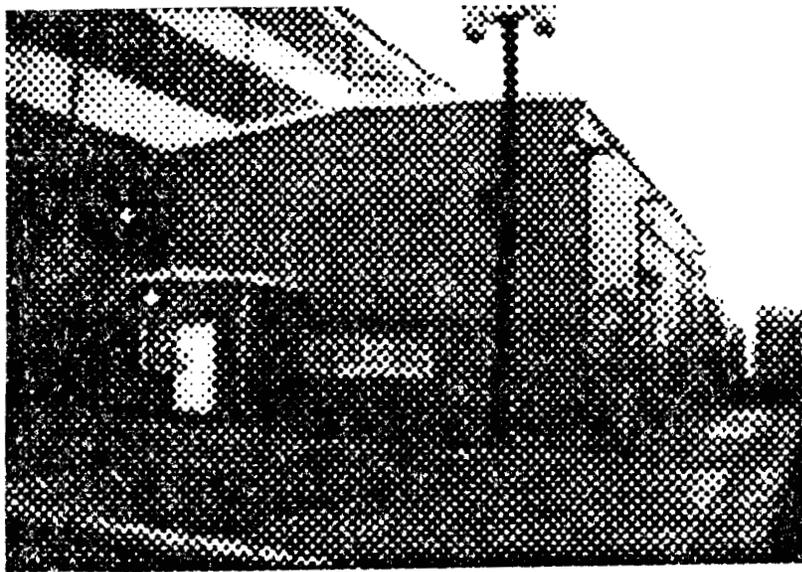
- 5 Acres of Flexible-use Floor Space
- 20 to 60 Ton Crane
- 9 1/2" Thick Concrete Floors

COMBAT VEHICLE MACHINE CENTER



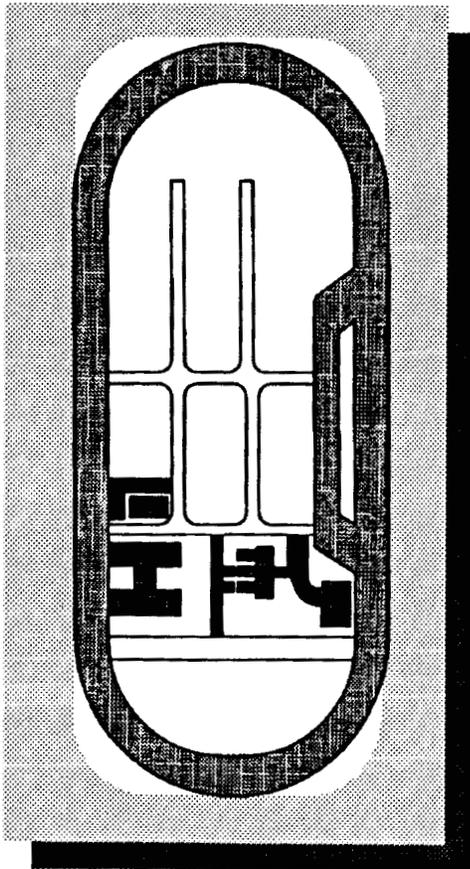
- 30 Tons
- 60' x 20' x 10' Working Envelope
- 6 Axis
- Computer Controlled

SPECIAL ARMOR REPAIR FACILITY



- 3320 SF
- 20 Ton Crane
- High Security
 - Fense
 - IDS
 - Cameras
- Full Requirements to Support Depleted Uranium Armor Repair

VEHICLE TEST TRACK



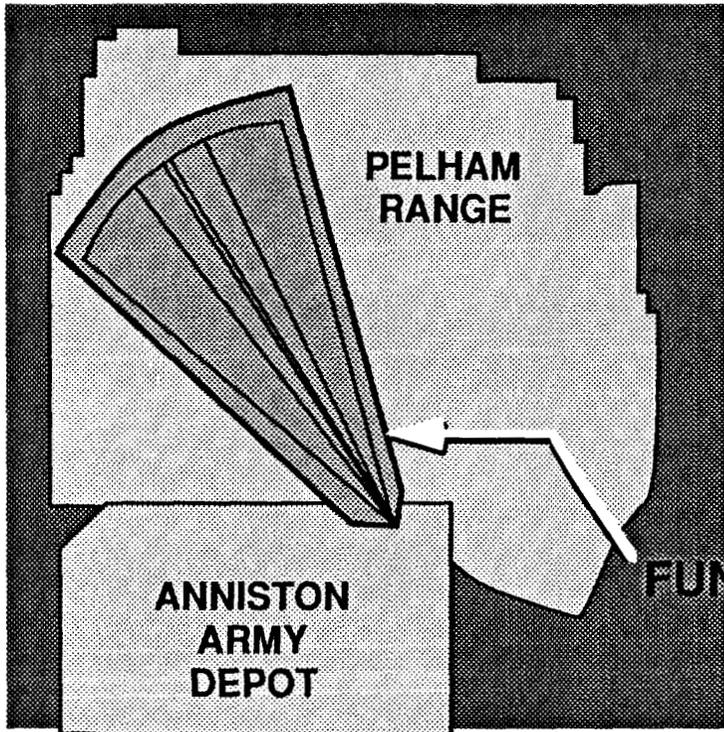
- 1.13 Mi
- 30/40/60 % Slopes
- Laser Range
- Superelevated Curves for Speed Testing
- Lighting for 24 Hour (Mobilization) Operation

SMALL ARMS REBUILD FACILITY



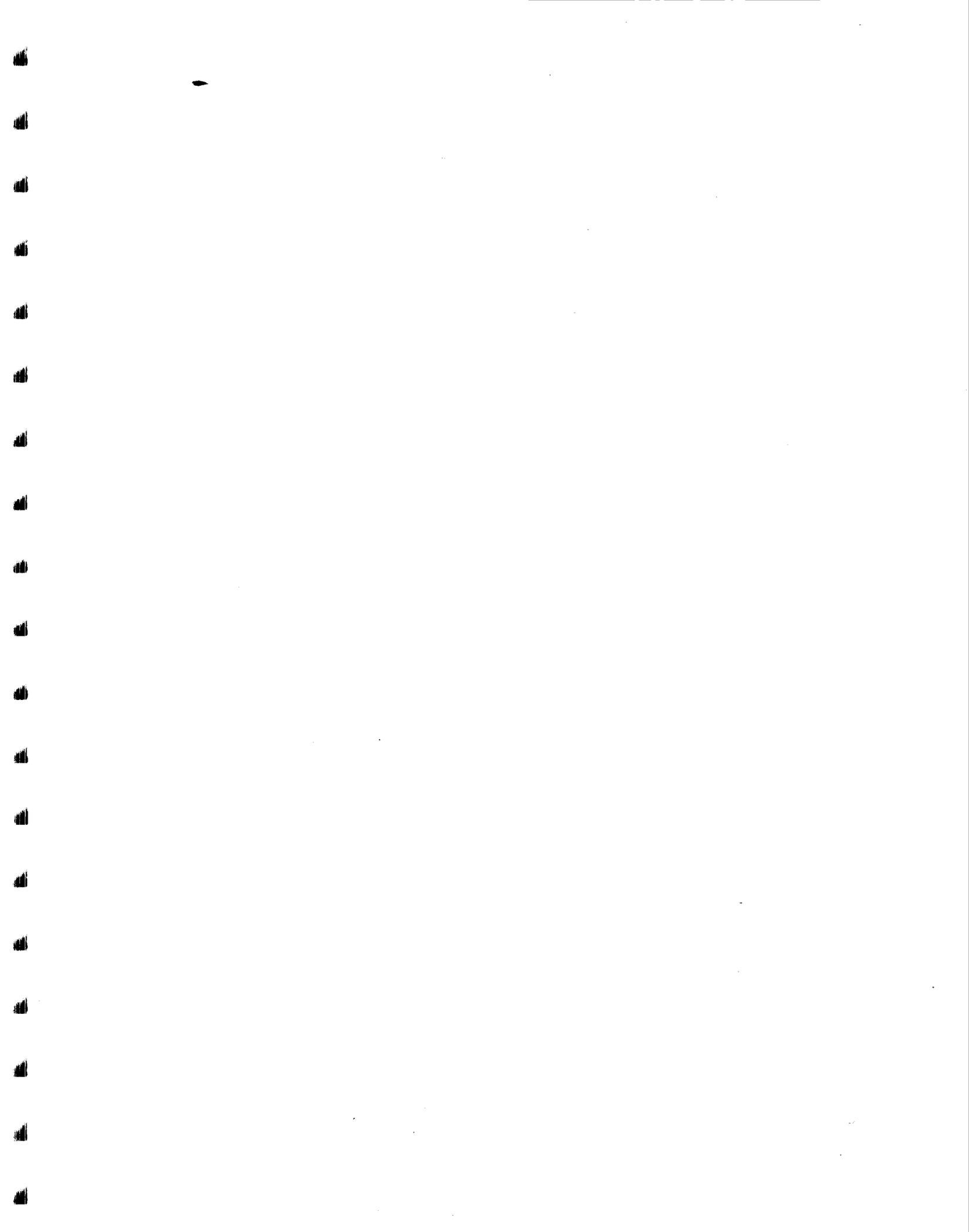
- **Army's Only Small Arms Maintenance Facility**
- **Cleaning/Finishing/Painting Capabilities**
- **Indoor Function & Accuracy Testing with Computer Target System**
- **Intrusion Detection with Assessment Monitoring Cameras**
- **Collocated High Security Storage Warehouses**

FIRING RANGE

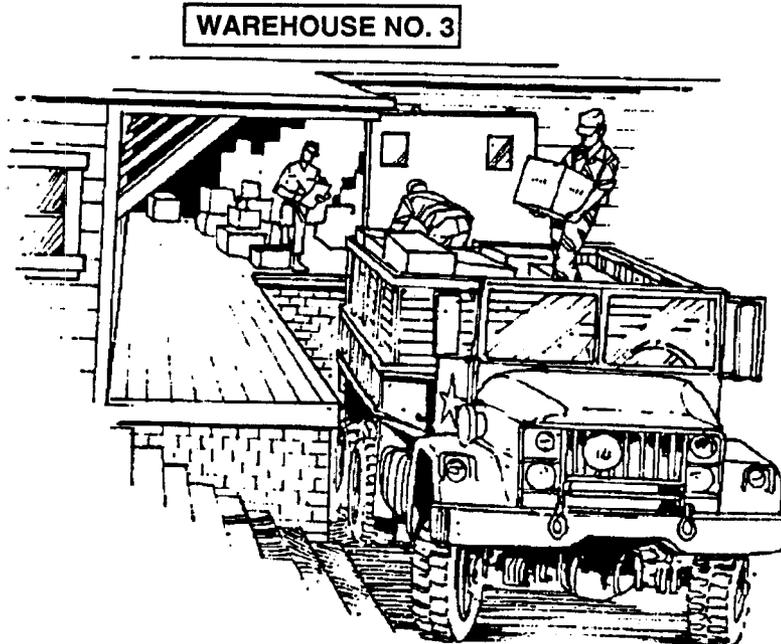


- Currently Tests from Small Arms thru 152 mm
- 8 Inch Projectile Capable
- Noise Contours On-Post

FUNCTION FIRING RANGE
SAFETY FAN



Examples of Crises Response



Date

Response

1967

During the 6-Day War:

- *Delivered 200 tanks accompanied by mechanics to Israel.*

1973

During the Yom Kipper War:

- *9JJ - 200 tanks prepared and delivered within 60 days.*

In one 12-month period ...

1983

Designed and built 2 hard-target bonnets for M551 in 28 days.

1983

Prepared 68 M48A5 tanks for Lebanon in 30 days.

Examples of Crises Response - Continued

17-23 Nov 1983

During Island Breeze:

- *Responded to 264 Material Release Orders (MROs) for weapons, ammo and vehicles.*

*25 Oct - 2 Nov
1983*

During Urgent Fury:

- *Established a 24-hour operations center.*
- *Shipped 104 requisitions*
- *Shipped 15 truckloads of contingency stocks after duty hours within 24-hours of notification.*

*12-month
example ends ...*

1989

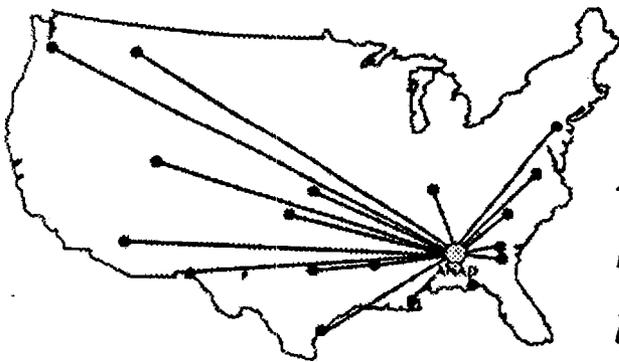
During Operation Just Cause (Panama):

- *Shipped contingency stocks to Ft. Benning, Ga.*
- *Shipped 198 tons of other materiel to Ft. Bragg, Ft. Stewart and Panama.*

OPERATION DESERT SHIELD/STORM

Pre-Deployment

EQUIPMENT READINESS AND SYSTEMS TRAINING



***217 ANAD Systems
Specialists dispatched
throughout the United
States from August -
December 1990.***

OPERATION DESERT SHIELD/STORM

Deployment

★ 476 ANNISTON EMPLOYEES -

● VEHICLES

- *Of the 1,332 civilians deployed, 36% were from ANAD.*
- *20% of the combat vehicle maintenance mission was done by ANAD employees in country.*

● ANAD MINI DEPOT

- *MIA1 MODIFICATIONS*
 - *Armor Package*
 - *Optical Improvements*
 - *Survivability Improvements*
 - *CARC Painting Equipment*
 - *1243 Total Vehicles*

● INTER-SERVICE SUPPORT

- *INSTALLED APPLIQUE ARMOR ON 75 USMC M60A1 TANKS*

● FORWARD SUPPORT

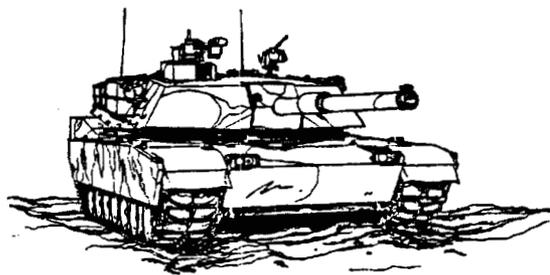
- *DESCOM USA Support Group*
- *Maintenance/Supply*
- *Field Support of Armored Vehicles*

● NEW PRODUCTION HAND-OFF

- *MIA1 Tanks for USMC*

OPERATION DESERT SHIELD/STORM

Reconstitution



At the conclusion of Desert Storm, the heavy-tracked combat vehicle fleet in SWA was evaluated to determine the degree of repair necessary to ensure readiness was not compromised. Listed here is a recap of quantities and series of vehicles workloaded at ANAD.

As of 6 June 95:

<u>SERIES</u>	<u>QUANTITY</u>
<i>IPM1</i>	<i>236</i>
<i>M1A1</i>	<i>365</i>
<i>M1</i>	<i>300</i>
<i>M728 CEV</i>	<i>46</i>
<i>M88A1</i>	<i>371</i>
<i>AVLB</i>	<i>70</i>
<i>Total Vehicles</i>	<i>1,388</i>

Pre-Deployment/Deployment Since ODS



HUMANITARIAN RELIEF

<u>Personnel</u>	<u>Dates</u>	<u>Purpose</u>	<u>Pre/Deploy</u>
7	Aug - Nov 92	Hurricane Andrew South Florida	Deploy

SOMALIA

<u>Personnel</u>	<u>Dates</u>	<u>Purpose</u>	<u>Pre/Deploy</u>
1	9 - 23 Mar 94	Repair Radios	Deploy

RWANDA

<u>Personnel</u>	<u>Dates</u>	<u>Purpose</u>	<u>Pre/Deploy</u>
1	July 94	Quality Assurance	Deploy
7	July 94	(Standby)	Pre

Pre-Deployment/Deployment Since ODS - Continued

CARIBBEAN BASIN - USS EISENHOWER

<u>Personnel</u>	<u>Dates</u>	<u>Purpose</u>	<u>Pre/Deploy</u>
2	13 - 28 Sep 94	Logistical Assistance	Deploy

SOUTHWEST ASIA

<u>Personnel</u>	<u>Dates</u>	<u>Purpose</u>	<u>Pre/Deploy</u>
5	July - Sep 95	Repair LCSS	Deploy
2	17 Oct - 6 Nov 94	Quality Assurance Team	Pre
29	11 Oct - 2 Dec 94	Repair Vehicles	Deploy

HAITI

<u>Personnel</u>	<u>Dates</u>	<u>Purpose</u>	<u>Pre/Deploy</u>
2	7-14 Feb 95	Vehicle Painting Assessment	Pre
4	21 Feb - 31 Mar 95	Paint Vehicles for U.N.	Deploy
21		(Standby)	
1	Apr - May 95	Contracting Officer	Deploy

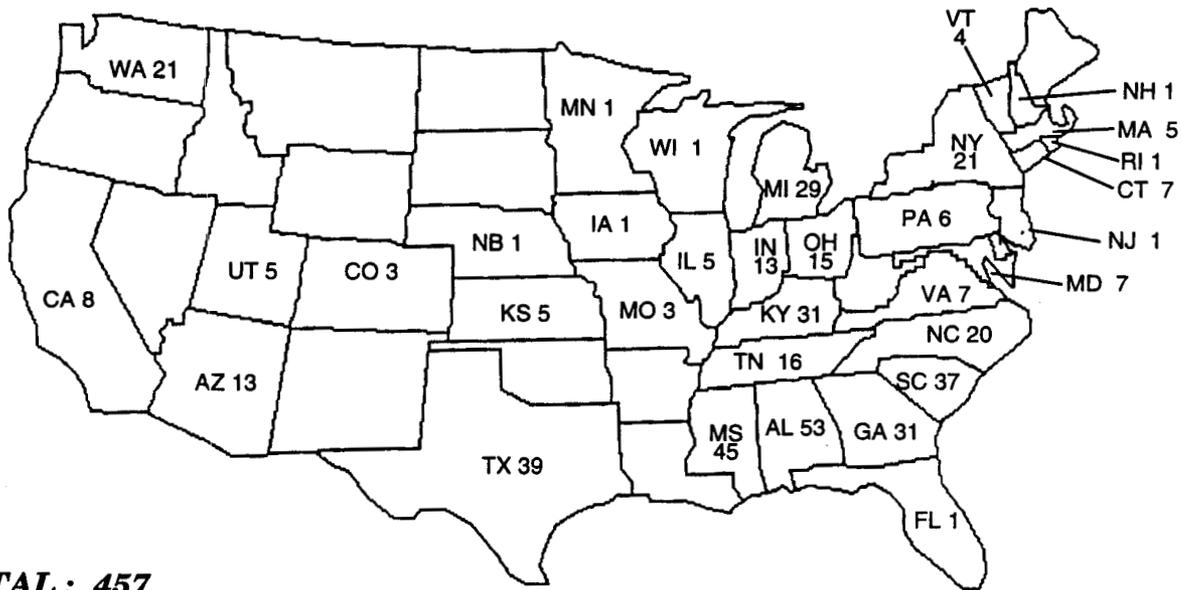
SOMALIA

<u>Personnel</u>	<u>Dates</u>	<u>Purpose</u>	<u>Pre/Deploy</u>
3	1 - 7 Feb 95	Load and Accompany Tanks	Deploy

OPERATION DETERMINED EFFORT

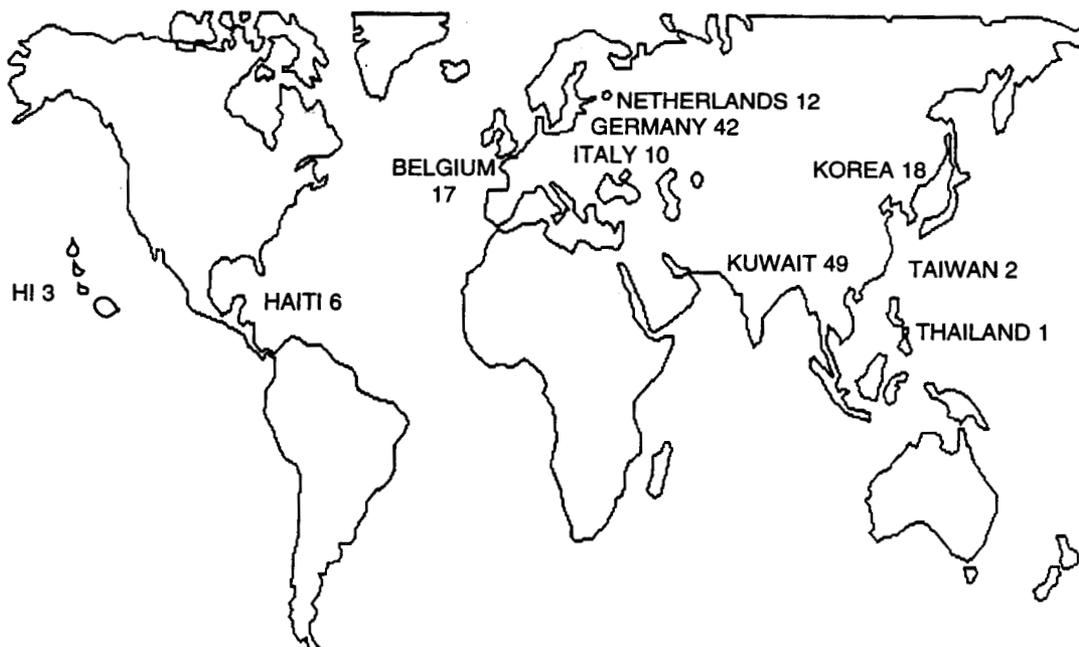
<u>Personnel</u>	<u>Dates</u>	<u>Purpose</u>	<u>Pre/Deploy</u>
10	Currently	(Standby)	Pre

FY95 PLANNED FIELD SUPPORT CONUS

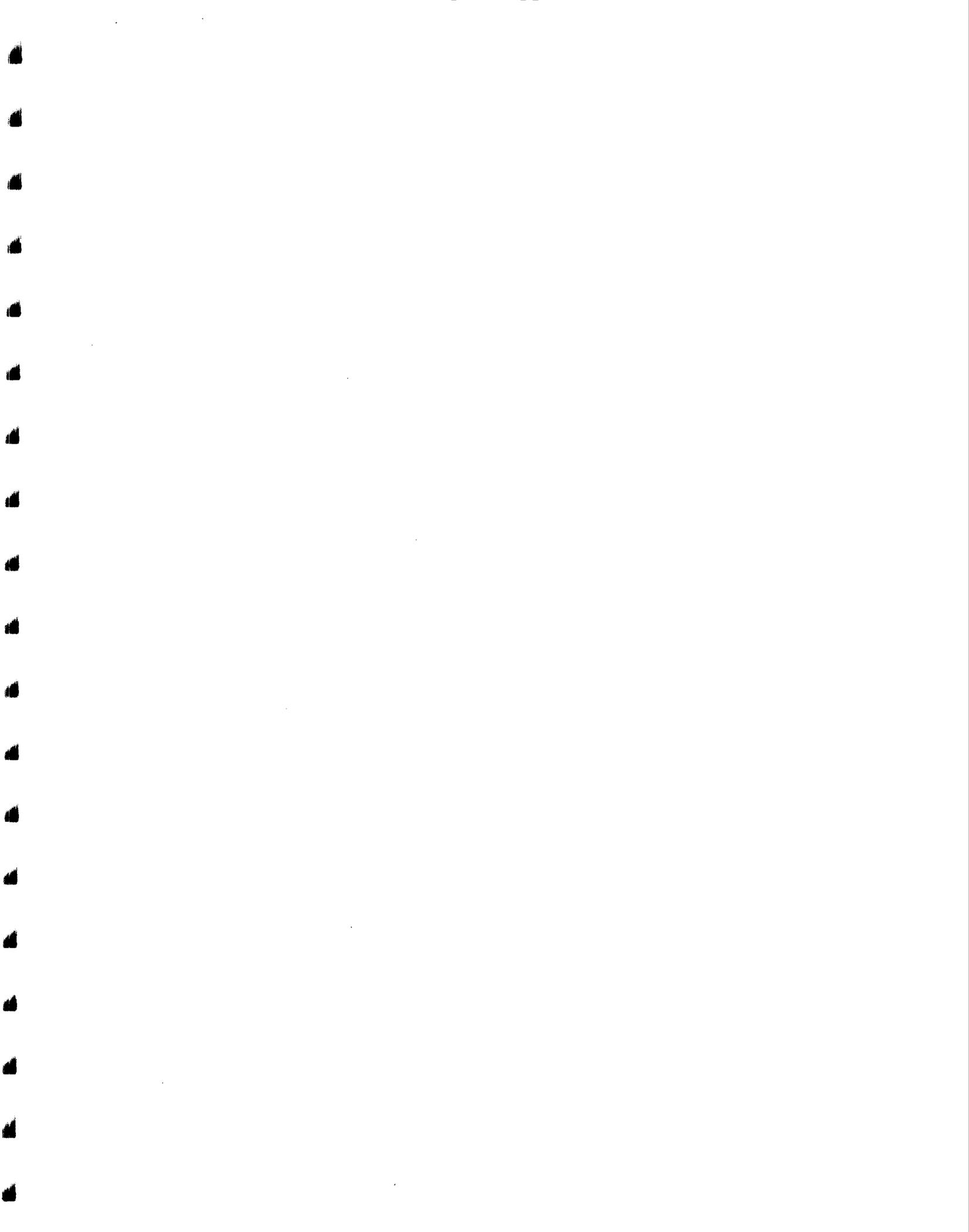


TOTAL: 457

FY95 WORLD WIDE OCONUS



TOTAL: 160



PRODUCTION FACILITIES

<u>Building</u>	<u>Function</u>
105	* Repair of missile guidance systems and components, chemical agent alarms, and replacing of tritium vials in support of combat vehicle fire control and small arms
106	* Repair/overhaul of M1 Electro-Optics such as Gunner's Primary Sight * Repair/overhaul and testing of M1 Electronic Hull/Turret items
108	* Fabrication and reclamation utilizing processes such as CNC/conventional machining, sheet metal, heat treating, and robotic/conventional/electron beam/spot welding
111	* Repair electronic items as circuit cards to support Line Replaceable Units (LRUs) * Thermal System testing
113	* Rework, optical/mechanical fire control such as MRS, telescope, mounts, sights, etc. for all vehicles * Repair Air Borne TOW Missile System * Repair helicopter gun motors (20 mm)
117	* Overhaul/repair of combat vehicle electrohydraulic systems and components, conventional welding support for other shops
128	* Overhaul of 1100 transmissions and final drives in support of M1 Tanks * Upholstery - cutting, sewing, and gluing of nylon, canvas, leather, cloth, rubberized fabrics, etc. * Manufacture of metal data plates and bar code labels * Manufacture of stick-on decals * Manufacture of gaskets * Repair/fabrication/testing of wiring harness * Overhaul/Repair of AGT 1500 Turbine Engine in support of M1 Tank
129	* Repair/overhaul of Multiple Small Arms Weapons * Support chemical/abrasive cleaning of weapons * Support machining process * Indoor Target Accuracy Range supports firing of weapons * Indoor function firing up to 50 cal * Computer-controlled targeting system
130	* Overhaul/repair of internal combustion engines and components, i.e., starters, alternators, injectors, and injector pumps * Overhaul/repair of transmissions and output reduction units

PRODUCTION FACILITIES - Continued

<u>Building</u>	<u>Function</u>
133	<ul style="list-style-type: none"> * Repair/fabrication of recuperators for the AGT 1500 Turbine Engine utilizing three each computer controlled resistance welders * Verification Lab incorporating all the latest measuring methods and devices including computerized coordinate measuring machines
140	<ul style="list-style-type: none"> * Laboratory which houses the Army Oil Analysis Program equipment and supports the internal chemical cleaning processes within Directorate of Maintenance
143	<ul style="list-style-type: none"> * Final Paint Facility for application of CARC paint to combat vehicles
143	<p>Turret</p> <ul style="list-style-type: none"> * Repair/overhaul of vehicle turrets/main * Gun/recoil mechanisms and mechanical fire control * Gunner's Primary Sight testing * Pre-test and final acceptance test of M1 Turret Electric/Hydraulic components
145	<ul style="list-style-type: none"> * Fabrication/repair of vehicle hull/turret components and other items * Tool and die fabrication * CAD/CAM-NC/CNC Programming * FCIM
146	<ul style="list-style-type: none"> * Repair/refill of fire extinguisher bottles from combat vehicles and buildings to include recovery and refill of HALON systems * Repair of combat vehicle electrical components and wiring harnesses * Repair of combat vehicle cupolas and other turret components, i.e., shell racks, race ring reclamation, and white parts
147	<ul style="list-style-type: none"> * Reclamation of parts utilizing processes such as robotic/conventional metalizing and machining
378	<ul style="list-style-type: none"> * Dismating and remating of M1 engines and transmissions
400	<ul style="list-style-type: none"> * Vehicle hull/turret disassembly * Vehicle hull/turret/component welding * Vehicle hull/turret machining * Testing of M1A1 NBC System * Overhaul/repair of vehicle hulls, e.g., M1, M88, 551, 728, AVLB * Repair/modifications of bridge sections * Aluminum/steel armor X-ray facility * Classified aluminum/steel armor repair area with Intrusion Detection System (IDS) * Manufacture of mining equipment and other special fabrications

PRODUCTION FACILITIES - Continued

<u>Building</u>	<u>Function</u>
409	<ul style="list-style-type: none"> * Vehicle hull/turret component parts steam cleaning/chemical cleaning and abrasive cleaning * CARC painting of vehicle components and other items * Welding repairs on vehicle radiators, oil coolers, fuel cells, and all containers for engine transmissions, final drives, etc.
410	<ul style="list-style-type: none"> * Dismate and remate of internal combustion engines such as the 1790, 6V53, and APUs * Dynamometer testing of internal combustion engines and turbine engines * Containerization of 1790 and 6V53 Engines
413	<ul style="list-style-type: none"> * CNC cutting of aluminum and steel plate, sawing, shearing, and CNC punching
414	<ul style="list-style-type: none"> * Chemical cleaning of vehicle/turret components * Chemical plating of vehicle/turret components such as cadmium plating, chromium, phosphating electroless nickel, black oxide, ion vapor deposition of aluminum, etc. * Vehicle hull/turret final repair facility * Vehicle test track for full dynamic vehicle testing such as 40/60 percent slopes, banked curves, spin pad, and bump course * Boresight and synchronize main gun and coaxial machine guns * Function test vehicle communication system
418	<ul style="list-style-type: none"> * Overhaul of various shelters (Not shown)
420	<ul style="list-style-type: none"> * Laser firing range for testing alignment of gun tube and fire control
421	<ul style="list-style-type: none"> * Vehicle hull/turret or complete vehicle steam cleaning facility
433	<ul style="list-style-type: none"> * Abrasive cleaning of large combat vehicle components and other items * CARC painting of large vehicle components and other items
434	<ul style="list-style-type: none"> * Overhaul/repair of miscellaneous items * Overhaul/repair/test of winches * Turret burn-out * Ground hopping of M1 FUPP

BUILDING 400 VEHICLE MAINTENANCE SHOP

	Consolidated Ground Depot Maintenance Requirements	ANAD M1/M88/AVLB M60/M728/M551	RRAD Bradley/M113/ MLRS	LEAD M109/Towed Artillery
Facility	Classified Armor Facility & Repair	√		
	Avail SF and Layout to Support Consolidation of ANAD/RRAD LEAD	√		
	X-Ray Testing	√	√	√
	Vehicle Ford & Swim Pit	√	√	√
Equipment	60 Ton Lifting Capacity	√		
	70 Ton Winch Test Stand	√		
	Heavy Vehicle Machining and Rollover Fixtures	√		
Skills	Heavy Mobile Equip. Mechanics	√	√	√
	Certified Ballistic Armor Welders			
	Steel	√		
	Aluminum	√	√	√
	Welders	√	√	√
	Machinists	√	√	√
Technology	Certified Ballistic Armor Welding			
	Steel	√		
	Aluminum	√	√	√

BUILDING 143 TURRET REPAIR FACILITY

	Consolidated Ground Depot Maintenance Requirements	ANAD M1/M88/AVLB M60/M728/M551	RRAD Bradley/M113/ MLRS	LEAD M109/Towed Artillery
Facility				
	30 Ton Lifting Capacity Bridge Crane	√		
	SF & Layout Available to Support Consolidation of ANAD/RRAD LEAD	√		
Equipment				
	M-1 Turret Test Stand	√		
	Bradley Turret Test Stand		√	
	Gymnasticators	√		√
	Drive Through Paint Booths to Support Large Vehicle	√		√
Skills				
	Fire Control Instrumentation Mechanic	√	√	√
	Artillery Repairers	√		√
	Electronic Integrated System Mechanic	√	√	√
	Welders	√	√	√
Technologies				
	Recoil Repair	√		√
	Gun Tube Non- Destructive Testing	√		√
	Electro-Optics	√	√	√

BUILDING 129 TRANSMISSION TESTING

	Capabilities	ANAD M1/M88/AVLB M60/M728/M551	RRAD Bradley/M113/ MLRS	LEAD M109/Towed Artillery
Facility				
Equipment	Dynamometers			
	0 - 500 HP	√	√	√
	0 - 1200 HP	√	√	
	0 - 1500 HP	√		
	Hydrostatic Steering Test Units			
	0 - 200 HP	√	√	√
	0 - 1500 HP	√	√	
Skills	Mechanics	√	√	√
Technologies	Automated Testing	√	√	√

BUILDING 410 ENGINE TEST AREA

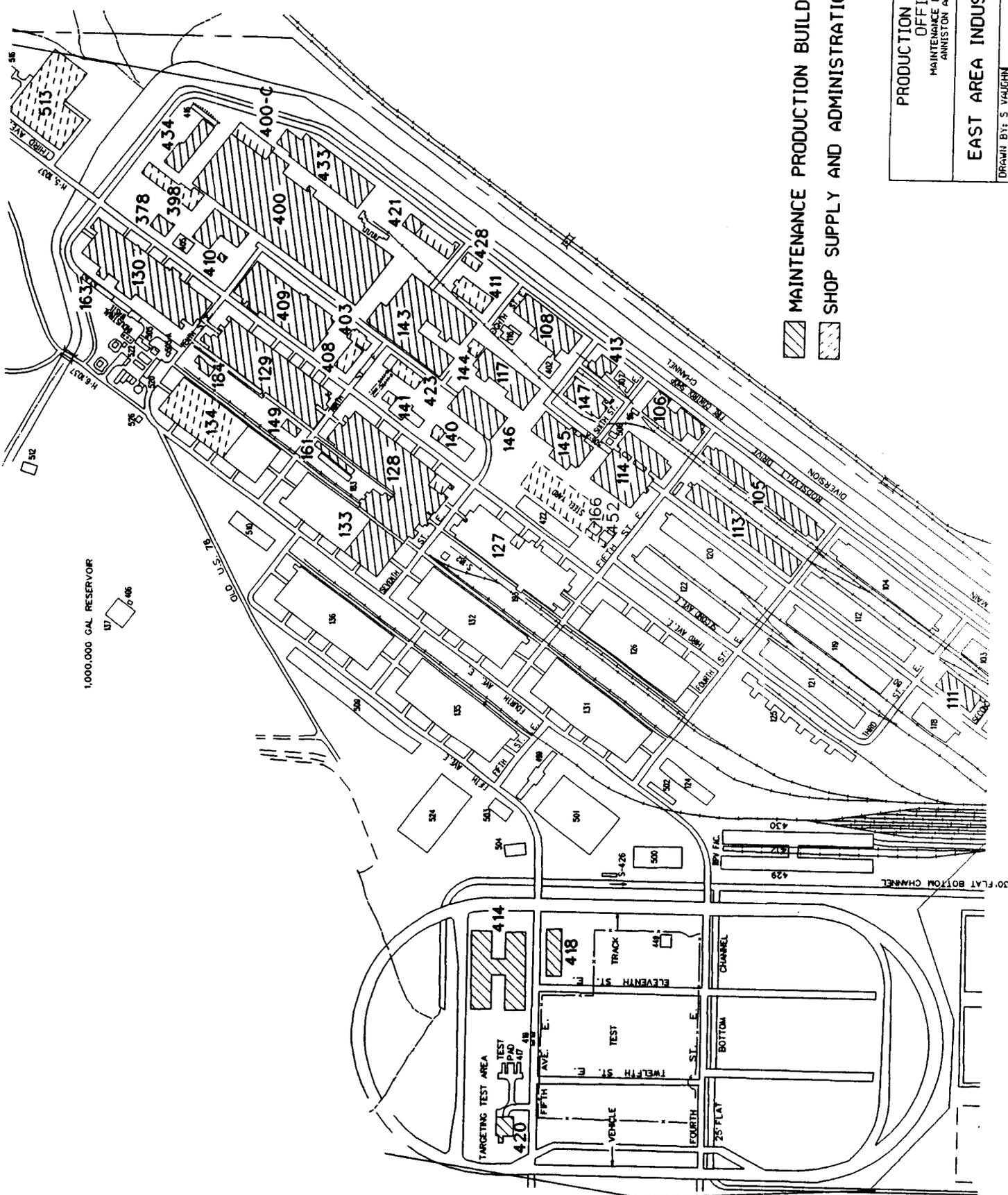
	Consolidated Ground Depot Maintenance Requirements	ANAD M1/M88/AVLB M60/M728/M551	RRAD Bradley/M113/ MLRS	LEAD M109/Towed Artillery
Facility	Engine Staging/Final Repair Area	√		√
	Reciprocating Engine Test Cells	√	√	√
	Turbine Engine Test Cells	√		
	High Frequency Sound Attenuated Test Cells	√		
Equipment	Dynamometers			
	Reciprocating Engine			
	0 - 500 HP	√	√	√
	0 - 1000 HP	√	√	√
	0 - 1500 HP	√		
	Turbine Engine			
	0 - 1500 HP	√		
	Power Pack			
	0 - 1500 HP	√		
	Power Pack Run-In	√	√	√
Skills	Mechanics			
	Reciprocating Engine	√	√	√
	Turbine Engine	√		
	Electronic Repair	√	√	√
Technologies	Automated Testing	√	√	√

BUILDING 130 COMBUSTION ENGINE SHOP

	Consolidated Ground Depot Maintenance Requirements	ANAD M1/M88/AVLB M60/M728/M551	RRAD Bradley/M113/ MLRS	LEAD M109/Towed Artillery
Facility				
	Environmentally Controlled Assembly Area	√		
	Carburetor & Ignition Shop	√	√	√
	Wiring Harness Repair	√	√	√
Equipment				
	Capacity to Support Consolidation of ANAD/RRAD LEAD	√		
	Injector Test Stand	√	√	√
	Injector Pump Test Stand	√	√	√
	Industrial Washers	√	√	√
	Machine Shop	√	√	√
Skills				
	Mechanic	√	√	√
	Machinist	√	√	√
Technologies				
	Combustion Engine Repair	√	√	√
	Carburetor/ Generator Repair	√	√	√
	Non-Destructive Testing	√	√	√

BUILDING 128 TURBINE ENGINE SHOP

	Consolidated Ground Depot Maintenance Requirements	ANAD M1/M88/AVLB M60/M728/M551	RRAD Bradley/M113/ MLRS	LEAD M109/Towed Artillery
Facility				
	Bearing Cleaning Facility	√		
	Environmentally Controlled Work Area	√		
Equipment				
	Sciaky Resistance Welders	√		
	Vacuum Brazing Furnace	√		
	Hydromechanical Unit Test Stand	√		
	Fuel Nozzle Test Stand	√		
	Vertical Balancer	√		
	Magnetic Particle Testing	√		
	Bearing Analyzer	√		
	Coord. Measuring Machine	√	√	√
	Air Flow Stand	√		
	Lapping Machine	√	√	
Skills				
	Turbine Engine Mechanics	√		
	Machinists	√	√	√
	Welders	√	√	√
Technologies				
	Turbine Engine Repair	√		
	Recuperator Reclamation	√		
	Non-Dest. Testing	√	√	√
	Prec. Balancing	√		

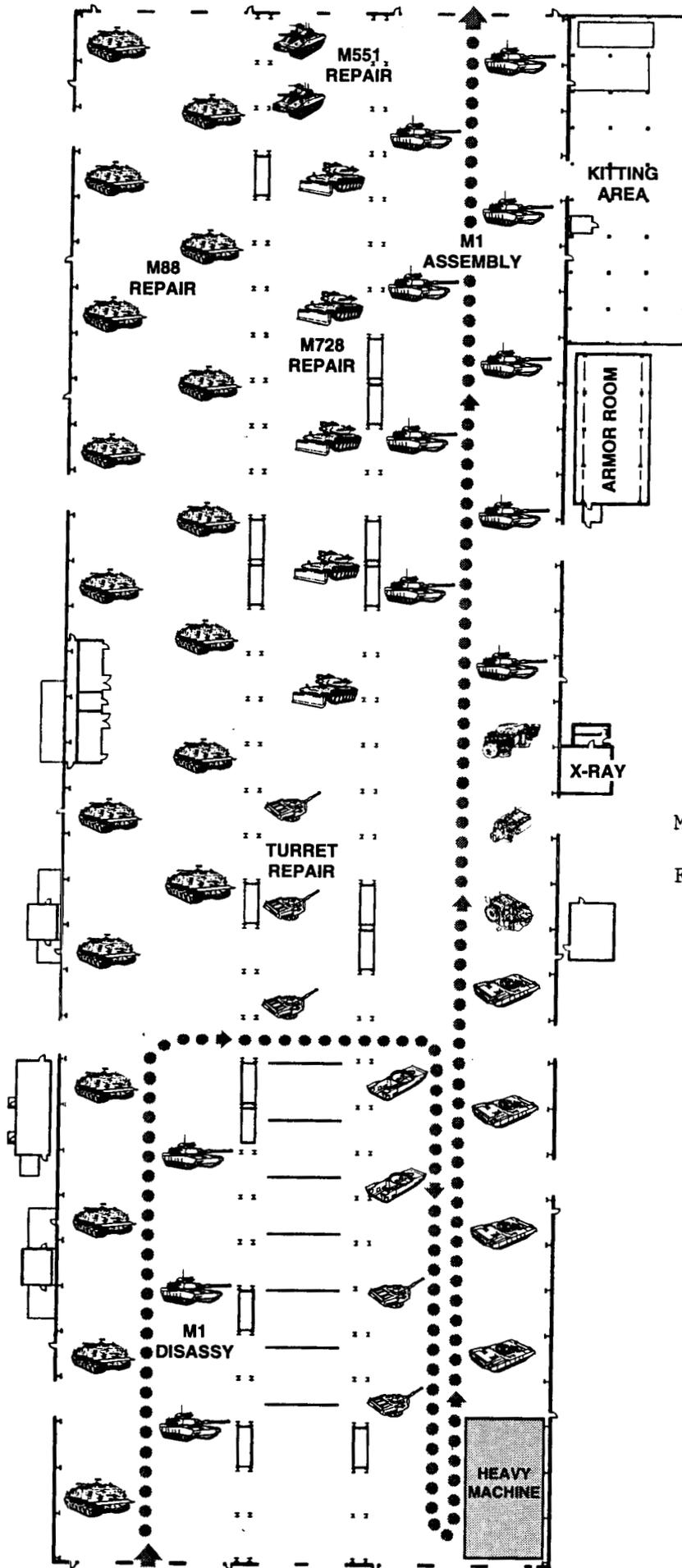


MAINTENANCE PRODUCTION BUILDINGS
SHOP SUPPLY AND ADMINISTRATION BUILDINGS

PRODUCTION ENGINEERING
OFFICE
MAINTENANCE DIRECTORATE
ANNISTON ARMY DEPOT

EAST AREA INDUSTRIAL COMPLEX

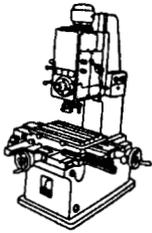
DWG. NO. ESB-967
SCALE: NTS
SHEET 1 OF 1
DATE: 21 MAR '95
DRAWN BY: S VAUGHN
CHK. BY:



MAIN VEHICLE REPAIR
FACILITY (BLDG 400)

Facilities

- 139,677 sq. ft. of environmentally controlled work space*
- 11,214 sq. ft. of 100K-Class clean room*
- \$30 Million in equipment*
- An Intrusion Detection System (IDS)*

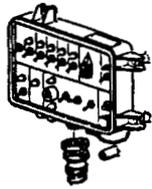


MACHINING

BLDG
145



3 - MACHINISTS



ELECTRONICS

BLDG
106



21 - ELECT TECH

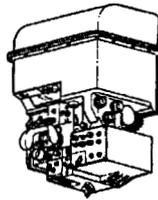


CLEAN/PAIN

BLDG
143, 433, 409



11 - CLEAN, PAINT,
METAL FINISH

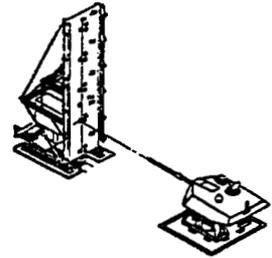


OPTICS

BLDG
106



21 - ELECTRO-OPTIC

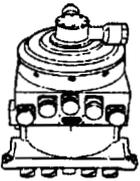


TURRET TEST

BLDG
143



2 - ART



HYDRAULICS

BLDG
117



6 - PSM

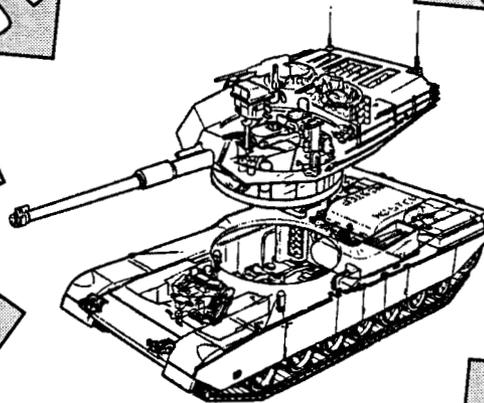


FUEL

BLDG
400, 130



4 - HME

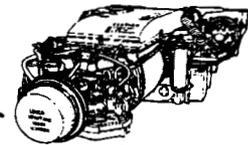


COMPONENT REPAIR

BLDG
128, 143, 146
400, 409, 434

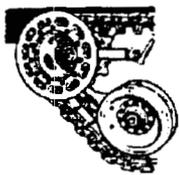


11 - HME



SUBASSEMBLY

BLDG
128

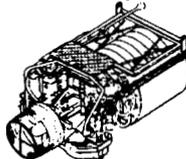


SUSPENSION/TRACK

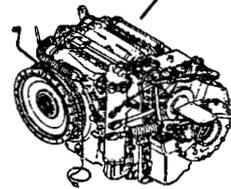
BLDG
400



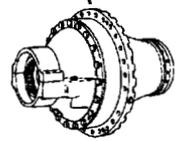
9 - HME



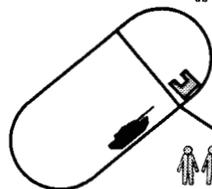
23 - HME



8 - HME



2 - HME



SYSTEMS TEST (25 MILE)



11 - HME

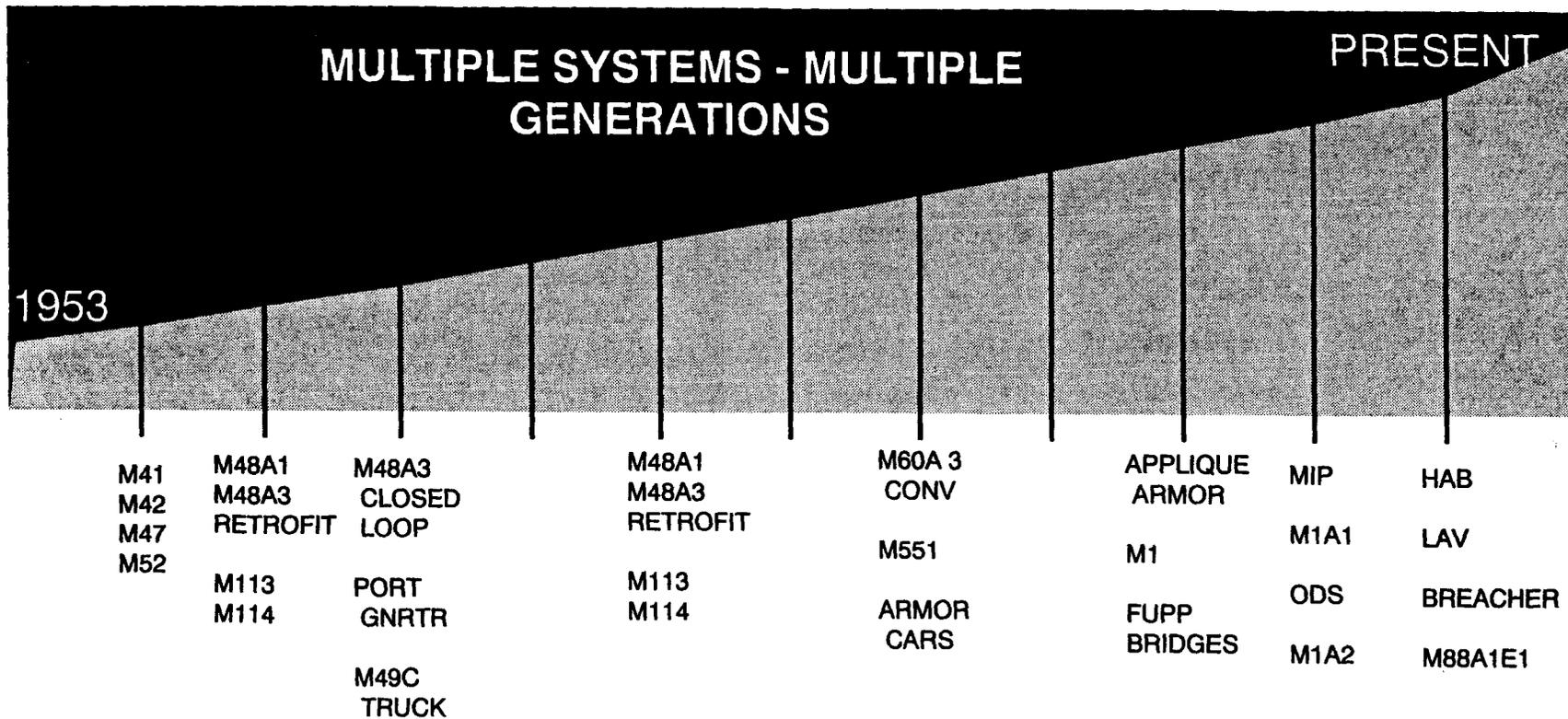
8 - ART

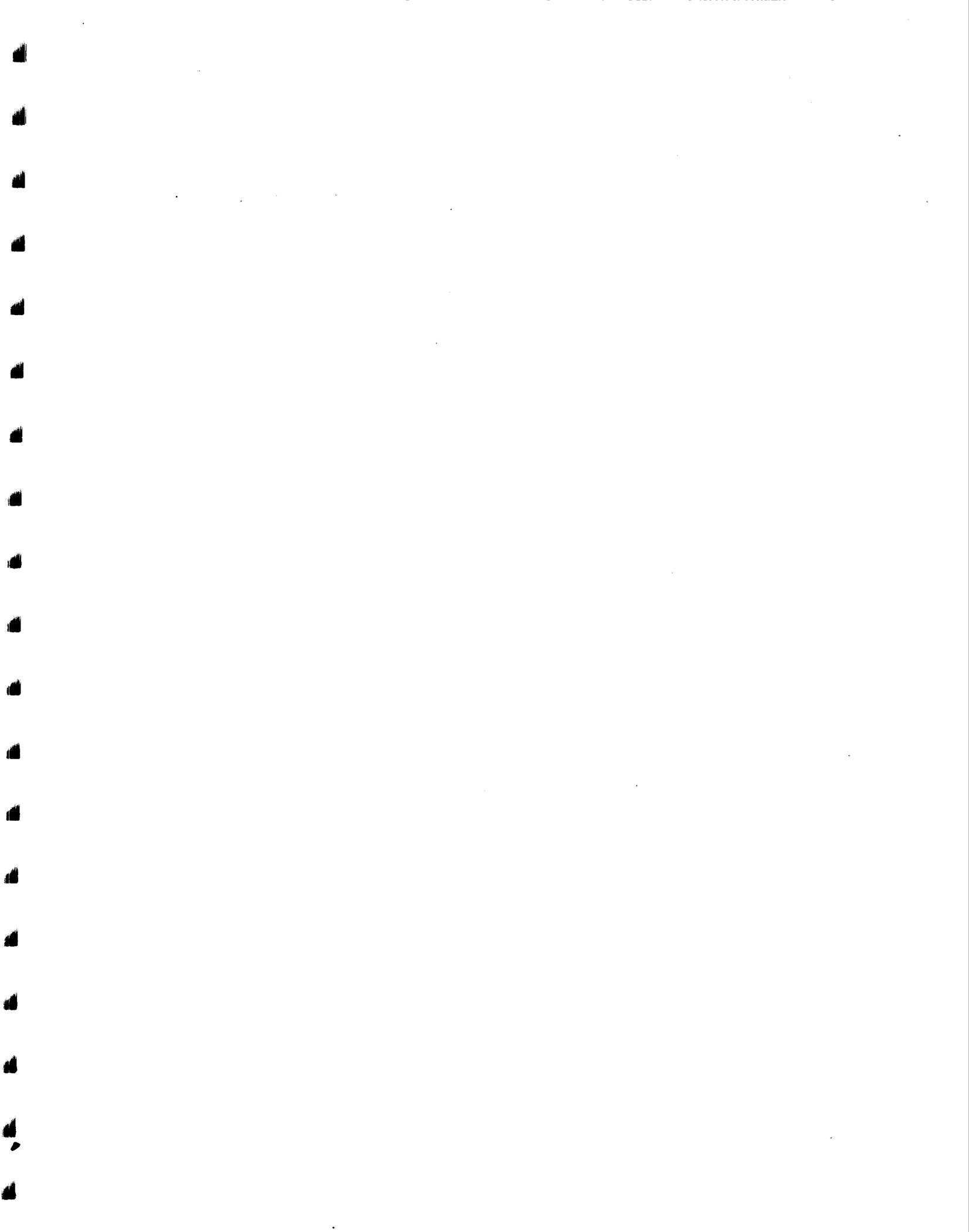
MAINTENANCE FLEXIBILITY

INSTITUTIONAL KNOWLEDGE

VEHICLE PRODUCTION HISTORY

73





DEPOT LEVEL REPAIR TECHNOLOGY/CAPABILITY MATRIX

TECHNOLOGY	ANAD	RRAD	LEAD
	M1, M88, M60, M728, AVLB, M551	BFVS, M113 MLRS	M109, TOWED ARTILLERY
Turbine Engines	X		
Diesel Engines	X	X	X
Mechanical Fire Control	X	X	X
Electro-Optics	X	X	X
Gun Tube/Recoil	X		X
Large Caliber Firing Range	X		X
High Speed Testing	X	X	
Stabilized Gun Systems	X	X	
NBC Systems	X		
Small Arms	X		
Crew Served Weapons	X		
Ballistic Armor (Steel)	X		
Ballistic Armor (Aluminum)	X	X	X
Classified Armor	X		
Laser Testing	X		X
FCIM	X		
Materials Engineering Lab	X		
Automated Vehicle Blasting	X	X	
Heavy Vehicle CNC Machining	X		
Heavy Vehicle Conventional Machining	X		
Cleaning & Finishing	X	X	X

SPECIAL PRODUCTION SKILLS

Skill Areas

Job Titles

**Heavy Mobile
Equipment Mechanics**

Heavy Mobile Equipment
Mechanics - Internal Combustion
and Turbine

Welders

Welders

Machinists

Machine Tool Operators
Machinists

Toolmakers
Automotive Machinists

**Optics/Electronics
Electronic Measurement
Equipment Mechanics
Electro Optic Mechanics**

Electronics Integrated
Systems Mechanics
Electronics Mechanics
Electronics Workers
Electronics Equipment
Mechanics

Optical Instrument
Repairers
Optical Element
Workers
Electronics Computer
Equipment Mechanics

**Equipment Operation/
Preparation/Preservation**

Forklift Operators
Mobile Industrial Equipment
Operators
Crane Operators
Electroplaters
Motor Vehicle Operators

Sandblasters
Equipment Cleaners
Preservation Packagers
Painters
Heat Treater
Tank Drivers

Small Arms/Artillery

Small Arms Repairers
Artillery Repairers

Pneudraulics Systems Mechanics
Workers

Support Skills

Metal Tank & Radiator
Repairers
Fabric Workers
Metal Forming Machine
Operators

Chemical Equipment
Repairers
Metal Photo Transfer

SPECIAL SKILL CAPABILITIES

Personnel Certifications

Non-Destructive Testing Certification **(Levels I, II, & III)**

Radiography.....	6
Magnetic Particle.....	62
Liquid Penetrant.....	70
Ultrasonics.....	5

Vehicle Test Driving Certification

Combat Vehicles.....	75
----------------------	----

Soldering Certification

MIL Standard 2000.....	472
------------------------	-----

Statistical Process Control

Trained (on-site).....	2,992
Trained (external).....	371

Welding Certification

GTAW Fillet Welding of Stainless Steels.....	10
Aluminum Castings.....	1
Medium Girder Bridge.....	1
GTAW Aluminum (Fuel Cells).....	9
GTAW (Armor and Constructional Steels)....	4
Plug Welding - AWS D 1.1	1
FCAW Homogeneous Armor.....	3
Fillet - Armor.....	41
GMAS/GTAW Alum Alloy (Excl. Armor).....	8
Arc - Constructional Steels.....	58
Special SMAW.....	2
MAW - Homogeneous Armor.....	56
Structural Steel.....	63
Special M1 Mod.....	23
GTAW - Aluminum Alloy.....	1

Organic Abrasive Cleaner Certification

Organic Abrasive Blaster/Operator.....	9
--	---

Skills

Electronics.....196

5820 years plus

9510 to 20 years

430 to 10 years

Electro-Optic122

2520 years plus

8210 to 20 years

150 to 10 years

Training

Trade Schools

- *Electronics Courses*

After Hours

- *On-Depot*
- *No Expenses Involved*
- *Apprentices*

Apprentice Program

- *D.O.L. Approved*
- *1 to 3 Ratio*

On-The-Job

- *Familiarization*
- *System Related*

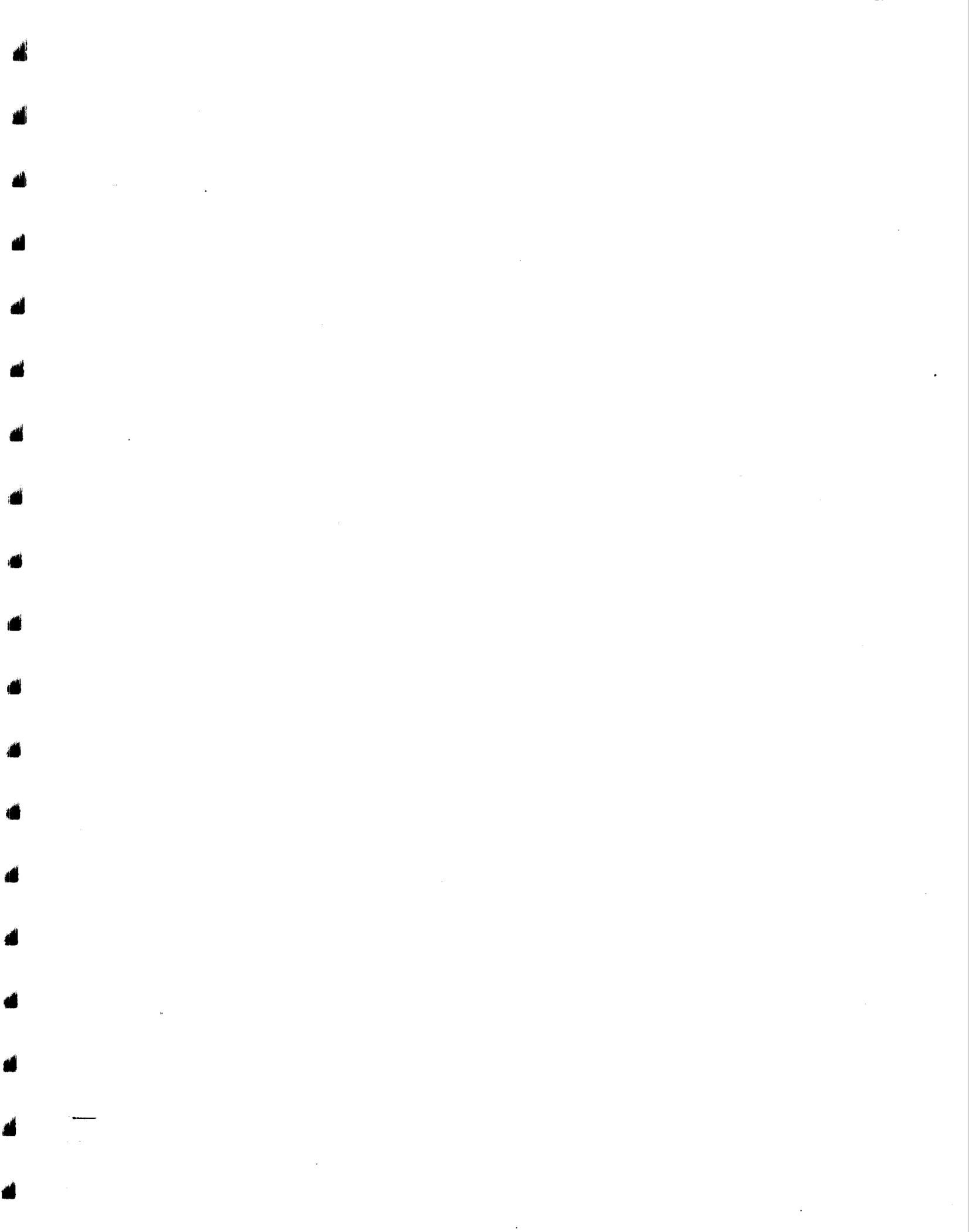
Technical Training Office

Apprentice & Worker Electronics Training

<u><i>Title</i></u>	<u><i>Hours</i></u>
● <i>Basic Mathematics for Electronics</i>	40
● <i>Fundamentals for Electronics</i>	80
● <i>AF Communication Fundamentals</i>	80
● <i>RF Communication Fundamentals</i>	80
● <i>Instruction Electronics Fundamentals</i>	80
● <i>Industrial Electronics Fundamentals</i>	80
● <i>Digital Electronics Concepts</i>	120
● <i>Microprocessor Concepts & Applications</i>	120
● <i>Interface & Memory Concepts</i>	80
● <i>16-Bit Microprocessor Concepts</i>	120
● <i>Robotics Concepts & Applications</i>	80
● <i>Laser & Optics Fundamentals</i>	120
● <i>Certified Soldering (MIL-STD-2000)</i>	40
● <i>Electrostatic Discharge Awareness</i>	2
<i>Total</i>	<u>1,122</u>

Preparatory Electronics Training

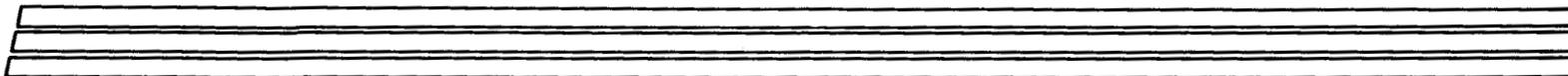
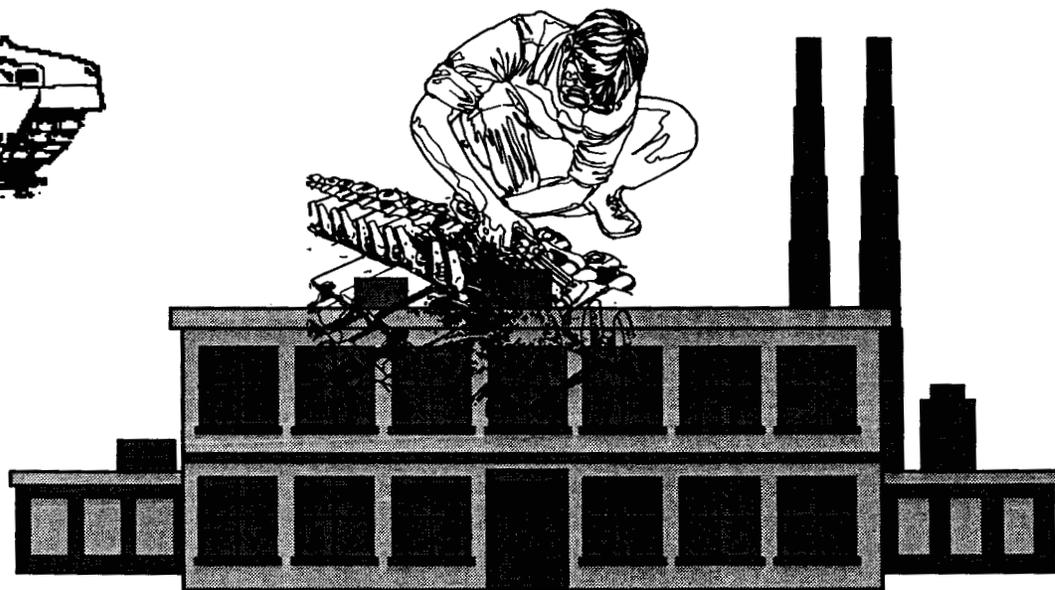
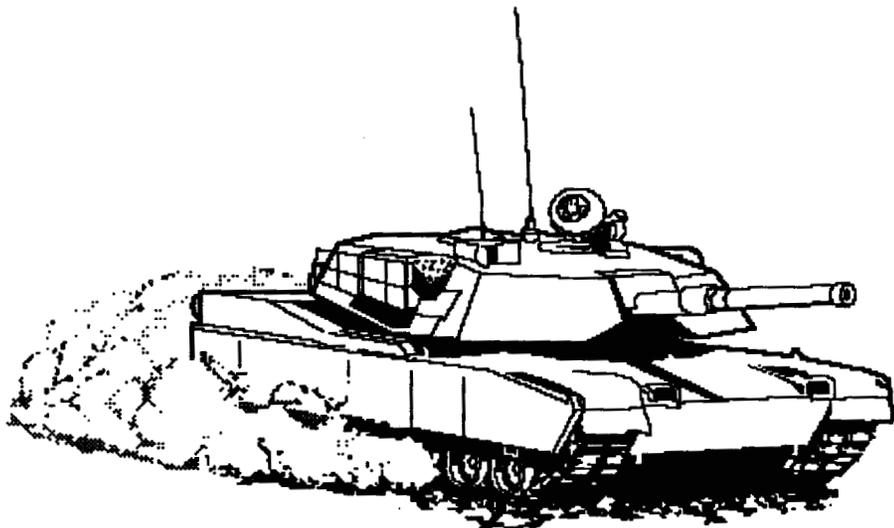
● <i>AC/DC Fundamentals</i>	80
● <i>Basic Electronics</i>	80
● <i>Motors & Generators</i>	80
<i>Total</i>	<u>240</u>





Strategic Planning Initiatives

80

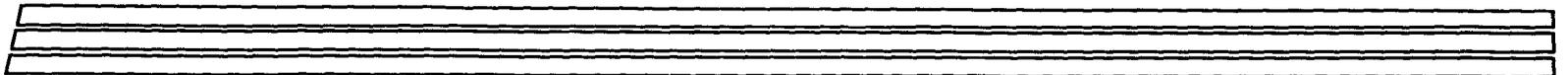


Anniston Army Depot



**PARTNERING AGREEMENTS WITH PRIVATE
INDUSTRY**

81

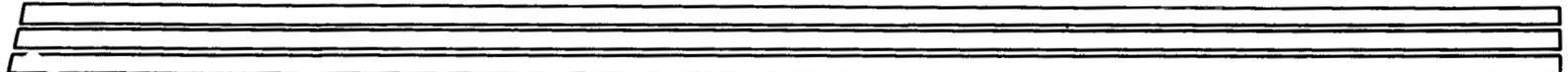


Anniston Army Depot



Abrams Integrated Management (AIM) XXI

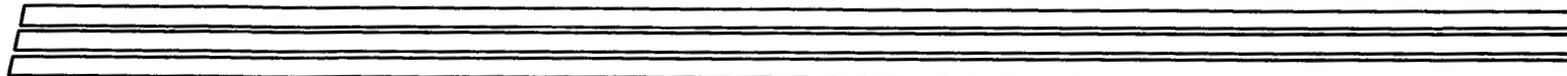
- ❑ **Recycle and Refurbish NTC M1A1 Fleet to Optimum Condition in Order to Sustain Training and Readiness**
 - ❑ Restoration of Vehicles
 - ❑ Field Support
 - ❑ Information Management
- ❑ **Partnership with General Dynamics Land Division (GDLS)**
- ❑ **MOU Signed 23 Sep 94**
- ❑ **SOW and Estimate Complete 3 Apr 95**





FOX Upgrade Program

- ❑ Upgrade 103 US Army Basic XM93 FOX NBC Reconnaissance Systems to M93A1 Improved (IOT&E) Configuration
- ❑ Partnership with General Dynamics Land Division (GDLS)
- ❑ Participants: ANAD, GDLS, and CBDCOM
- ❑ MOU in Final Stages





Manufacturing Technology Consortium (MTC)

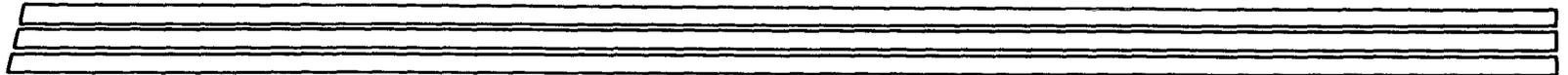
- ❑ Technology Transfer and Defense Reutilization Project to Assist Small and Mid-sized Manufacturers
- ❑ Partnership with Jacksonville State University
- ❑ Business Plan Complete
- ❑ Current Funding Includes:
 - Part-time Director through ADECA
 - Funds for Developing Video through EAACC to JSU for Filming
- ❑ Pursuing Grant Through Appalachian Regional Commission





Hybrid Electric HMMWV

- ❑ **Develop Hybrid Electronic Drive for HMMWV to Provide the Soldier with Silent Drive, Extended Range, and Reduced Signature Capability in the Army's HMMWV Fleet.**
- ❑ **Primary Partner is Pentastar Electronics, Inc.**
- ❑ **Partnership Agreement Signed 28 Nov 94**
- ❑ **Funding of \$1M from ARPA with Matching Funds from Industry Partners**





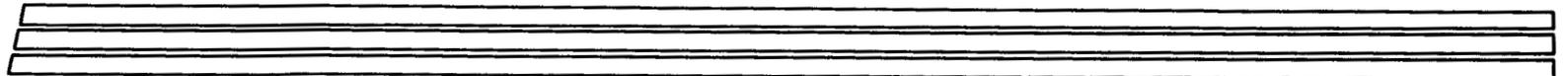
Electronic Integrated Program Management

- ❑ Joint Flexible Computer Integrated Manufacturing (FCIM) Experiment on the Army's M1A2 Tank Upgrade Program Providing Real Time Visibility for Material Review Board Issues & Defective Government Material

- ❑ Partnership with General Dynamics Land Systems

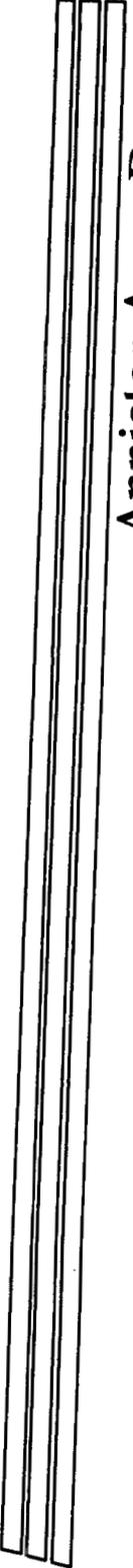
- ❑ Electronically Connecting:
 - Anniston Army Depot
 - GDLS/Lima Tank Plant
 - ABRAMS PMO

- ❑ Capability Currently Operational





**OTHER
SPECIAL INITIATIVES**



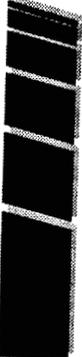
Anniston Army Depot



Louisiana Maneuvers

- ❑ ANAD Interface with Sensor Artificial Intelligent Communication Integrated Maintenance System (SACIMS)
- ❑ Onboard Sensors Imbedded in the AGT 1500 Engine Predict Failure Prior to Occurrence
- ❑ Joint Initiative with CSS Battlelab
- ❑ Field Test Scheduled Aug 95 at the AWE

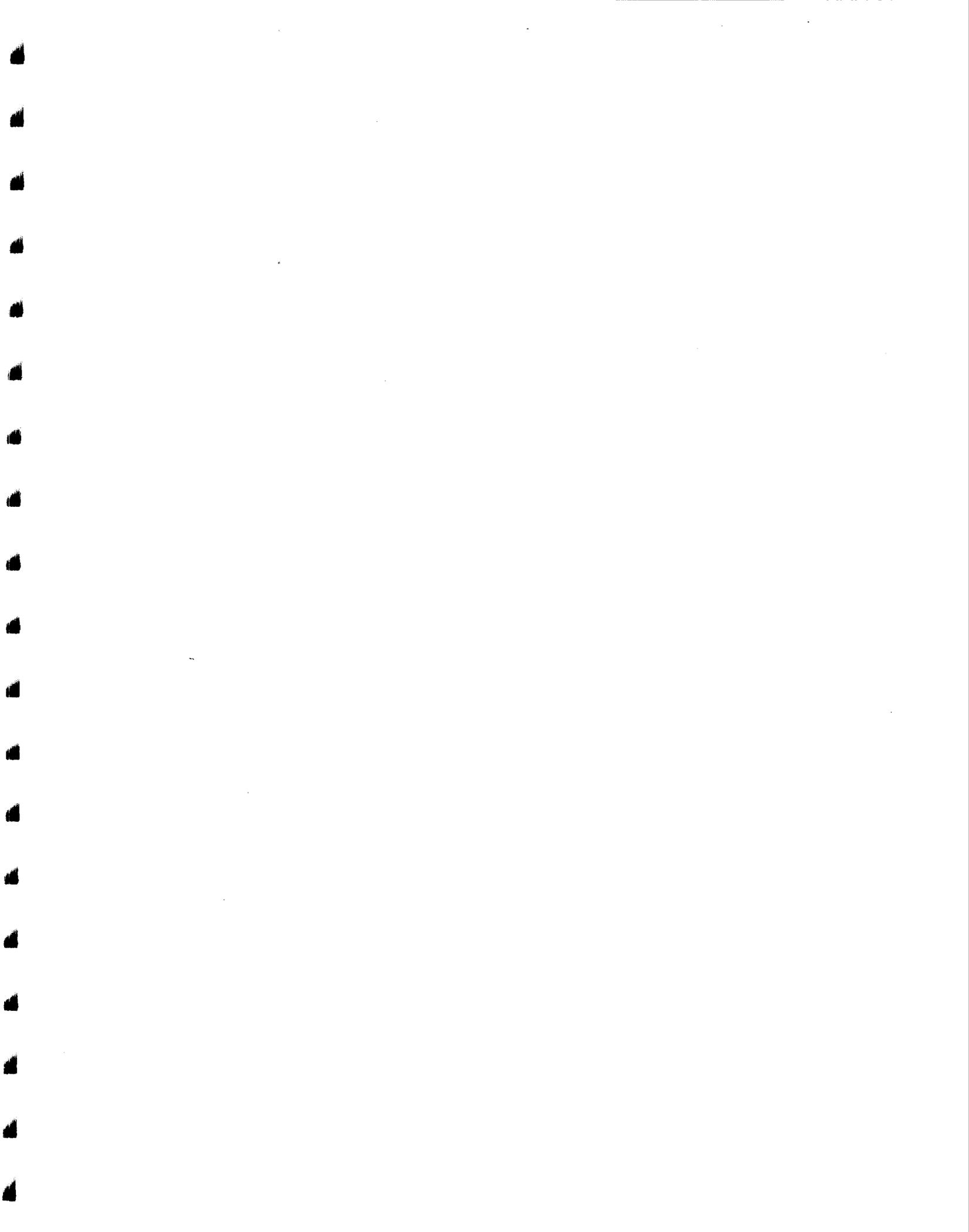




Tele-Maintenance - Video Assisted Repair

- ❑ ANAD interfaces SACIMS with the MICOM initiative Tele-Maintenance for the upcoming Prairie Warrior Exercise at Ft. Leavenworth, Ka. May 15-25, 1995
- ❑ ANAD takes the Factory to the Fox Hole
- ❑ Electronic Transmission of Video/Audio Data
- ❑ Remote Technician Field Support
- ❑ Improved Maintenance Technology





Flexible Computer Integrated Manufacturing (FCIM)

FCIM requires that the information be rapidly delivered to and received from the shop floor.

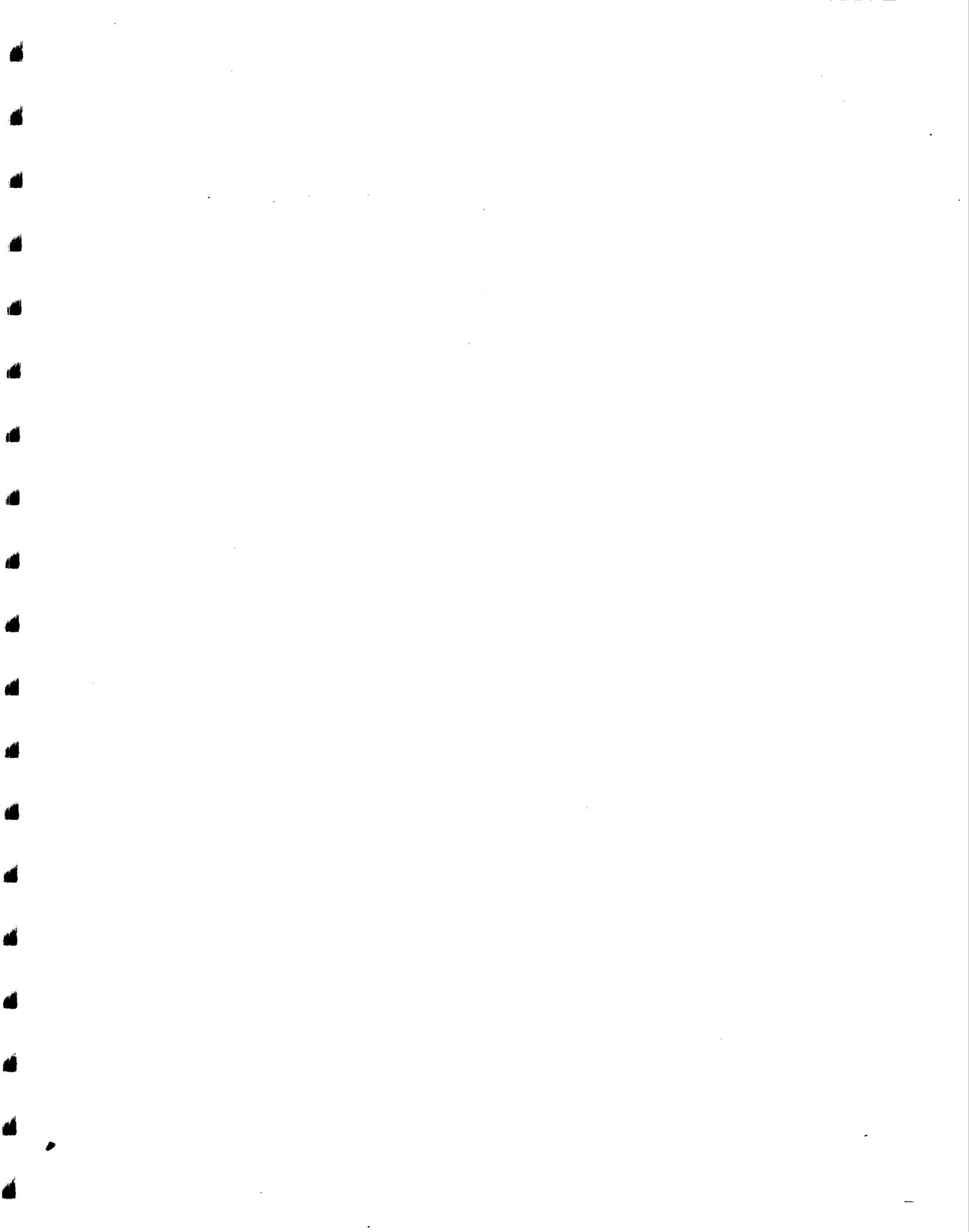
The Rapid Acquisition of Manufactured Parts (RAMP) system accomplishes this task at Anniston. Enhancements to the Navy's baseline system make the Anniston RAMP system the most advanced within DOD. The capabilities of the RAMP system include forward scheduling, distributed numerical control, computer aided process planning, capacity planning, electronic data interchange, and other abilities. Additionally, the RAMP system can capture the part pedigree information required when producing level one parts used in nuclear or sub-safe applications.

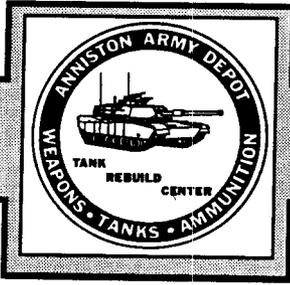
The goal of the system is to allow Anniston to deliver small lot sizes of replacement parts to a customer at a competitive price within 30 days after identification of a requirement.

Installation of the Anniston RAMP system hardware is complete. The RAMP system was released for production at Anniston in September 1994.

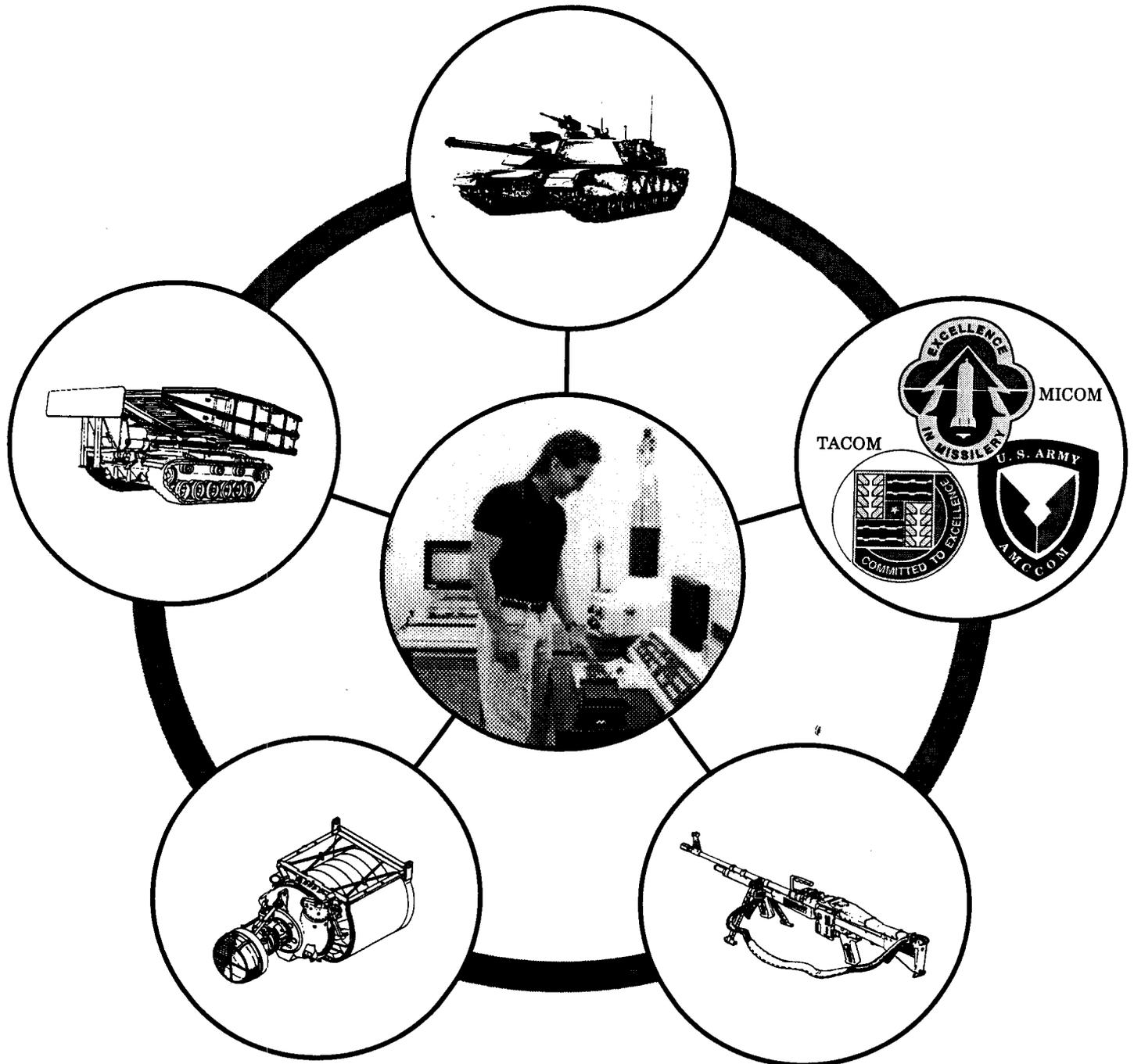
The RAMP network is integrated with Anniston's existing Intergraph CAD network. Sparc workstation controllers on the shop floor will display graphics created on the Intergraph CAD system, operator instructions, SPC requirements and download machine tool programs. DEC minicomputers run the Production and Inventory Control software, the Manufacturing Cell Controller software and the RAMP system software and common database. All of the systems are connected to the uninterruptible power supply (UPS) and are operative.

The RAMP system is able to import technical data directly from JEDMICS. JEDMICS is an automated information system consisting of computer hardware and software configured to retrieve, store, reproduce, distribute and manage engineering data. The Anniston JEDMICS system is installed and current weapons system information is being loaded.





MATERIALS LAB



MATERIALS ENGINEERING LAB

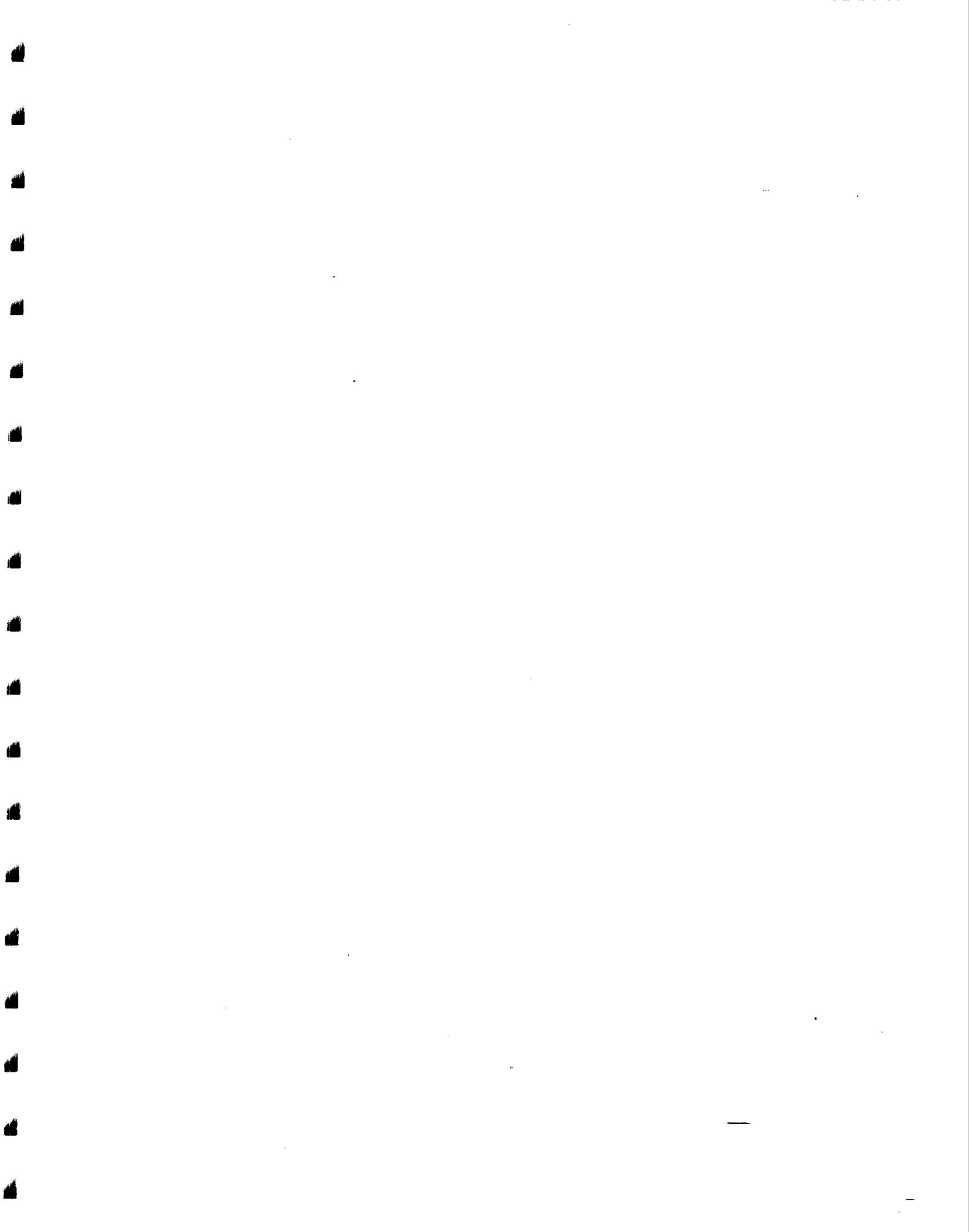
MISSION

- **SUPPORT PRODUCTION PROCESS**
- **ENSURE QUALITY AND SPECIFICATION CONFORMANCE**
- **NEW PROCESS PROGRAM CERTIFICATION**
- **PERSONNEL CERTIFICATION**
- **FAILURE ANALYSIS**
- **MICROSTRUCTURAL ANALYSIS**
- **SUPPORT OTHER GOVERNMENT AGENCIES**

MATERIALS ENGINEERING LAB

EQUIPMENT

- **OPTICAL EMISSION SPECTROMETER**
- **X-RAY FLUORESCENCE SPECTROMETER**
- **LECO CARBON DETERMINATOR**
- **1X - 80X MAGNIFICATION MICROSCOPES**
- **50X - 1000X MAGNIFICATION METALLOGRAPHS**
- **1X - 1000X MAGNIFICATION PHOTOGRAPHY SYSTEM**
- **HARDNESS TESTERS**
 - **STANDARD**
 - **SUPERFICIAL**
 - **BRINELL**
 - **MICRO HARDNESS**
 - **DUROMETER**



M1 FOV PROGRAM

	OVERHAUL		RC IRON	
	M1	M1A1	M1	M1A1
EST MANHOURS	3989	4061	1688	1842
EST UNIT FUNDED COST	451,050	457,817	199,858	223,258

PRODUCTION SCHEDULE

M1 RC IRON SCH/PROD	FY95						
	FY91	FY92	FY93	FY94	OCT	NOV	DEC
	62/62	320/320	476/476	373/373	35/35	39/39	43/41

FY95 (cont'd)

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
6/8	51/45	32/0	20/0	20/0	20/0	23/0	25/0	27/0

FY96

OCT	NOV	DEC
25/0	25/0	11/0

FIELDING FEEDBACK

- **FY 94 DEFECTS - AVERAGED LESS THAN 4.0 (MINOR)**
- **IDENTIFY CUSTOMER REQUIREMENTS - UP FRONT COMMUNICATION**
- **FIELDING FOLLOW UP - VERIFY CUSTOMER NEEDS HAVE BEEN MET**

M1 FOV UPGRADE

M1A2

M1 / M1A2

- COPRODUCTION - GDLS
- PLANNED QTY - PHASE I - 206
- PHASE II - 792

SCHEDULE

FY	94	95 - 01	2002
QTY	86	120 PER YR	72

HAB

M1 / HAB

- COPRODUCTION - GDLS
- PLANNED QTY - 106/YEAR

SCHEDULE

FY	94	96-99
QTY	2	106

BREACHER

M1 / BREACHER

- COPRODUCTION - BMY
- PLANNED QTY - 106/YEAR

SCHEDULE

FY	94	97-99
QTY	1	106

U.S. MARINE CORPS PROGRAMS

	SCHEDULED QTY	
	FY 95	FY 96
M1A1 REFURBISH & UPGRADE	50	
M1A1 RC IRON	11	42
M1A1 T84 RC IRON	21	63

FMS WORKLOAD - M60 FOV

ITEM	CUSTOMER	SCHEDULED QTY
M60A3 TTS	TAIWAN	160
M60A3 TTS	THAILAND	102

M88A1

IMPROVED RECOVERY VEHICLE (IRV)

M88A1 → M88A1 IRV

● **COPRODUCTION - BMY**

● **PLANNED QTY - 52**

SCHEDULE

FY	94	95	96	97	98
QTY	13	6	9	12	12

70 TON BRIDGE UPGRADE

- **TEAMING - TACOM and FT. BELVOIR**
- **PLANNED QTY - 10**

SCHEDULE

FY	95
QTY	10

MEDIUM GIRDER BRIDGE

- **TEAMING - ATCOM and WILLIAMS FAIREY**
- **PLANNED QTY -7**

SCHEDULE

FY	95
QTY	7

ARDEC TURRET

- **TEAMING - ARMY RESEARCH DEVELOPMENT
ENGINEERING COMMAND**
- **PLANNED QTY - 2**

SCHEDULE

FY	95
QTY	2

COMBAT IDENTIFICATION PANELS (BATTLEBOARDS)

- **TEAMING - SPECIAL ASSISTANT
FOR COMBAT IDENTIFICATION
HEADQUARTERS, AMC**
- **PLANNED QTY - 2301**

FY 93

SCH	174 SETS
COMP	174 SETS

FY 94

SCH	1017 SETS
COMP	1017 SETS

FY 95

SCH	1110 SETS
------------	------------------

NON-DEFENSE COMMERCIAL CO-PRODUCTION

10 USC 4543 Allows Private Industry to Team With Public Facilities To Manufacture Products That Are Dominated By Foreign Suppliers.

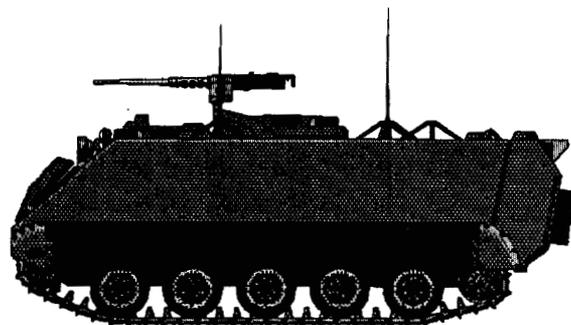
Teaming Agreement With United Defense Industries, L.P. Was Signed On 14 April 1994 To Utilize Depot Core Skills For Production Of Specialized Mining Equipment Not Currently Available From Domestic Suppliers.

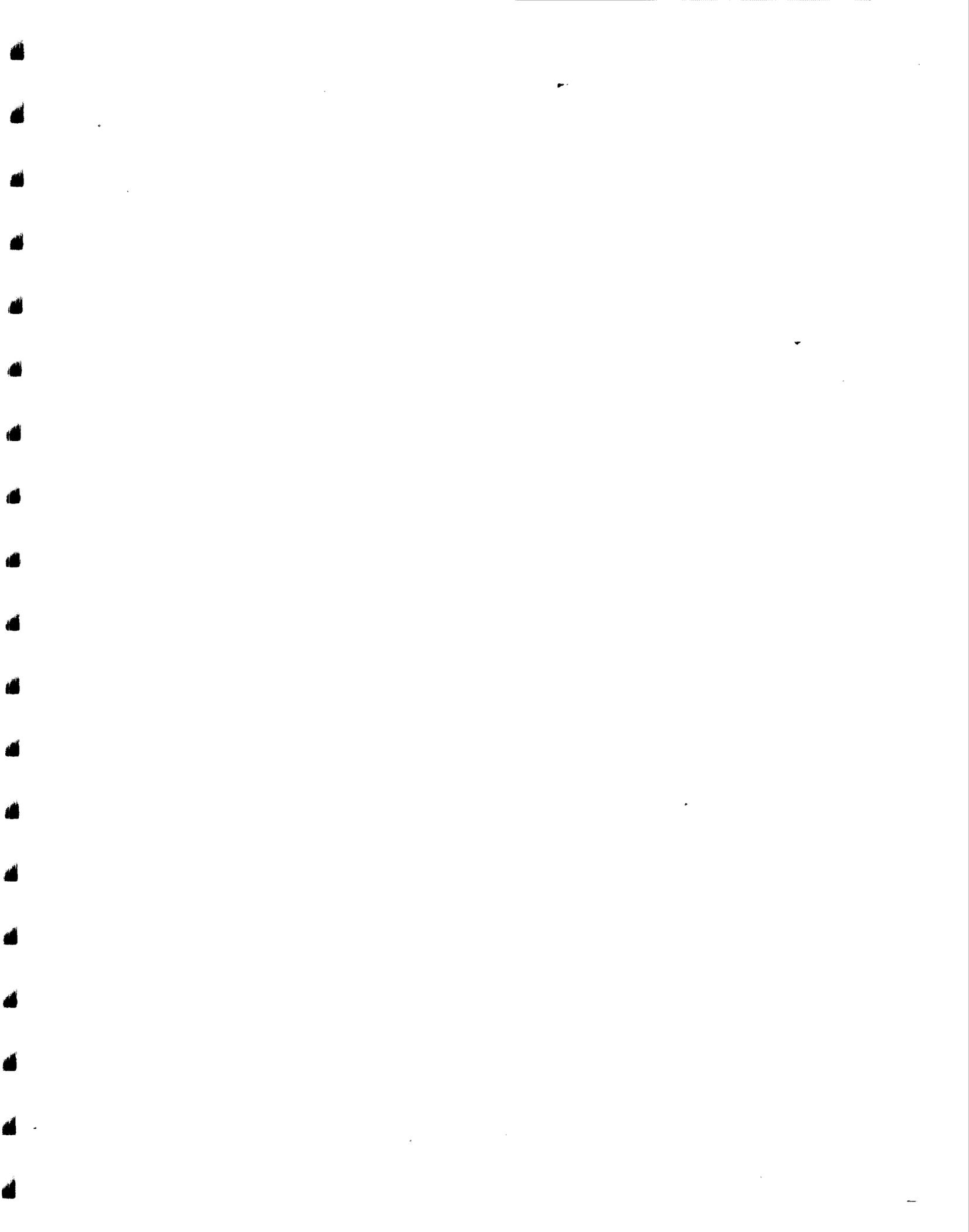
Anniston Army Depot Is Currently Executing A \$276,000.00 Basic Order Agreement For Fabrication Of Specialized Mining Equipment.

VEHICLE TEST TRACK USE AGREEMENT

MG Benchoff, CG IOC, Signed An Agreement With United Defense, L.P. For Use Of The Combat Vehicle Test Track At Anniston Army Depot.

The Agreement Allows United Defense To Test 471 M113A2 to A3 Armored Personnel Carriers At Anniston Army Depot. The Usage Fee For This Effort Is \$35,060.00





TURBINE ENGINE WORKLOAD

PRODUCTION	FY89	FY90	FY91	FY92	FY93	FY94	FY95	FY96
RTS M1 ENG EQUIV	577	695	867	648	149	220	432	272
M1 SERIES TANK ENG EQUIV	59	41	46	160	248	228	334	156

COST HISTORY

FY 86 ESTIMATED NEW COST\$300,000.00

CURRENT NEW COST \$497,020.00

FY 86 ANAD UNIT

FUNDED COST \$120,000.00

FY 95 ANAD SLE ENGINE

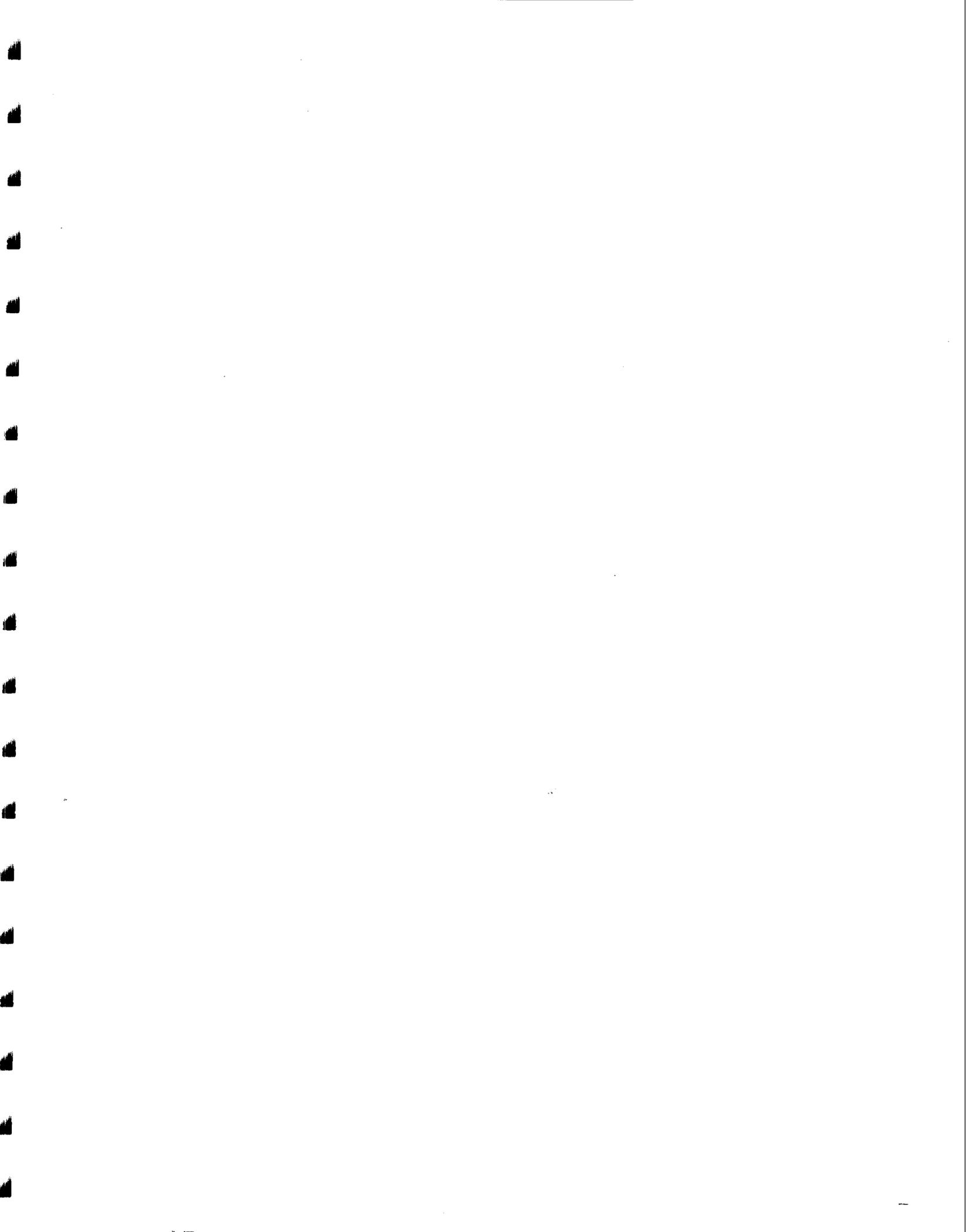
UNIT FUNDED COST \$115,312.66

PRPs FOR THE AGT 1500 ENGINE

- ★ **274 PARTS HAVE PRPs**
- ★ **420 TOTAL PARTS**
- ★ **175 PRPs INITIATED BY ANAD**

PRP = PART REPAIR PROCEDURE

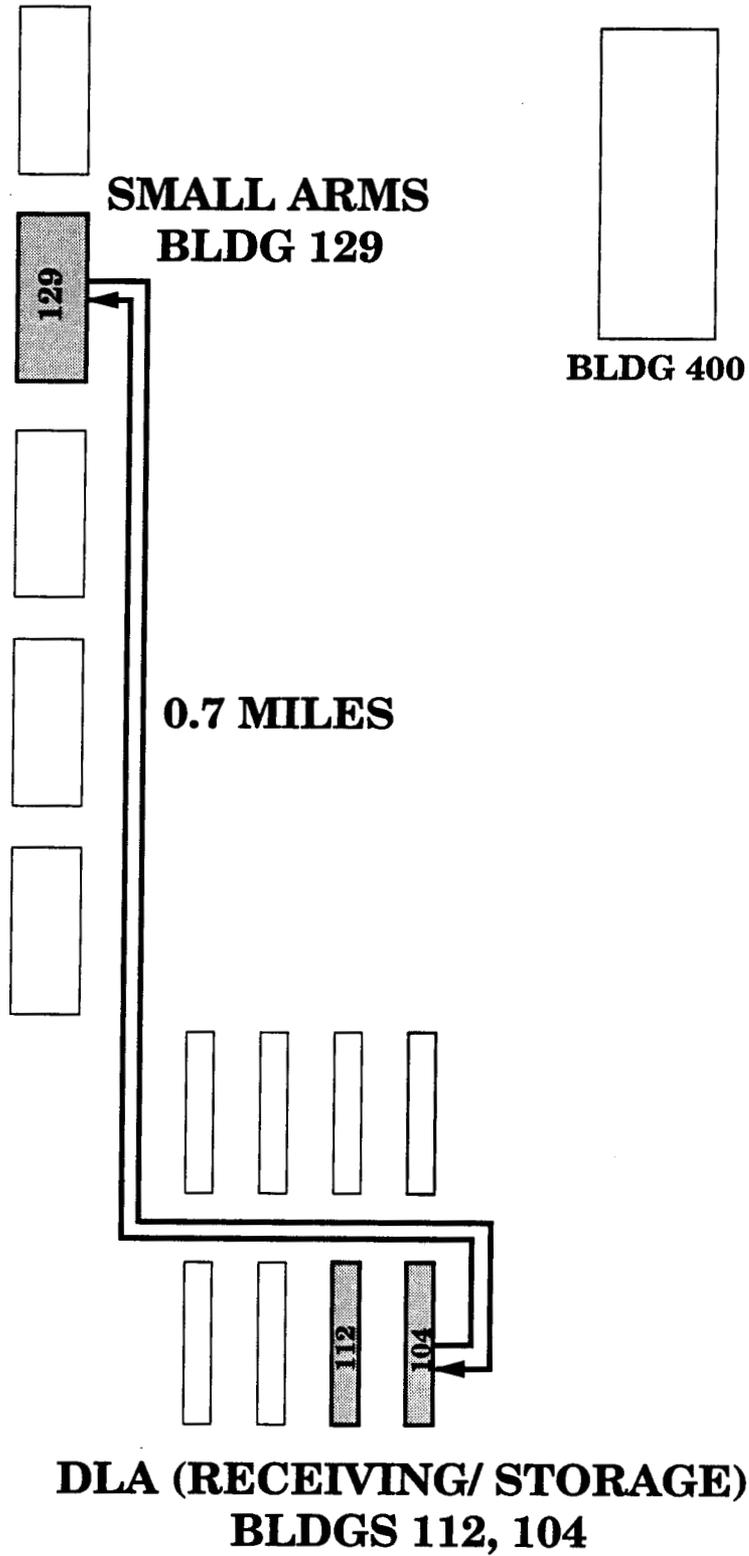
**ALL PRPs WILL BE INCORPORATED
IN DMWR REWRITE**



SHOP SECURITY CHARACTERISTICS

- Restricted Access Building
- Personnel - All are screened IAW AR 190-11 and LOI VII-06 using SDSAN Form 1090
- Personnel Entrance / Exit
- Metal Detector Monitoring (Exit Only)
- Monitored & Secured Receiving Area
- Secured Parts Room
- Secured Pistol Room
- Secured In-House Ammunition Storage Vault
- Monitored & Secured Shipping Area

SMALL ARMS ROUTE

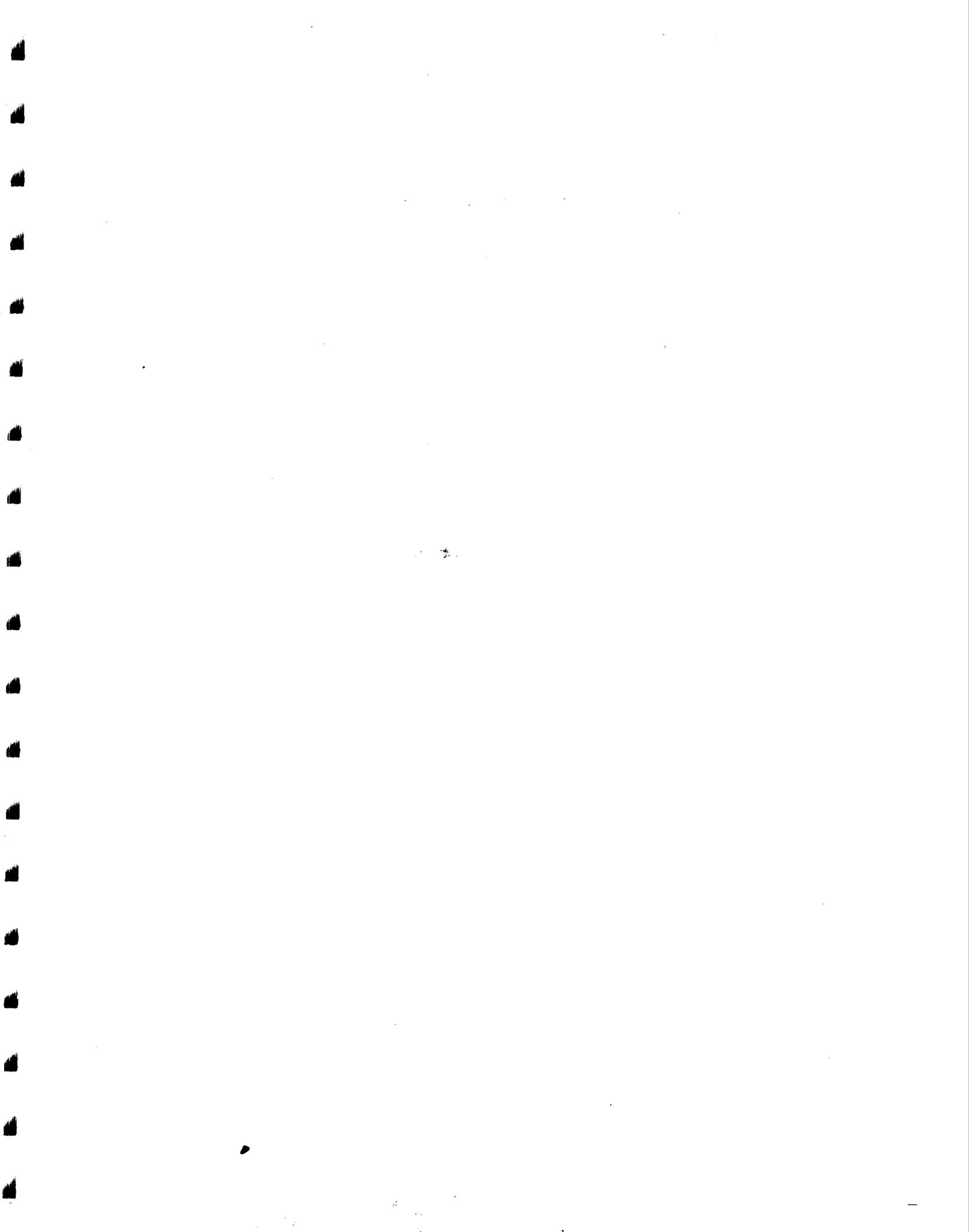


WEAPONS IN-PROCESS

<u>TYPE WEAPON</u>	<u>MARCH PRODUCTION</u>	<u>APRIL PRODUCTION</u>
M16A1 Rifle	1,500	1,500
M16A2 Rifle (COV)	1,500	1,500
M16A2 Rifle (OH)	500	500
M60 Machine Gun	100	100
M2 50 Cal Machine Gun	100	100
M1 Rifle (Ceremonial)	435	0
M134 Mini Gun	60	0
M134 Mini Gun	0	17
M134 Mini Gun	0	3
M134 Mini Gun	0	6
M134 Mini Gun	0	6
45 Cal Pistol (National Match)	100	10
M249 SAW (Squad Auto. Weapon)	50	150
M230 Chain Gun	2	3
M3 Mount	50	50
M66 Ring Mount	10	0
M66 Ring Mount	50	22
M66 Ring Mount	3	2
M66 Ring Mount	1	3
Hellfire Container	100	100
81mm Mortar	100	100
(Approximately)	<hr/> 4,447 Weapons 214 Assembly Accessories	<hr/> 3,995 Weapons 177 Assembly Accessories

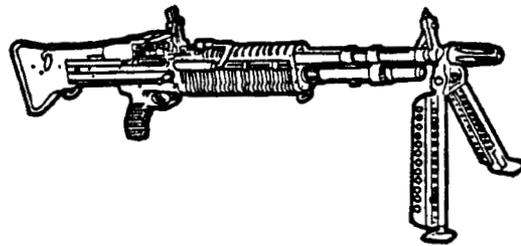
Plus Weapon Parts Storage

**No Limit of Weapons in Shop, but Kept at a
Minimum to Maintain Production.**

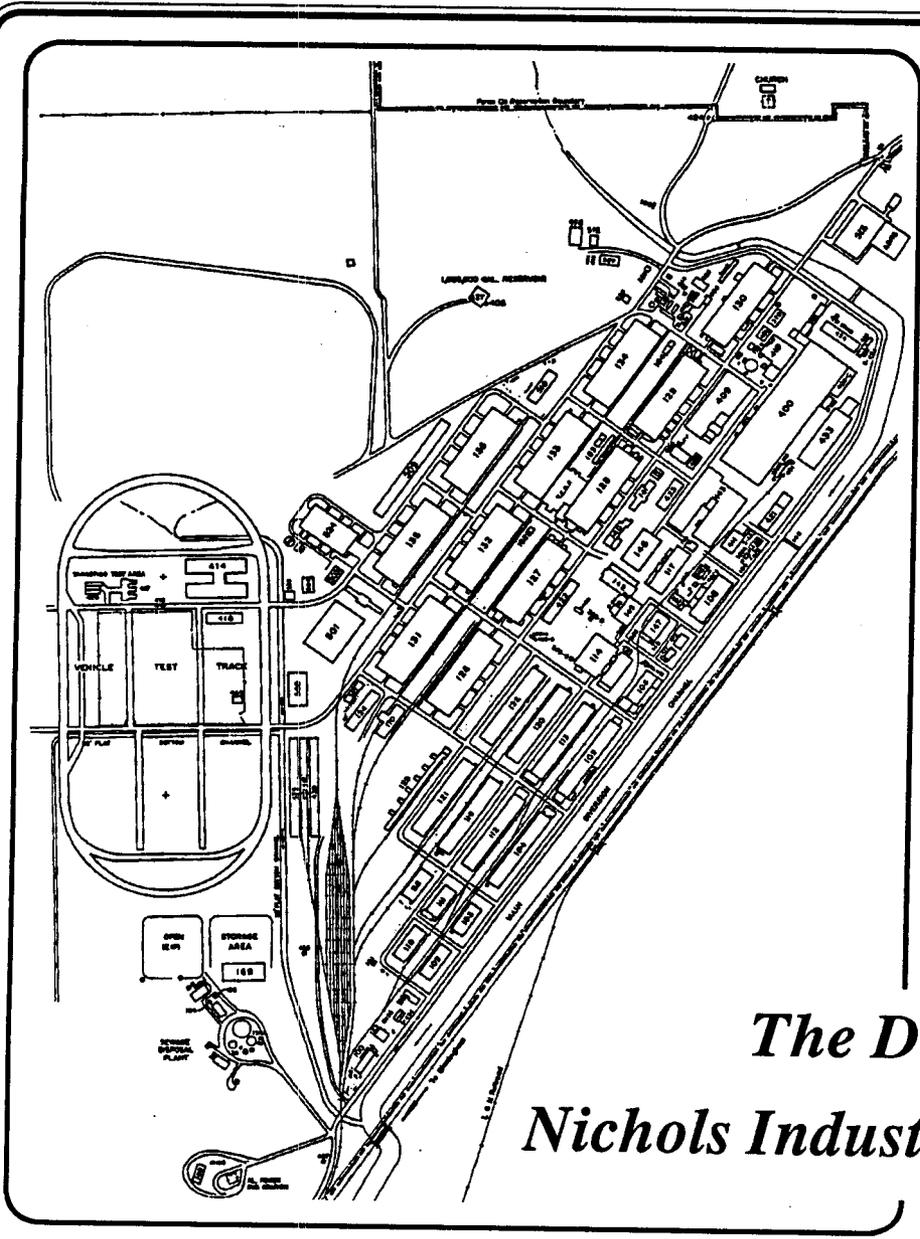


**Defense Distribution Depot -
Anniston**

*DDAA
Warehousing Division #2*



Weapons Support



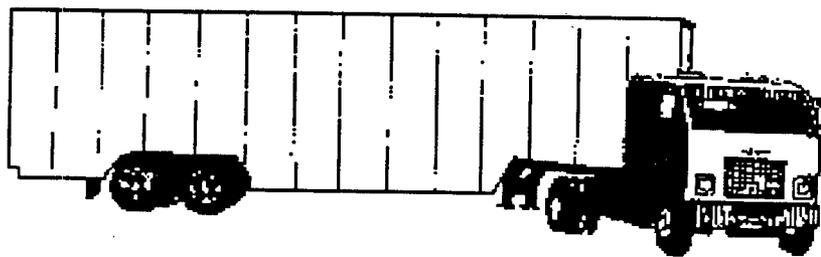
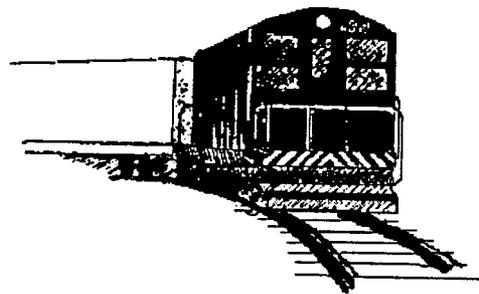
*The Depot's
Nichols Industrial Complex*

Storage 220,232 Sq. Ft. (Net)

Processing 64,740 Sq. Ft.

Mission (Functions)

- Receiving*
- Storage*
- Preservation/Packaging*
- Minor Repairs*
- Shipping*
- Demilitarization*



Mission (Commodities)

- Pistols*
- Rifles*
- Machine Guns*
- Grenade Launchers*
- Mortars*
- Rocket Launchers*
- Recoilless Rifles*
- Weapon Major Components*
- Weapon Repair Parts*
- Chemical Alarms*
- Controlled Cryptographic Items*
- Demil Required Items*

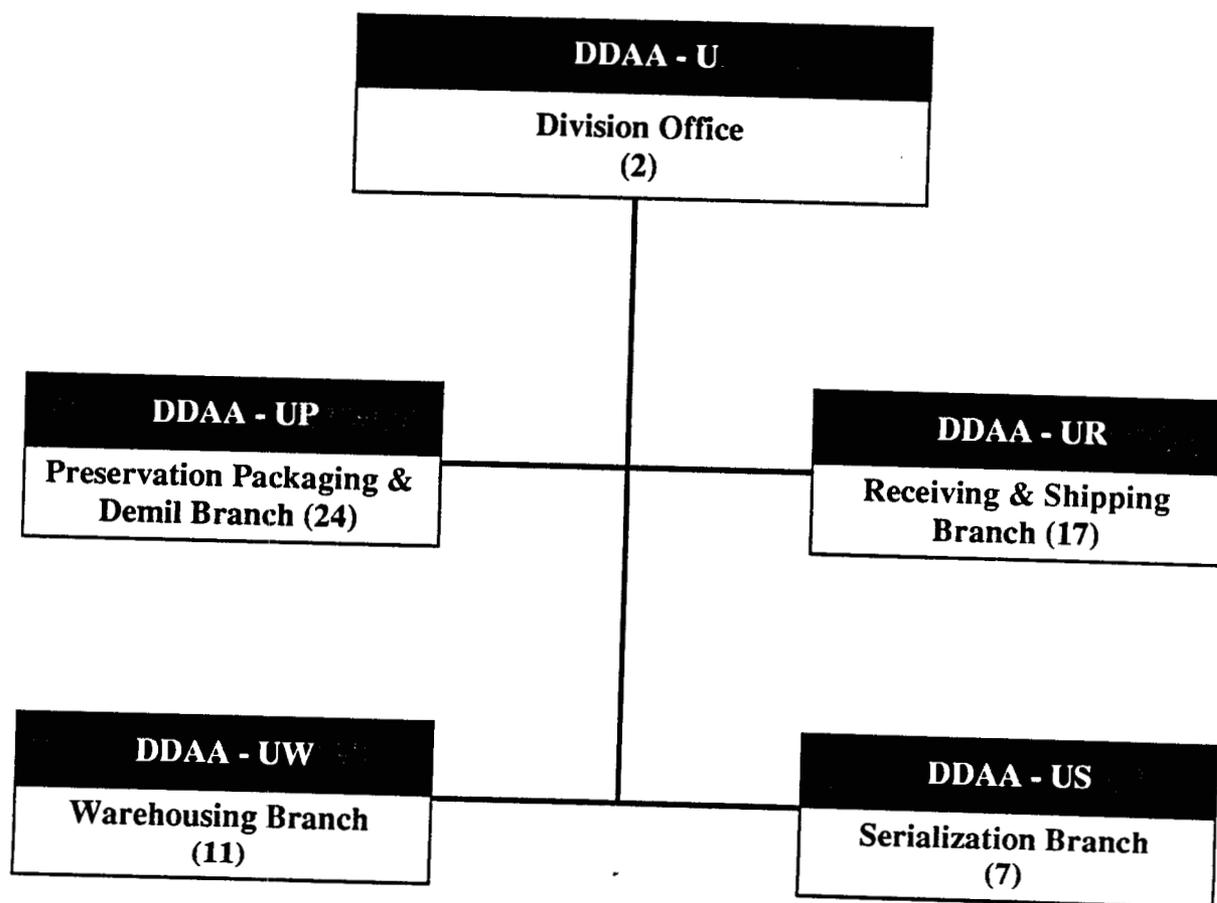
Small Arms Mission Activity

(5-Year Average)

- Receiving316K Weapons*
- Packaging104K Weapons*
- Shipping263K Weapons*
- Serialization3.4M S/N Transactions*
- Minor Repair.....61K Weapons*
- Demilitarization1,198 Short Tons*
- Storage3.0M (\$1.1B) **

** As of 28 Feb 94*

Organization



Security

Personnel Security

- *Non Critical Sensitive Positions*
- *Adjudication by DDRE (Memphis)*

Physical Security

- *Restricted Access*
- *Single Personnel Entrance*
- *Sign In - Sign Out*
- *Two-Man Rule*
- *Visitors Escorted*
- *Key & Lock Control*
- *Badge Exchange*
- *Metal Detectors*
- *High Security Hasps & Padlocks*
- *Security Checks Hourly*
- *Intrusion Detection System*
(Interior & Exterior)
- *Parking*

Security - Continued:

Accountability

- *Accountable Records at AMCCOM*
- *Annual DODSASP Reconciliation*

Inventory

- *Performed Annually by Inventory Integrity Division*
- *Annual Small Arms Reconciliation/ Location Survey*

Inspections

- *GAO, AAA, TAOR (DLA), IRAC, DLES, IG*

Demil

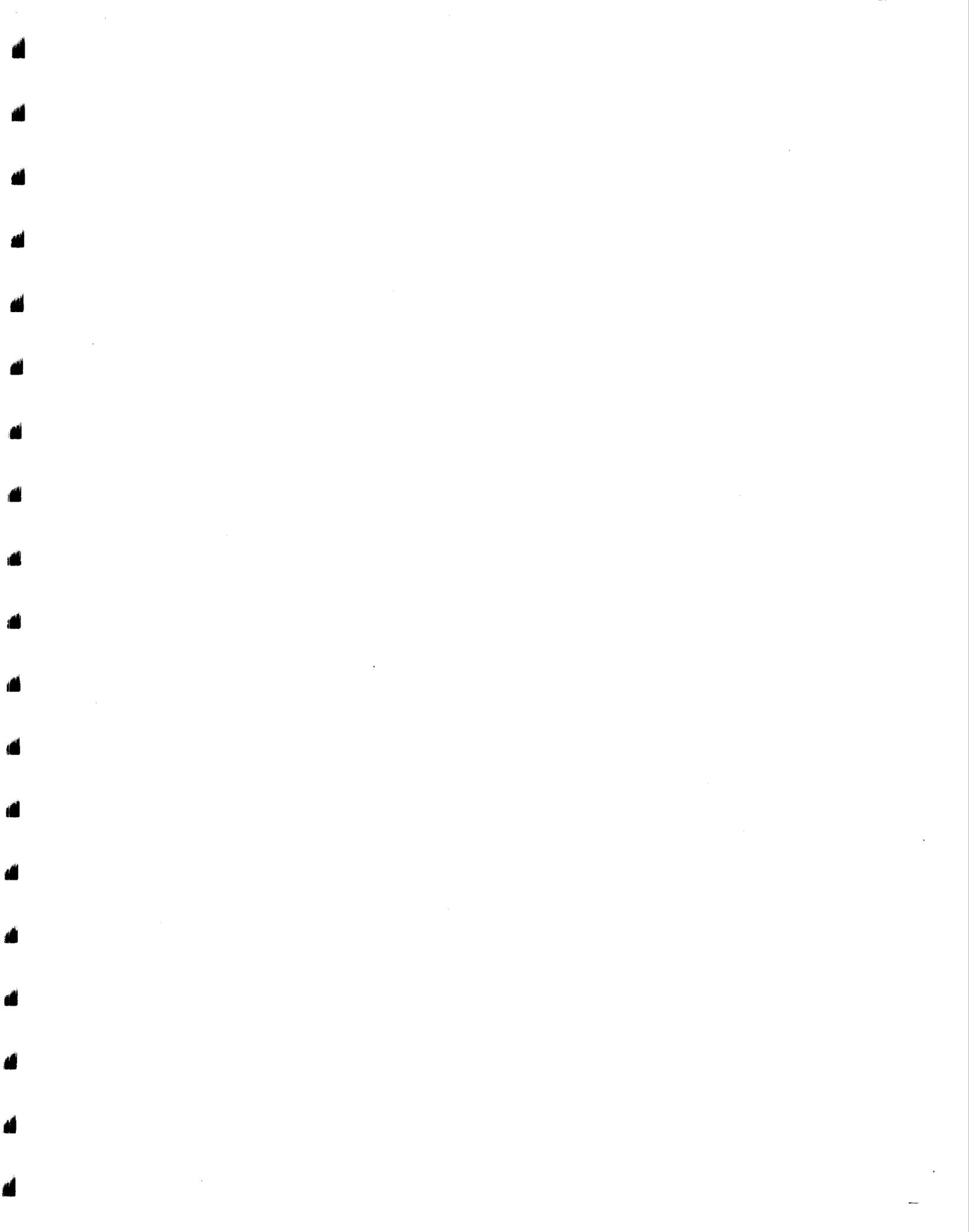
- In accordance with DoD 4160.21-m-1
(Oct 91)*
- Metal Shredder (Captain Crunch)*
- Shearing Machine*
- Smelting*
 - *Rock Island Arsenal*
 - *Waiver Submitted*
- Torch Cutting*

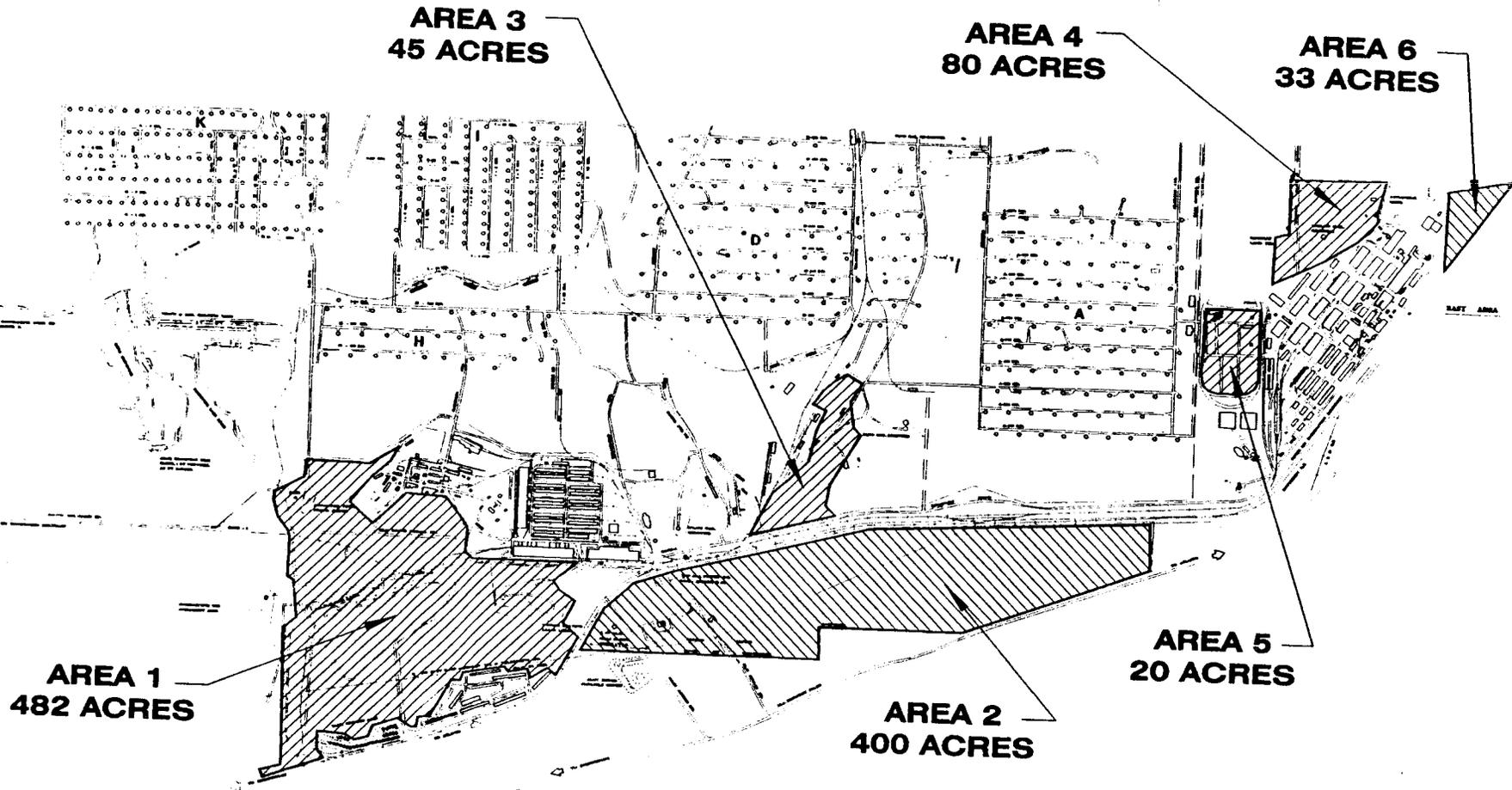
Small Arms In Storage (As of Feb. 95)

Item	Issuable*	Non-Issuable**	Total Quantity	\$ Value
Rifle, 7.62, M14 Series	241,118	329,733	570,851	79,997,288
Rifle, Cal 30, M1 Series	6,698	401,647	408,345	39,128,732
Rifle, 5.56, M16 Series	119,620	587,466	707,086	315,082,377
Carbine, Cal 30, M1 Series	5,068	3,906	8,974	690,998
Pistol, 45 Cal, M1911 Series	25,167	84,308	109,475	7,554,902
Rifle, 1903 Ceremony	3,759	184	3,943	421,901
Sub Machine Gun, Cal 45, M3 Series	14,838	14,988	29,826	5,967,250
Launcher, Rocket, M20 Series	266	0	266	26,866
Bar M1918A2	2,380	24,529	26,909	7,130,885
Rifle, 22 Cal Mossburg	17,242	205	17,447	645,539
Launcher, Grenade, M79 Series	990	13,517	14,507	10,445,040
Piston, Pyro AN-M8 Series	1,190	8,199	9,389	322,795
Machine Gun, Cal 50, M2 Series	5,136	7,913	13,049	111,088,941
Pistol, 9MM	5,829	2,827	8,656	2,960,352
Machine Gun, 7.62, M60 Series	4,636	10,684	15,320	89,069,919
Machine Gun, M85	1,113	2,123	3,236	18,137,296
Machine Gun, M249	57	1,016	1,073	1,503,273
Machine Gun Firing Port	487	5,712	6,199	3,099,500
Sub Total (Volume Items)	455,594	1,498,957	1,954,551	693,273,854
Other Items (Various)	233,244	404,732	637,976	250,351,740
GRAND TOTAL	688,838	1,903,689	2,592,527	943,625,594
PERCENT	27%	73%	100%	

* Condition Codes A, B, C, D, E, G

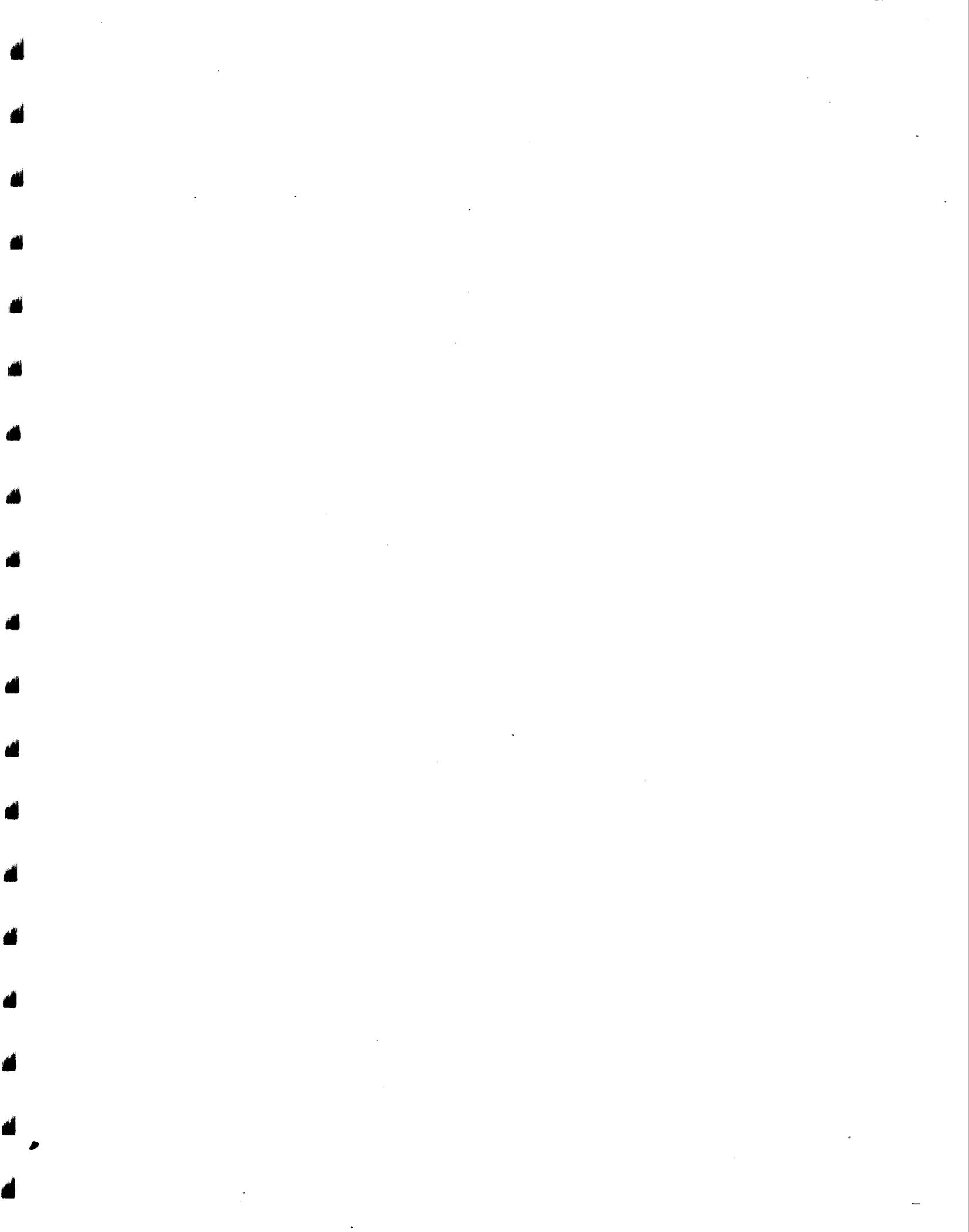
** Condition Codes D, F, H, M, P





STORAGE CAPABILITIES

ANNISTON ARMY DEPOT



Ammunition Operations Mission

- **TO RECEIVE, STORE, PRESERVE, PACKAGE, AND ISSUE DEPOT (RETAIL) AND MISSION (WHOLESALE) AMMUNITION AND MISSILES.**
- **TO PERFORM RENOVATION, MODIFICATION, DEMILITARIZATION AND DISPOSAL OF MATERIEL AS REQUIRED.**
- **TO PROVIDE FOR INTERNAL MOVEMENT OF MATERIEL.**
- **TO PERFORM MAINTENANCE AND INSTALLATION OF AMMUNITION PECULIAR EQUIPMENT.**
- **TO PROTECT ANNISTON ARMY DEPOT'S WORKFORCE AND THE SURROUNDING COMMUNITIES AGAINST CHEMICAL AGENT RELEASE.**

Size of Operations

- **IGLOOS:** _____ **1,279**
- **TONS IN STORAGE:** _____ **249,485**
 - **Conventional** _____ **83%**
 - **Missile** _____ **17%**
- **DOLLAR VALUE** _____ **\$3,819,508,806**
- **SERVICEABLE:** _____ **65%**
- **UNSERVICEABLE:** _____ **35%**
- **STORAGE OCCUPANCY RATE:** _____ **85%**

Missile Status as of Mar 95

	QUANTITY ON HAND	# OF IGLOOS STORED IN
TOW	89,632	72
DRAGON	11,262	12
SHILLELAGH	50,039	45
LANCE	135	4
HELLFIRE	23,604	47
MLRS	12,877	108
TOTAL IGLOOS UTILIZED TO STORE MISSILES - 288		

Contingency Stock Rigged for Airdrop

- **THE DEPOT HAS THREE PLANS:**

- A. 75th Ranger Regiment, Ft. Benning, GA
- B. XVIII Airborne Corps, Ft. Bragg, NC
- C. Special Operations Command, Norfolk, VA

75th Ranger Regiment

- MISSION WAS ASSIGNED TO ANAD IN JULY 1975
- 108 PALLETS RIGGED IN A22 CARGO BAG WITH G12E PARACHUTES
- FORTY-FOUR (44) LINE ITEMS: 68 TONS, CLASS I, II, V, VIII
- PLANS CONSIST OF TWO IDENTICAL 54 PALLET INCREMENTS
- ALL PALLETS WERE SHIPPED DURING OPERATION JUST CAUSE
- PRIMARY APOE, LAWSON FIELD, FORT BENNING, GA.
ALTERNATE, HUNTER ARMY AIRFIELD, FT. STEWART, GA.

XVIII ABN Contingency Plan

- MISSION WAS ASSIGNED TO ANAD IN AUGUST OF 1973
- THERE ARE 76 LINE ITEMS WITH A TOTAL WEIGHT OF 715 TONS CONFIGURED ON 774 PALLETS
- PALLET LOADS ARE RIGGED FOR AIR DROP UTILIZING THE A22 CARGO BAG AND G120 CARGO PARACHUTES
- AT PRESENT, THE PROJECT OCCUPIES 13 STORAGE LOCATIONS
- TOTAL PLAN WOULD REQUIRE APPROXIMATELY 86 VAN LOADS FOR SHIPMENT
- PARTIAL CALL FORWARD BY SPECIFIC PALLETS IS A POSSIBILITY
- THE TIMEFRAME CALLS FOR THE FIRST VAN LOAD TO REACH DOBBINS AFB, GA. WITHIN 10 HOURS AFTER THE CALL FORWARD IS RECEIVED
- THE ENTIRE PROJECT COULD BE LOADED AND DELIVERED TO DOBBINS WITHIN A 24 HOUR TIMEFRAME

Operational Project S-01-82A

Operations

- MISSION WAS ASSIGNED TO ANAD IN DEC 1962
- THE PLAN IS IN 2 PARTS - INITIAL SUPPLY AND RE-SUPPLY
- THE INITIAL SUPPLY CONSISTS OF 27 LINE ITEMS WITH A SHIPPING WEIGHT OF 30 TONS ON 120 CONFIGURED PALLETS
- TOTAL CALL FORWARD OF INITIAL SUPPLY WOULD REQUIRE 8 VANS
- THE TIMEFRAME FOR INITIAL SUPPLY IS 48 HOURS WITHIN A 600 MILE RADIUS
- 30 VANS WOULD BE REQUIRED IF THE TOTAL RE-SUPPLY PLAN WAS CALLED FORWARD
- CALL FORWARD BY SPECIFIC PALLETS IS A POSSIBILITY
- THE RE-SUPPLY PLAN CALLS FOR 120 PALLETS TO BE DELIVERED WITHIN 48 HOURS WITH BALANCE (120) IN 72 HOURS
- TOTAL PLAN HAS 3 OPTIONS ON DELIVERY:
 - POPE A. B., FT. BRAGG, NC
 - MAXWELL FIELD, MONTGOMERY, AL
 - ANNISTON CALHOUN MUNICIPAL AIRPORT, ANNISTON, AL

TOW MISSILE M.O.I.C.

MODIFICATION / CONVERSION PROGRAM

- **THIS PROGRAM WAS INITIATED AT ANAD DURING JULY 1983**
- **THIS PROGRAM IS IN SUPPORT OF D.A. TRAINING REQUIREMENTS**
- **ANAD UNDER BID HUGHES AIRCRAFT CO. (HAC) BY \$500,000.00 TO GET THE M.O.I.C. PROGRAM**
- **TO DATE 66,476 MISSILES HAVE BEEN PROCESSED**
- **THE INITIAL ANAD BID RATE ON THIS OPERATION WAS 9 MANHOURS PER MISSILE. THE BID RATE FOR THIS OPERATION IS NOW 4.5 MANHOURS PER MISSILE**

TOW Missile Launch Motor Exchange Program

- THIS PROGRAM WAS INITIATED AT ANAD DURING JULY 1987 TO ENABLE DA TO RESUME COBRA HELICOPTER TRAINING WITH TOW MISSILES

- The following Quantities / Configurations have been processed since program start up:

ARMY TRG	ARMY HEAT	NAVAIR TRG	NAVAIR HEAT	TOTAL
16,607	1,899	237	2,241	20,984

- REASON FOR LAUNCH MOTOR EXCHANGE - DURING THE FIRING PROCESS THERE WERE CIRCUMSTANCES OF LAUNCH MOTOR RUPTURES
- THE INITIAL BID RATE FOR THIS PROGRAM WAS 3.28 MANHOURS PER MISSILE. THE INITIAL BID RATE HAS PROVEN TO BE ACCURATE.

TOW Missile M.O.I.C. Installation & Launch Motor Exchange

CONCURRENT OPERATIONS

- DUE TO FACILITY CONSTRAINTS THE M.O.I.C. INSTALLATION AND LAUNCH MOTOR EXCHANGE OPERATIONS WERE PERFORMED SEPERATELY
- DURING FY 89 FUNDING WAS PROVIDED BY MICOM TO MODIFY THE TOW MISSILE FACILITY. THE MODIFICATIONS HAVE BEEN PERFORMED AND ALLOWS THE M.O.I.C. INSTALLATION AND LAUNCH MOTOR EXCHANGE OPERATION TO BE PERFORMED CONCURRENTLY
- THE CONCURRENT OPERATIONS STARTED 29 JAN 90
- THE ESTIMATED MANHOUR RATE FOR THE CONCURRENT OPERATIONS IS 5.5 MANHOURS PER MISSILE

cont.

TOW Missile M.O.I.C. Installation & Launch Motor Exchange *cont.*

CONCURRENT OPERATIONS

- A SUBSTANTIAL SAVINGS HAS BEEN REALIZED ON THIS OPERATION, BASED ON THE FOLLOWING:

ACTUAL RATE FOR M.O.I.C. INSTALLATION 4.50 MANHOURS PER MISSILE

ACTUAL RATE FOR LAUNCH MOTOR EXCHANGE 3.28 MANHOURS PER MISSILE

COMBINED TOTAL 7.78 MANHOURS PER MISSILE

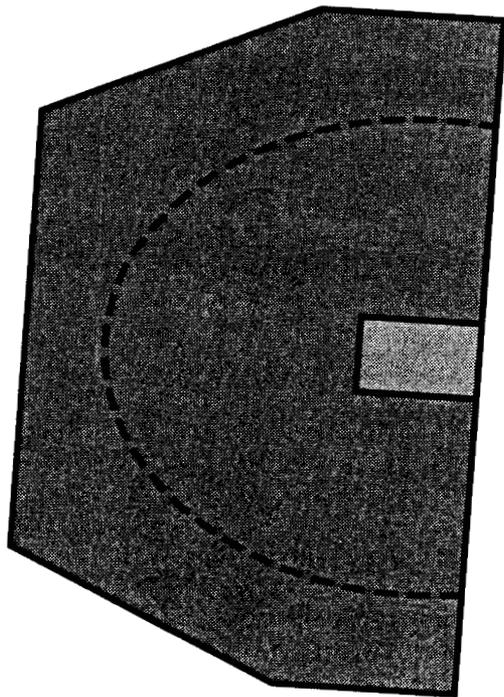
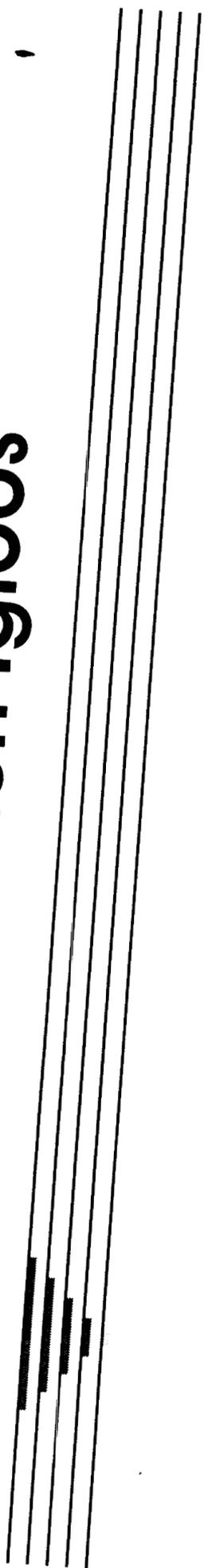
COMBINED TOTAL M/H'S PER MISSILE FOR SEPERATE OPERATIONS - 7.28

ESTIMATED M/H'S PER MISSILE FOR CONCURRENT OPERATIONS - 5.50

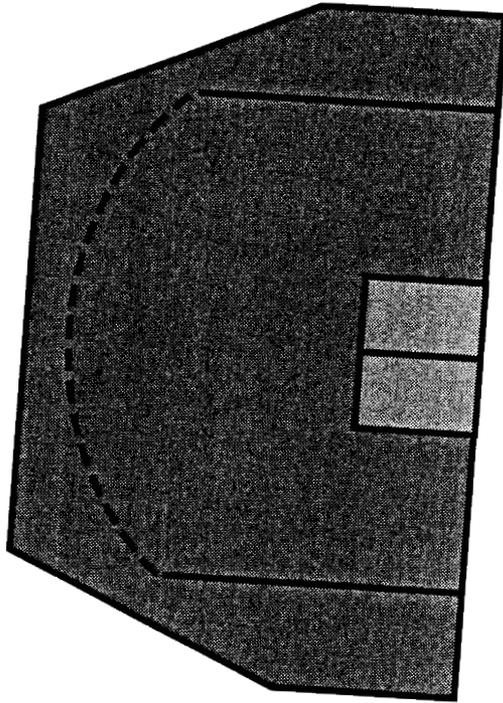
ESTIMATED MANHOUR SAVING PER MISSILE 2.28

QUANTITIY COMPLETED THRU 28 FEB 95 - 14,035

Ammunition Igloos



H TYPE IGLOO



"STRADLEY" IGLOO

CONTAINER HANDLING FACILITIES

- **Two (2) Pads**

- 300' X 100'
- STEEL REINFORCED CONCRETE SURFACE
- LIGHTING TO FACILITATE 24 HOUR PER DAY OPERATIONS
- Utilized Since 1987
- Capabilities
 - RAIL & HIGHWAY CAPABLE
 - EACH PAD CAPABLE OF HANDLING 52 EA. 20' X 8' X 8' CONTAINERS SIMULTANEOUSLY
- Explosive Limits
 - NORTH PAD 250,000 LBS.
 - SOUTH PAD 150,000 LBS.

Operation Desert Shield/Storm EXTRAORDINARY ACCOMPLISHMENTS

From 7 Aug 90 through 28 Feb 91, ANAD shipped a total of 38,757 short tons of Class V and Class V related material.

During this period 2,271 truckloads and 372 rail cars were outloaded and shipped without a lost time accident related to this effort.

Operation Desert Shield/Storm...

ITEMS QUANTITIES & MODES OF TRANSPORTATION:

ITEM	SHIPMENTS: TRUCK LOADS	CAR LOADS
• MLRS	1,323	
• AT-4	27	
• 155MM PROP CHG	28	239
• TOW MISSILE	68	
• HELLFIRE MISSILE	86	
• ATACMS	12	
• SHILLELAGH	6	1
• CTG 81MM (IMPROVED)	23	44
• BOMB FIN ASSEMBLIES		29
• MILVANS (EMPTY)	63	19
• OTHER CLASS V MAT'L	635	37
TOTAL	2,271	372

SWA Retrograde Tonnage

FY 91	29,088
FY 92	46,790
	TOTAL 75,878

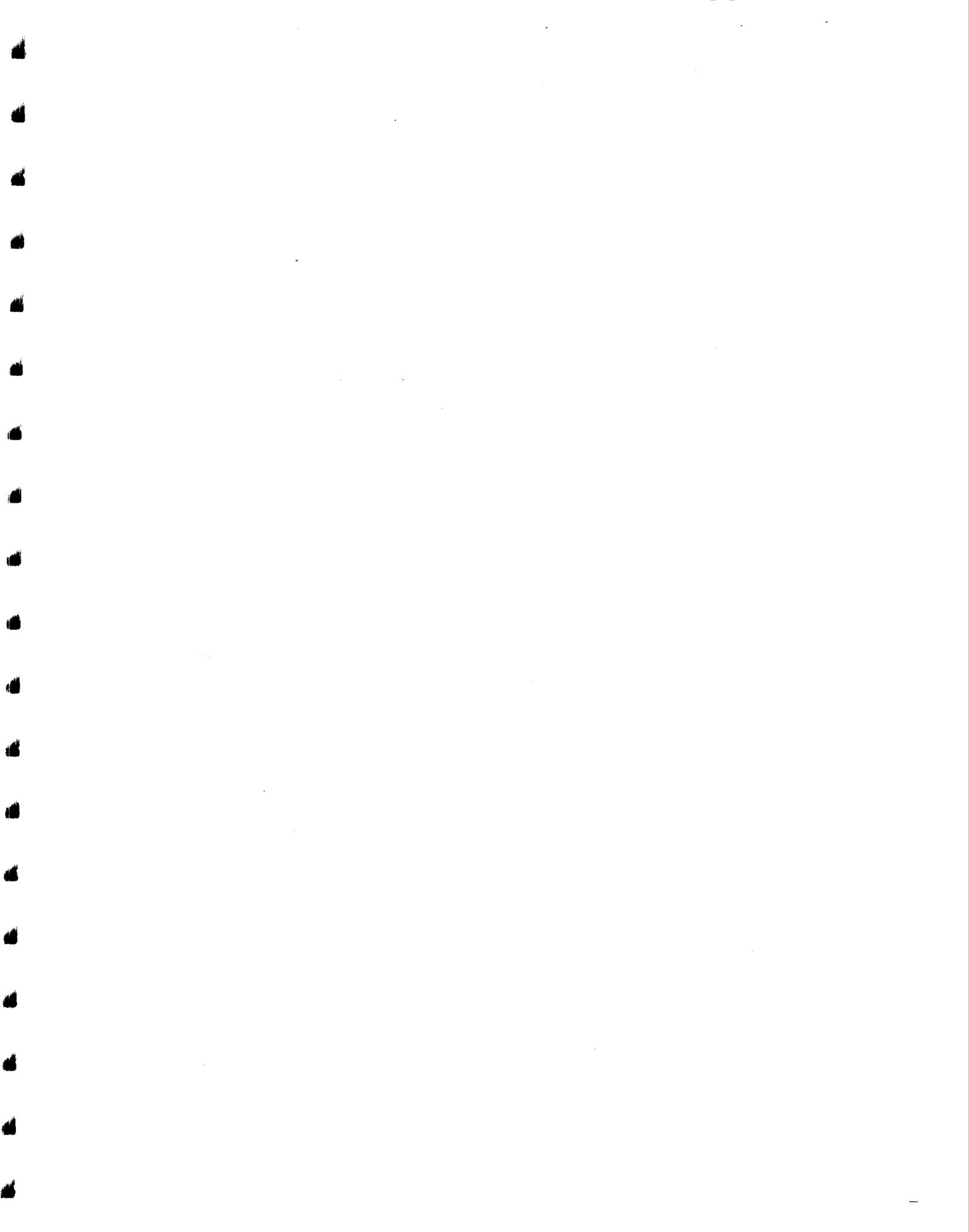
Modes of Transportation for above

TRUCK	834
RAILCAR	939

AN ADDITIONAL 11,868 TONS WERE RECEIVED DURING FY 93 & FY 94

ANAD...Typical Flow for SWA Retrograde

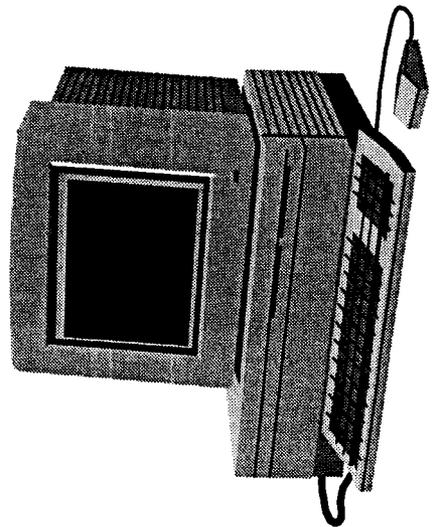
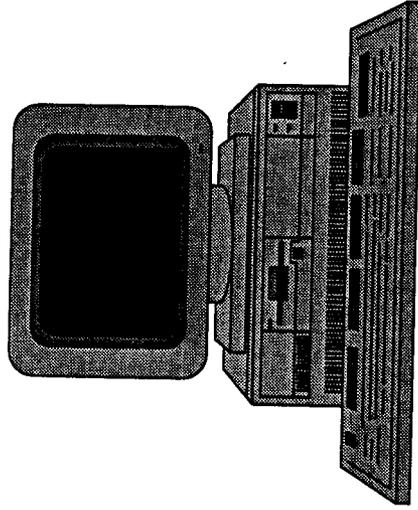
- **Receive & Place in Temporary Storage**
 - PREPARE DOCUMENTATION
 - PICKUP ON RECORD AS MARKDED (PLUS Y INDICATOR)
- **K-line**
 - IDENTIFY
 - ASSURE SAFE TO STORE/HANDLE
 - CLEAN
 - ADD Y INDICATOR TO LOT/SERIAL NO.
- **Store**
 - INSPECT TO DETERMINE CONDITION CODE & MAINT RQMNTS
 - PREPARE COST ESTIMATES
 - RECEIVE MAINTENANCE FUNDING
- **Maintenance**
- **Store/Ship to Customer**





DOIM

Directorate Of Information Management





OUTLINE

- Personnel Resources
- DOIM Support
- Communications Initiatives
 - LAN
 - Fiber
 - Networks
 - Wide Area Networks
- Advanced Technology
 - Electronic Mail/Scheduler
 - Electronic Forms/Signatures
 - Multimedia Technology
 - Client-Server Technology
- Future Plans
- Summary



PERSONNEL RESOURCES

- Fields of Study:
 - Computer Science
 - Mathematics
 - Accounting
 - Electronics
- Eminent Scholars:
 - 53% of on-board Programmers (minimum 3.5 GPA)
- Average Programmer Experience Level: 12.5 years



DOIM SUPPORTS

- Standard Depot System - (SDS)
- Local Unique Systems
 - Excess Parts Management System
 - Hardware Management System
 - Depot Reorganization
 - Small Repair Parts System
 - Automated Storage and Retrieval System (ASARS)
- User Training
- ADPE Communications
 - Local Area Network
 - Fiber Optics
- ADPE Life Cycle Management
 - Requisition
 - Installation
 - Maintenance/Troubleshooting



ANAD DOIM SUPPORTS

(Higher Headquarters Initiatives)

Department of Defense

Department of the Army

Army Materiel Command

DESCOM/IOC

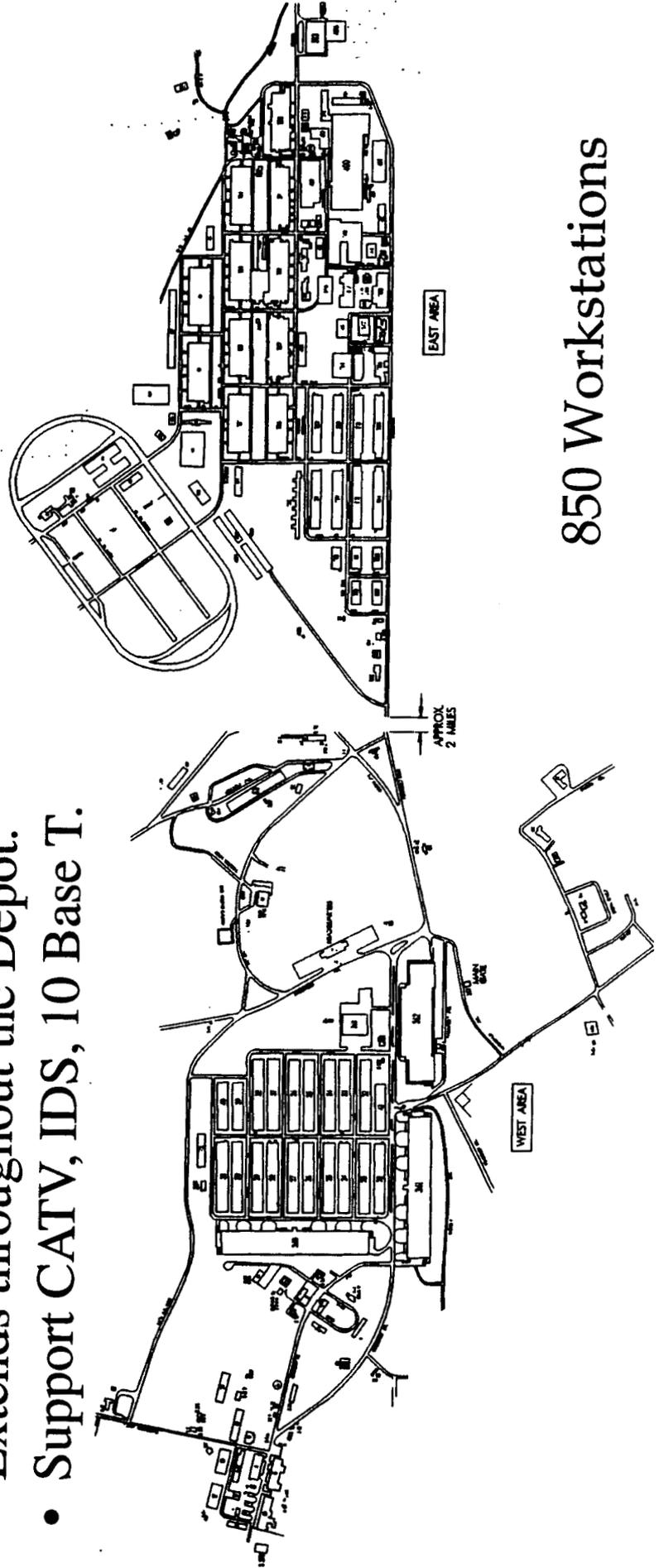
Anniston Army Depot



LOCAL AREA NETWORK

- Activated in 1985
- 106 Locations (Structured Premise Wiring - 24 locations.)
- Extends throughout the Depot.
- Support CATV, IDS, 10 Base T.

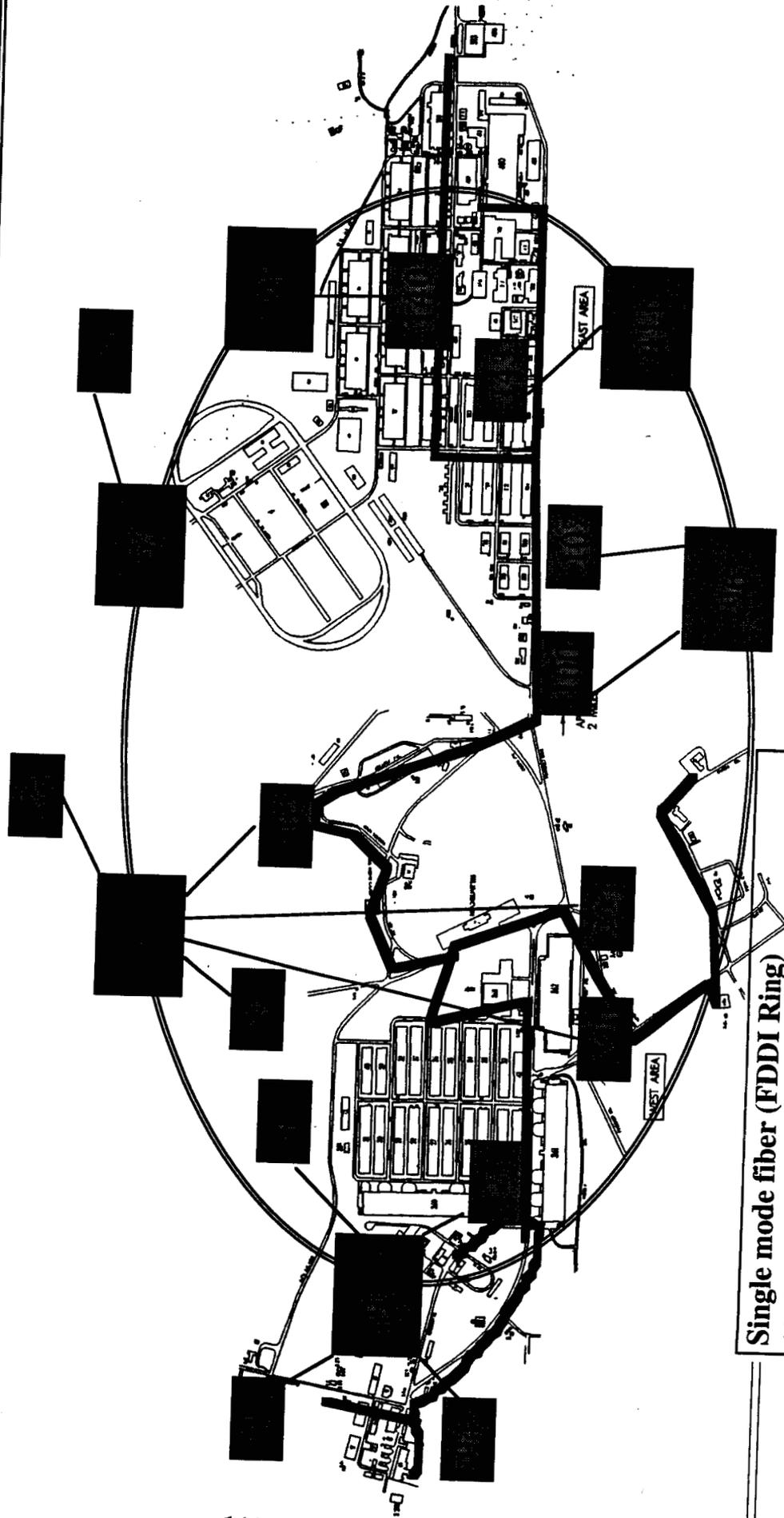
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850 Workstations



FDDI (Fiber Distributed Data Interface)

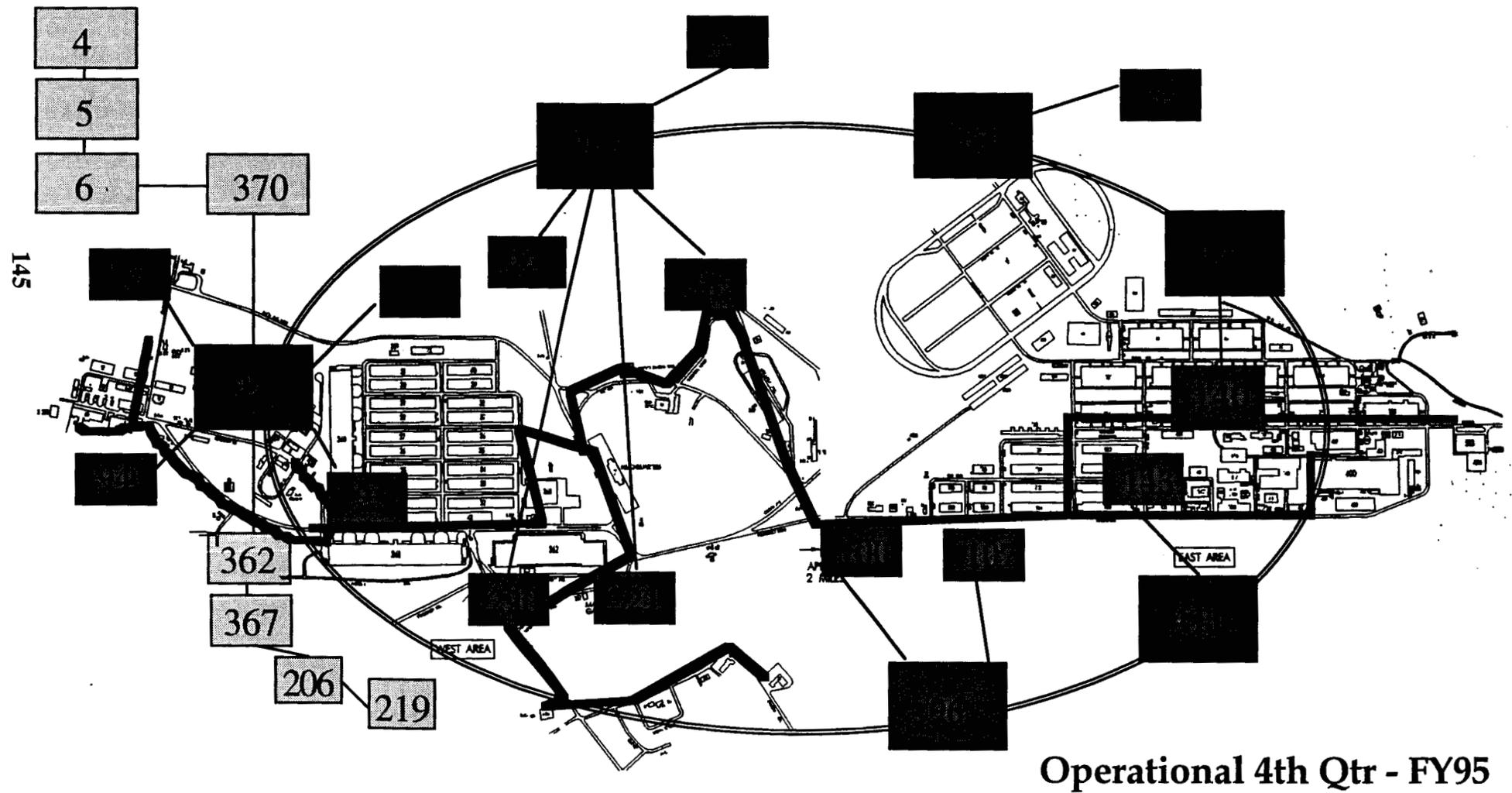


Single mode fiber (FDDI Ring)
12 Strand Multi-mode fiber (10 MB Ethernet)

Two miles between East & West area.



OSCAR FIBER - PHASE II





NETWORKS

- 405 Users Networked
- Email
- Document Sharing/Word Processing
- Electronic Forms
- Electronic Graphic Interface



WIDE AREA NETWORKS

- CSEPP (Chemical Stockpile Emergency Preparedness Program)
- CSDP/DMIL (Chemical Stockpile Disposal Program/Demilitarization Facility)
- DDN (Defense Data Network) -- DISNET (Defense Information Systems Network)
- MEDDAC (U.S. Army Medical Departmental Activity)
- DCA (DLA Communications Network)
- GDLS (General Dynamic's Land System) Connectivity to Private Industry



ADVANCED TECHNOLOGY (Electronic Forms)

- 234 Electronic Forms (Standard & Local) Available
- All Network Users
- Electronic Transfer via Email



ADVANCED TECHNOLOGY (Electronic Signatures)

- Distribute through E-mail
- Security incorporated
- Network Users
- Implement FY95

FORM

Alberta B. Freeman



FUTURE PLANS

- Desktop VTC - FY96
- Trunked Radio Network - FY96
- End User Building Fiber Connectivity - FY96
- Multimedia Computing

LOUISIANA MANEUVERS
PRAISE WARRIOR" EXERCISE
Tele-Maintenance Video Assisted Repair

DOIM SUPPORT

- DOIM/DM Coordinate Milestones
- Install ISDN Line - Bldg 411
- Install and Test Video PC with MICOM
- Participate in Video PC Training
- Provide On-site Support During Exercise



DOIM

Leading ANAD Into the Future



MULTIMEDIA

- Audio
- Video
- Hypertext
- Hypermedia



THE POSSIBILITIES ARE ENDLESS

- Interactive Databases
- Education/Training
- Presentations
- Electronic Conferencing
- Interactive Client/Server Applications



SUMMARY

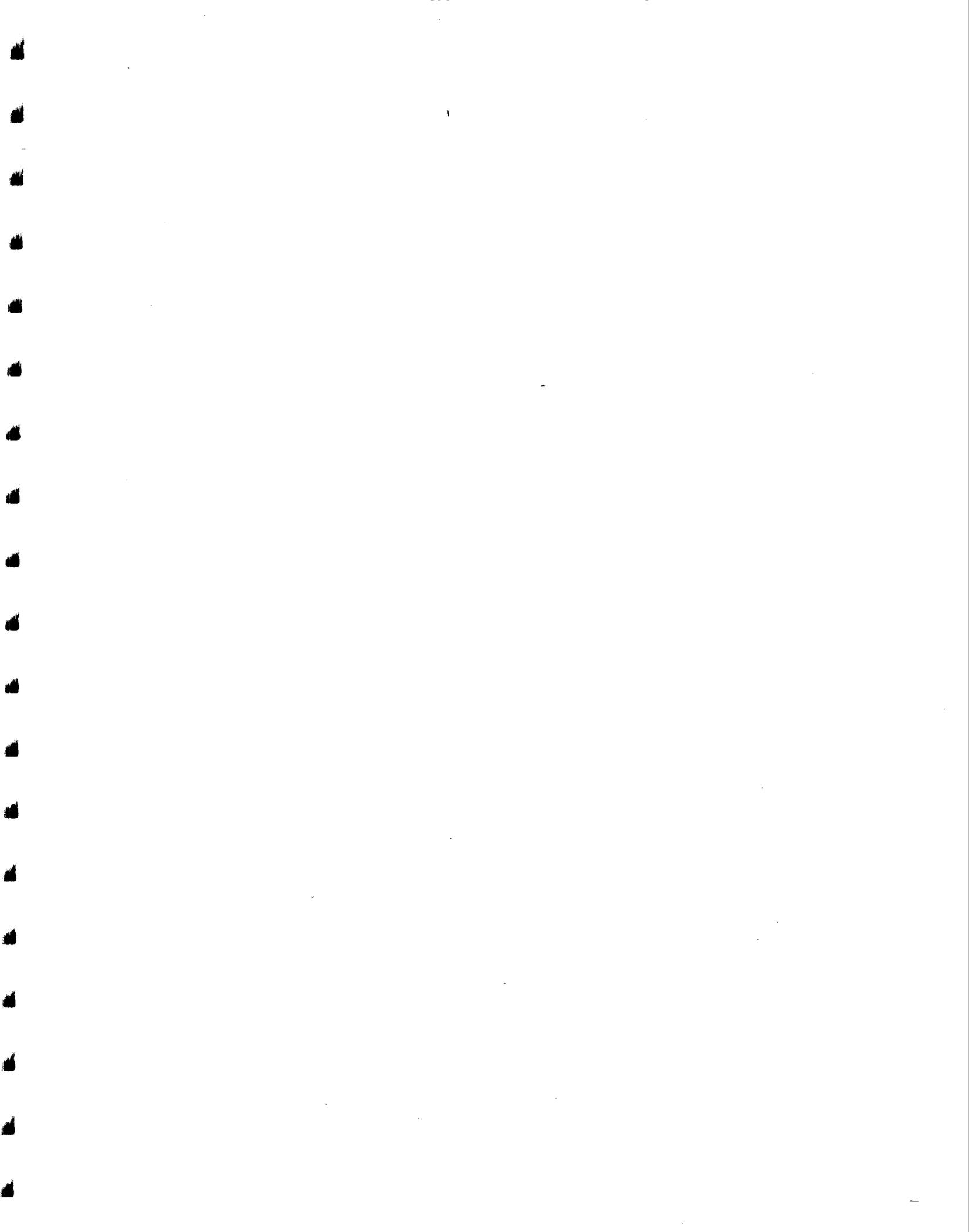
- DOIM has evolved into a dynamic organization with responsive support to the Depot/Higher Headquarters/Community/Private Industry.
- Resources include well trained people...equipment that supports multi-faceted automation/multi-networks/client-server e-mail, DDN capabilities.
- Infrastructure for future growth/data and video transmission requirements with higher headquarters/off depot agencies.



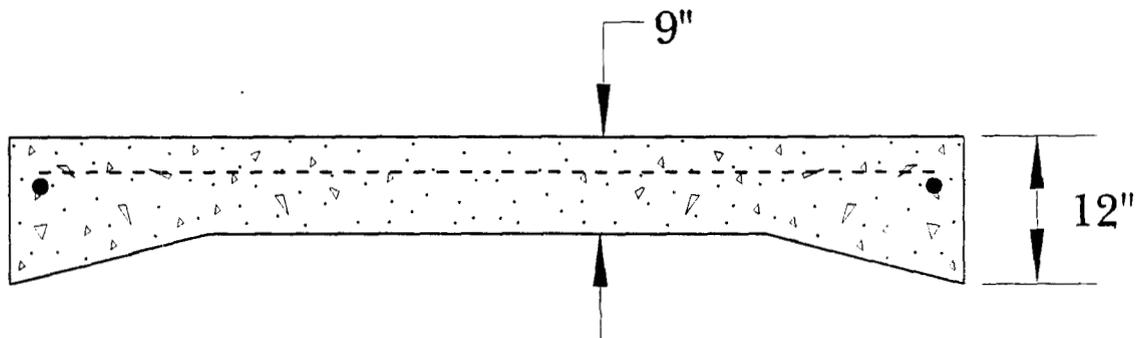
DIRECTORATE OF INFORMATION MANAGEMENT

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*Leading the Way Toward Future
Technology*



SPECIAL CONCRETE PAVEMENT DESIGN

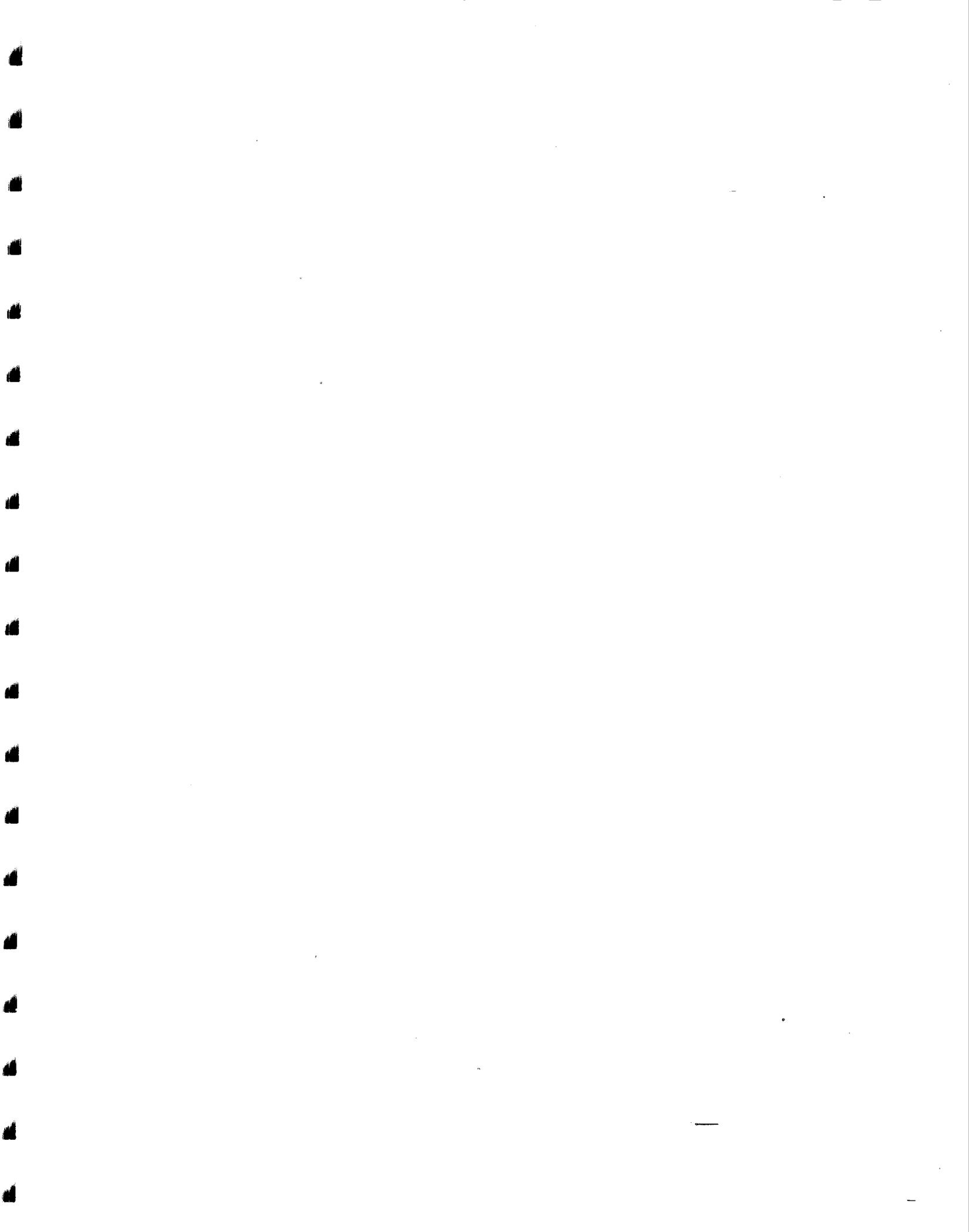


- ★ PAVEMENT DESIGNED TO ACCOMMODATE HEAVY INDUSTRIAL OPERATIONS INCLUDING:
 - TURNING ACTIONS OF 60+ TON VEHICLES.
 - HEAVY POINT LOADING OF VARIOUS TYPES OF TRANSPORT DOLLIES AND BUGGIES

- ★ ANNISTON ARMY DEPOT HAS OVER 300,000 S.Y. OF THIS SPECIAL TYPE CONCRETE PAVEMENT AT A REPLACEMENT COST OF APPROXIMATELY 6.8 MILLION DOLLARS.

- ★ ANNISTON ARMY DEPOT'S ROADWAYS ARE IN GOOD CONDITION. MAINTENANCE AND REPAIR PROCEDURES AND PROJECTS ARE WELL PLANNED AND COORDINATED. ENGINEERING AND FINANCIAL RESOURCES ARE SUFFICIENT AND AVAILABLE IN-HOUSE.

- ★ ROADWAY NETWORK WILL SUPPORT ANY TYPE OF INDUSTRIAL OPERATION FROM HEAVY TO LIGHT.



MAINTENANCE AND REPAIR OF DEPOT FACILITIES

- APPROXIMATELY 2100 BUILDINGS AND STRUCTURES PROVIDING 9,000,000 S.F. OF FLOOR SPACE.
- MAINTENANCE AND REPAIR PROVIDED BY APPROXIMATELY 31 CONTRACT PROJECTS AVERAGING 4.6 MILLION DOLLARS PER YEAR.
- EXAMPLES OF CONTRACT REPAIR WORK:
 - ROOF REPAIR
 - IGLOO WATERPROOFING
 - RAILROAD REPAIR
 - ELECTRICAL DISTRIBUTION SYSTEM REPAIR
 - CONCRETE & BITUMINOUS ROADWAY REPAIR
 - STEAM LINE REPAIR
- FACILITIES ARE WELL MAINTAINED. ENGINEERING AND FINANCIAL RESOURCES ARE AVAILABLE TO DETECT AND CORRECT ANY FACILITIES RELATED PROBLEMS.

ADDITION TO BUILDING 111

CONTRACT AWARDED ——— NOVEMBER 1993

COMPLETION DATE ——— JUNE 1994

CONTRACTOR ————— GCAS, INC.
WEST PALM BEACH, FL

COST ————— \$ 130,000

PURPOSE:

ADDITION TO BUILDING 111 WILL BE USED TO STORE ELECTRONIC IN-PROCESS COMPONENTS FOR THE M1 AND M551'S SUCH AS THERMAL RECEIVER UNITS, FIRE CONTROL COMPONENTS, LASER RANGE FINDERS AND OTHER COMPONENTS PREVIOUSLY BEING STORED OUTSIDE.

**ROOFING REPAIR
AT
BUILDING 133**

CONTRACT AWARDED ——— MARCH 1994

COMPLETION DATE ——— DECEMBER 1994

**CONTRACTOR ————— JIMENEZ, INC., MOBILE, AL
8(a) MINORITY SET ASIDE**

COST ————— \$ 478,000

PURPOSE:

**REPLACE DETERIORATED BUILT-UP AND
SHINGLE ROOFING WITH NEW STATE-OF-
THE ART SINGLE-PLY EPDM (RUBBER)
ROOF WITH A 30 YEAR LIFE EXPECTANCY.
THE PROJECT ALSO ADDS INSULATION UNDER
THE NEW ROOF.**

**ROOFING REPAIR
AT
BUILDING 128**

PROGRAMMED FOR CONTRACTING IN FY 95

**SIZE: 852 SQ.S
120 SQ.S**

TYPE: EPDM (RUBBER)

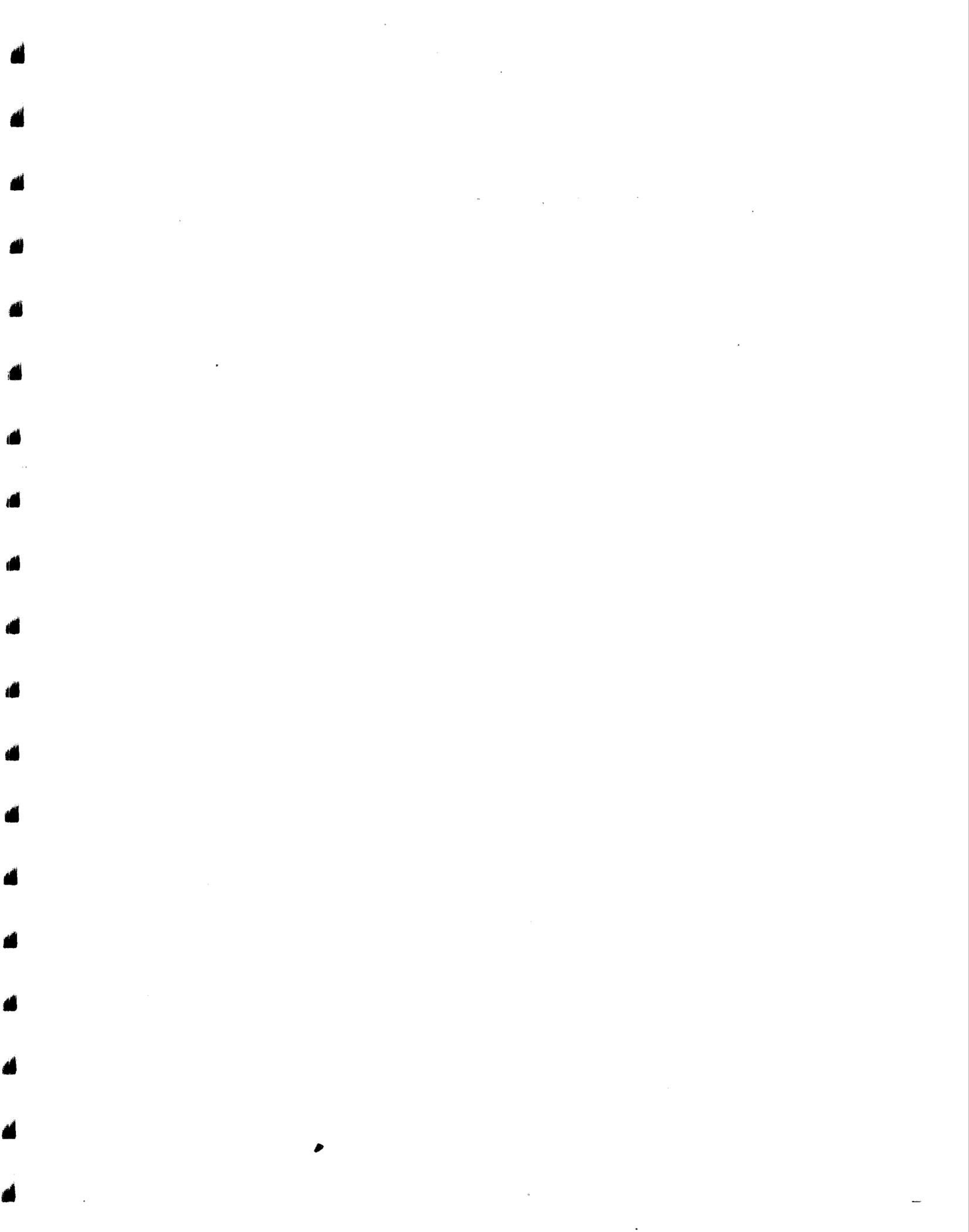
ESTIMATED COST: \$ 500,000

AAP:

**PROJECT PROGRAMMED IN THE FY 95
ADVANCED ACQUISITION PLAN.**

PURPOSE:

**REPLACE DETERIORATED BUILT-UP AND
SHINGLE ROOFING WITH NEW STATE-OF-
THE ART SINGLE-PLY EPDM (RUBBER)
ROOF WITH A 30 YEAR LIFE EXPECTANCY.
THE PROJECT ALSO ADDS INSULATION UNDER
THE NEW ROOF.**



UTILITIES

- Anniston Army Depot's utilities are in excellent condition.
- The systems are maintained by a combination of in-house labor and contract work.

ELECTRICAL CAPACITY

- 2 - 44/12.47 KV SUBSTATIONS:
 - NICHOLS INDUSTRIAL COMPLEX _____ 14,000 KVA → 9,000 KW
 - WEST AREA AND RESTRICTED AREA _____ 7,000 KVA → 3,000 KW
 - TOTAL KVA AVAILABLE _____ 21,000 KVA → 12,000 KW
- CURRENT DEMAND TO DATE IS APPROXIMATELY 12,000 KW

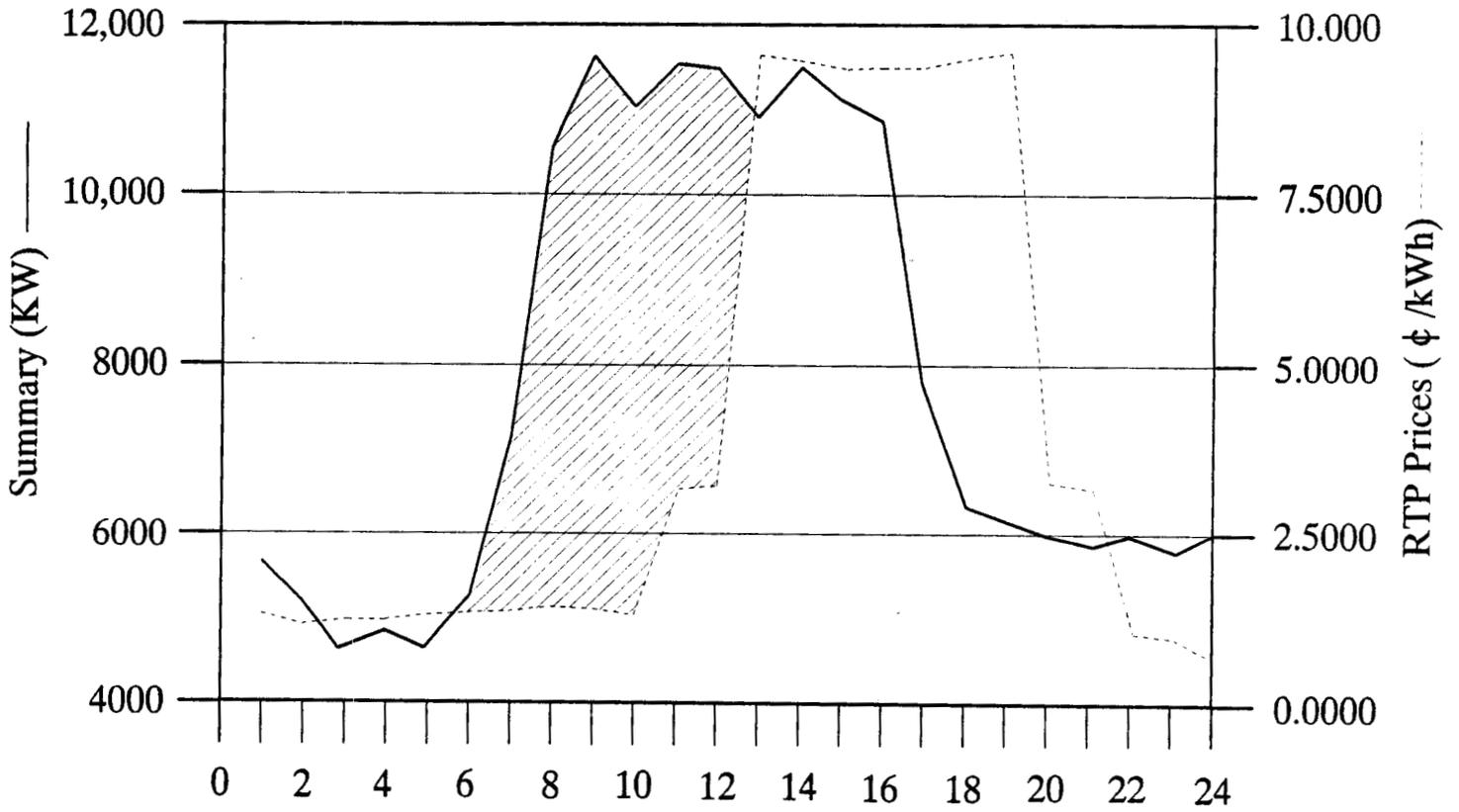
NATURAL GAS CAPACITY

- ANAD IS SERVICED BY A 6 INCH MAIN
- ANAD HAS USED UP TO 19,000 KCF
- ALAGASCO STATES THEY CAN EASILY MEET OUR DEMANDS
- ALAGASCO BUDGETING FOR FUTURE NEEDS

CENTRAL BOILER PLANT CAPACITY

- 5-30,000 LB PER HOUR COAL FIRED BOILERS
- 1-50,000 LB PER HOUR DUAL FUELED BOILERS
(NATURAL GAS WITH OIL BACKUP)

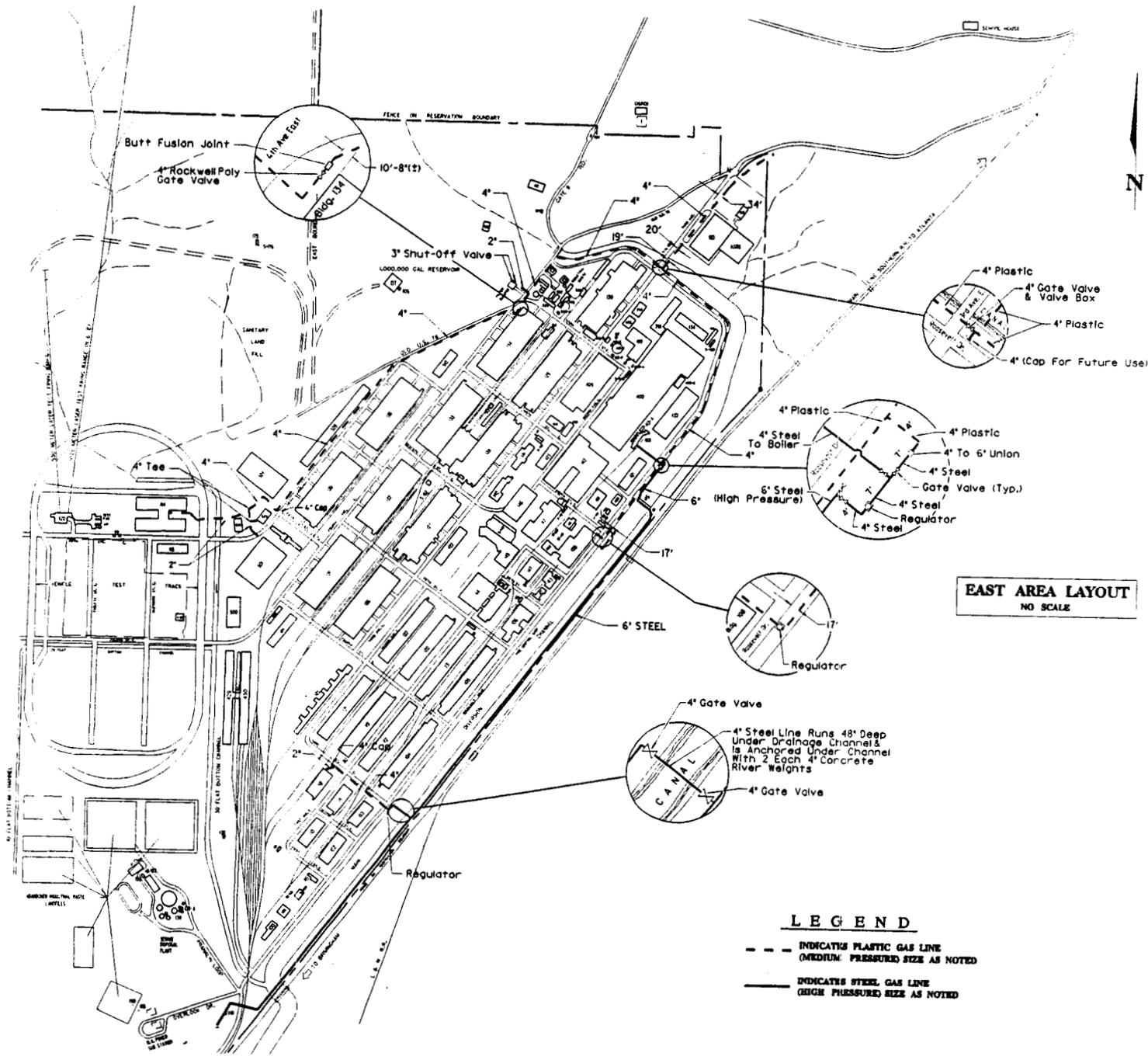
ANNISTON ARMY DEPOT



UTILITY RATE STRUCTURE

- Anniston Army Depot is a preferred customer of both Alabama Power Company and the Alabama Gas Corporation.
- As a result of the depot's relationship with the utility providers, we have been able to negotiate very competitive rates which have resulted in significant utilities cost savings.

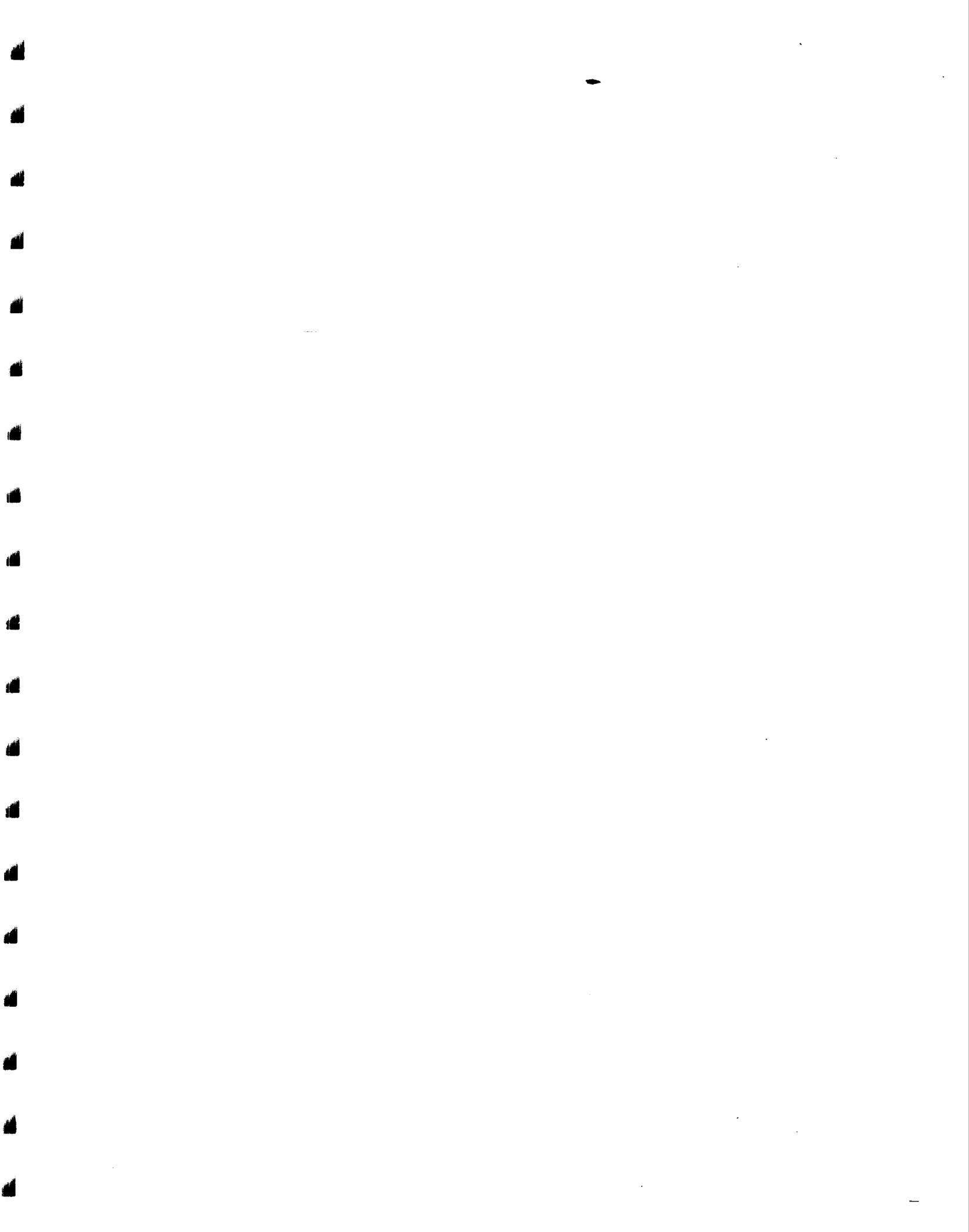
- ★ Real Time Pricing results in an annual savings of \$500,000.00
- ★ Purchase of natural gas on spot market results in lowest rates available.



EAST AREA LAYOUT
NO SCALE

LEGEND

- - - INDICATES PLASTIC GAS LINE (MEDIUM PRESSURE) SIZE AS NOTED
- INDICATES STEEL GAS LINE (HIGH PRESSURE) SIZE AS NOTED



SITE Z-1 REMEDIATION

- FORMERLY SITE OF SEVEN HAZARDOUS WASTE DISPOSAL TRENCHES.

- LANDFILLING OF HAZARDOUS WASTE CEASED IN SEP 1981.

- GROUNDWATER CONTAMINATION RESULTED IN:
 - PLACEMENT ON NATIONAL PRIORITY LIST

 - EXHUMATION AND REMOVAL
 - 62,000 TONS OF CONTAMINATED EARTH

 - RCRA CLOSURE IN 1983

 - GROUNDWATER TREATMENT

GROUNDWATER TREATMENT FACILITIES (DSN 003)

- DESIGNED TO MITIGATE AND CONTROL "HIGHLY CONTAMINATED POCKETS OF GROUNDWATER".

- THREE SEPARATE TREATMENT FACILITIES.
 - AVERAGE - 100,000 GAL/DAY EXTRACTION

 - TREATMENT: AIR STRIPPING AND CHARCOAL FILTRATION

 - SIXTEEN WITHDRAWAL WELLS IN 1990

 - PUMPING CAPACITY OF 600,000 GAL/DAY

OTHER ENVIRONMENTAL PROGRAMS

- ASBESTOS - ALL IDENTIFIED FRIABLE ASBESTOS HAS BEEN REMOVED
- RADON - SURVEY COMPLETED; ONE FACILITY REQUIRED REMEDIAL ACTION - COMPLETE
- WETLANDS - SURVEY UNDERWAY; NO SIGNIFICANT IMPACT ON INSTALLATION MISSION OR OPERATION
- NOISE - VERY LITTLE ZONE II OFF THE INSTALLATION - MOST FALLS ON PELHAM RANGE (FEDERAL PROPERTY); AREA AROUND BOUNDARY IS SPARSELY DEVELOPED
- HISTORICAL / ARCHAEOLOGICAL SURVEY - ONGOING; 5 POTENTIAL SITES IDENTIFIED (CAVE, HOMESITE, CEMETERIES)
- ENDANGERED / THREATENED SPECIES - SURVEY COMPLETED; IDENTIFIED TENNESSEE YELLOW - EYED GRASS. NO EFFECTS ON MISSION.
- DOD ENVIRONMENTAL / FELLOWSHIP - FORMED A CONSORTIUM WITH LOCAL UNIVERSITY FOR ENVIRONMENTAL PARTNERSHIP. ANAD TO PROVIDE WORK - BASED TRAINING FOR STUDENTS.

INDUSTRIAL WASTE TREATMENT PLANT

● RECEIVES WASTEWATER FROM:

- WASH RACKS / STEAM CLEANING
- METAL CLEANING / PAINT STRIPPING
- ELECTROPLATING
- PAINTING

● TREATMENT PROCESSES

CAPACITIES (GAL/DAY)

- CYANIDE / CADMIUM _____	20,000
- OIL & GREASE REMOVAL _____	130,000 *
- GENERAL WASTE (ACIDS, BASES) _____	120,000 *
- CHROMIUM _____	60,000
- PHENOL _____ (NOT IN USE) _____	20,000 *
TOTAL CAPACITY _____	270,000 *(GAL/DAY)
AVERAGE DISCHARGE _____	130,000
% OF CAPACITY _____	48%
<u>IN COMPLIANCE</u>	

- DISCHARGE TO SEWAGE TREATMENT PLANT
- PLAN TO ADD MICRO FILTRATION IN FY 96
- POLLUTION PREVENTION INITIATIVES WILL REDUCE DISCHARGES

POTABLE WATER

- PURCHASED FROM CITY OF ANNISTON
 - USE APPROXIMATELY 1.5M GAL/DAY
 - AVAILABLE SUPPLY 5.5M GAL/DAY
 - SOURCE: COLDWATER SPRING, AVERAGE FLOW 30M GAL/DAY
 - TREATMENT: CHLORINATION & FLUORIDATION ONLY
 - MONTHLY COST: \$20K TO \$25K

GROUNDWATER TREATMENT FACILITIES (DSN 002)

- DEWATERING SYSTEM INSTALLED TO PROTECT METAL FINISH FACILITY (BLDG. 114)

- TREATMENT INITIATED DUE TO GROUNDWATER CONTAMINATION
 - AIR STRIPPING

 - HEXAVALENT CHROMIUM REDUCTION/REMOVAL
 - PERMIT LIMIT - 150 ppb
 - TYPICAL DISCHARGE <4 ppb

 - CAPACITY 1.0M GAL/DAY

SEWAGE TREATMENT PLANT

- RECEIVES WASTEWATER FROM:

- INDUSTRIAL WASTE TREATMENT PLANT
- ALL SANITARY SOURCES
- FOUR GROUNDWATER TREATMENT PLANTS

- TREATMENT PROCESSES

CAPACITIES (GAL/DAY)

- INFLUENT HOLDING LAGOON _____ >700,000
- ACTIVATED SLUDGE TREATMENT SYSTEM _____ 620,000
- EFFLUENT PUMPING STATION _____ 1,900,000

TREATMENT CAPACITY _____ 620,000

AVERAGE DISCHARGE _____ 290,000

% OF CAPACITY _____ **47%**

- DISCHARGE TO CHOCCOLOCCO CREEK
- PLAN TO ADD UV DISINFECTION IN FY 95
- POLLUTION PREVENTION WILL REDUCE DISCHARGES

ENVIRONMENTAL SUMMARY

- **HEAVY INDUSTRY RESULTS IN MANY
VARIED ENVIRONMENTAL "OPPORTUNITIES"**
- **NAIVETE OR LACK OF AN AGGRESSIVE
PROGRAM CAN RESULT IN AN ERRONEOUS
SENSE OF COMPLIANCE**
- **IN COMPLIANCE - AIR, WATER, SOLID &
HAZARDOUS WASTE**
- **EXCELLENT RELATIONSHIP WITH REGULATORS**
- **CAPACITY TO ABSORB ADDITIONAL WORKLOAD**

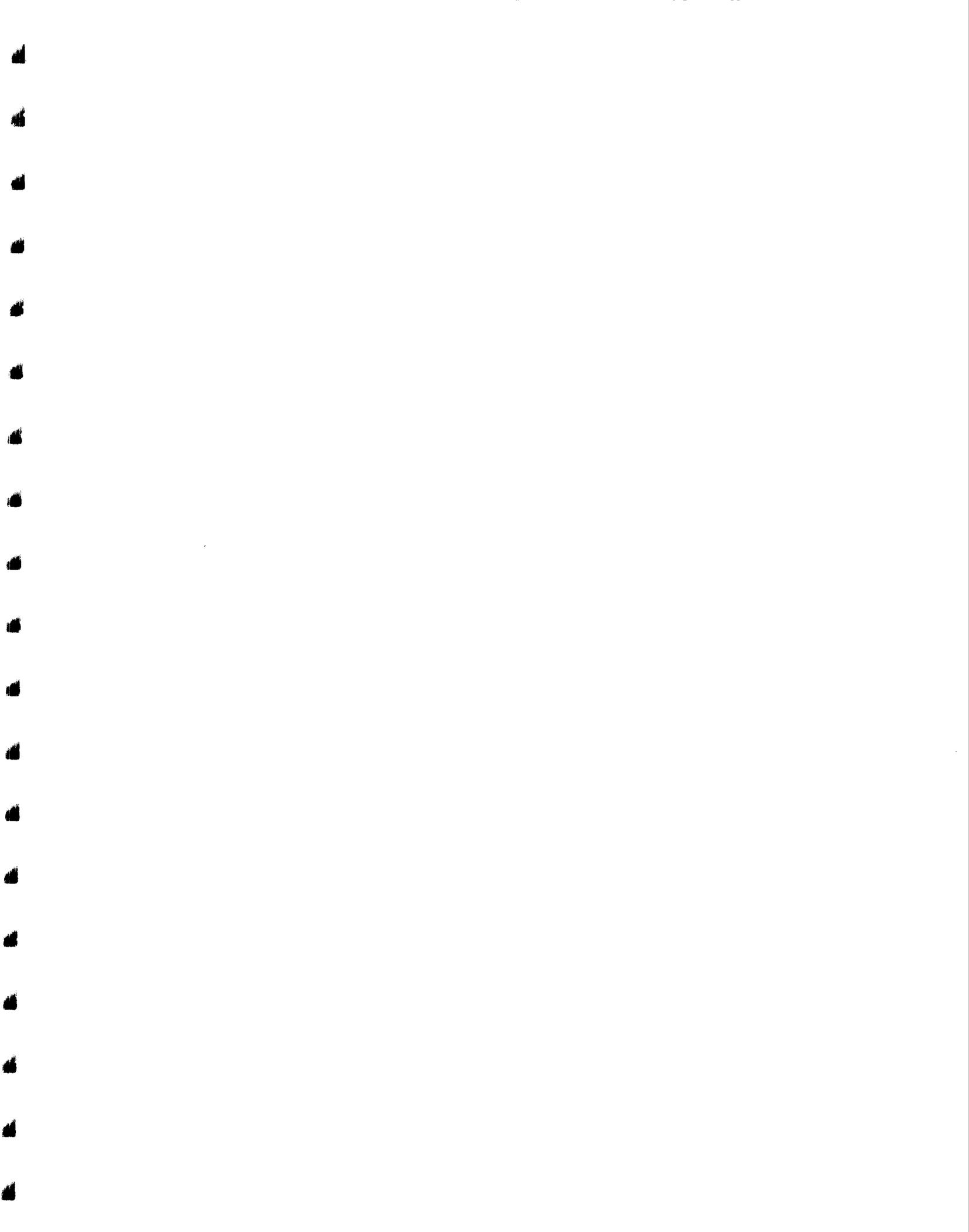


CHART 1

HAZARDOUS WASTE GENERATION

<u>CY</u>	<u>AMOUNT, LBS.</u>	<u>% REDUCTION</u>
1990	12,718,038	BASELINE
1991	12,248,480	3.69
1992	7,805,610	38.63
1993	4,877,466	61.65
1994	6,313,848	50.36*

*MAJOR SUB-ASSEMBLIES PROCESSED INCREASED WHICH INCREASED HAZARDOUS WASTE GENERATION.

CHART 2

HAZARDOUS WASTE ACCOUNTABILITY

- 1. TRAINING**
 - A. INITIAL**
 - B. ANNUAL REFRESHER**
- 2. PROPER GUIDANCE**
- 3. TRACKING SYSTEM**
 - A. CONTROLLED LABELING**
 - B. SUPERVISION**
- 4. WEIGH INDIVIDUAL DRUMS**

CHART 3

HAZWOPER

1. OSHA 1910.120 - EMERGENCY RESPONSE
2. TRAINING IN-HOUSE
3. SPECIAL DEPOT ISSUES
4. ANNUAL SAVINGS - \$60,000

CHART 4

POLLUTION PREVENTION - COMPLETED / INPROCESS

EQUIPMENT

1. IVD - \$2 M
2. HIGH PRESSURE WATER CLEANING
EQUIPMENT - \$519,482.03
3. VEHICLE HULL ABRASIVE BLASTING
UNIT - \$1,537,000
4. HIGH PRESSURE WATER REMOVAL
EQUIPMENT
5. HALON RECOVERY UNIT - \$100K
6. ALKALI FILTRATION UNITS - \$138,860
7. ELECTRODIALYSIS UNITS - \$148,396
8. MACHINE COOLANT RECYCLING -
\$77,454
9. BLDG. 433 ABRASIVE DUST SYSTEM -
\$252,046
10. USE OF WATER SOLUBLE / BIODEGRAD -
ABLE CLEANERS

CONTRACTS

1. SAFETY KLEEN PD - 680 SOLVENT
RECYCLE \$270,000
2. RAG RECYCLE \$29,000

CHART 5

POLLUTION PREVENTION - FUTURE

1. CLOSED LOOP RECYCLE

BLDGS. 409

421

130

114

2. TOTAL ELIMINATION OF VAPOR DEGREASING (TRICHLOROETHYLENE)

3. ELECTRODEPOSITED COATINGS (Cr REDUCTION)

4. TOTAL ELIMINATION OF MECI BASED PAINT STRIPPING

CHART 6

WASTE OIL MANAGEMENT

- 1. ABOVE GROUND TANKS -
BLDGS. 4, 55, 400**
- 2. BULK/DRUM STORAGE NEW OIL
FACILITY**
- 3. RECYCLE BULK OIL**

CHART 7

UST's

1. ORIGINAL NUMBER REGULATED	
TANKS (1988) _____	43
2. UST's AT PROGRAMS END FY 96 _____	9
3. WORK IN PROGRESS ON UST's _____	5
4. OUTSTANDING ACTIONS _____	5
5. NON-REGULATED _____	33
6. MANAGE NON-REGULATED AS	
REGULATED	

CHART 8

PCB SURVEY

1. PERFORMED IN-HOUSE

* 2. NO. OF TRANSFORMERS ON

DEPOT IN USE _____ 869

* SURVEY _____ COMPLETE

NO. PCB BEARING STILL IN SERVICE _____ 86

3. PCB STORAGE FACILITY

CHART 9

EXAMPLE OF INITIATIVE TAKEN TO ADAPT HEAVY INDUSTRIAL OPERATIONS WITH ENVIRONMENTAL REQUIREMENTS

● TRANSFORMER STORAGE FACILITY

CONTRACT AWARDED _____ SEP 1993

COMPLETION DATE _____ MAR 1994

COST _____ \$130,000

CONTRACTOR _____ TOM ROBERTS
CONSTRUCTION CO.
ANNISTON, AL

CAPACITY _____ 4,000 S.F.

FACILITY PROVIDES AN ENVIRONMENTALLY ACCEPTABLE STORAGE AREA FOR PCB FILLED ELECTRICAL TRANSFORMERS. UPON DISPOSAL OF THE PCB FILLED TRANSFORMERS THE FACILITY WILL CONVERT TO A TRANSFORMER MAINTENANCE AND STORAGE FACILITY.

CHART 10

● COAL STORAGE FACILITY

- 228' LONG X 100' WIDE COVERED FACILITY.
- CAPACITY: APPROXIMATELY 8,000 TONS.
- THIS FACILITY HAS ELIMINATED OPEN STORAGE OF COAL THUS ELIMINATING ENVIRONMENTAL PROBLEMS ASSOCIATED WITH COAL RUN-OFF.

● COAL HANDLING FACILITY

PROVIDES ANAD WITH RAILCAR UNLOADING FACILITY FOR COAL

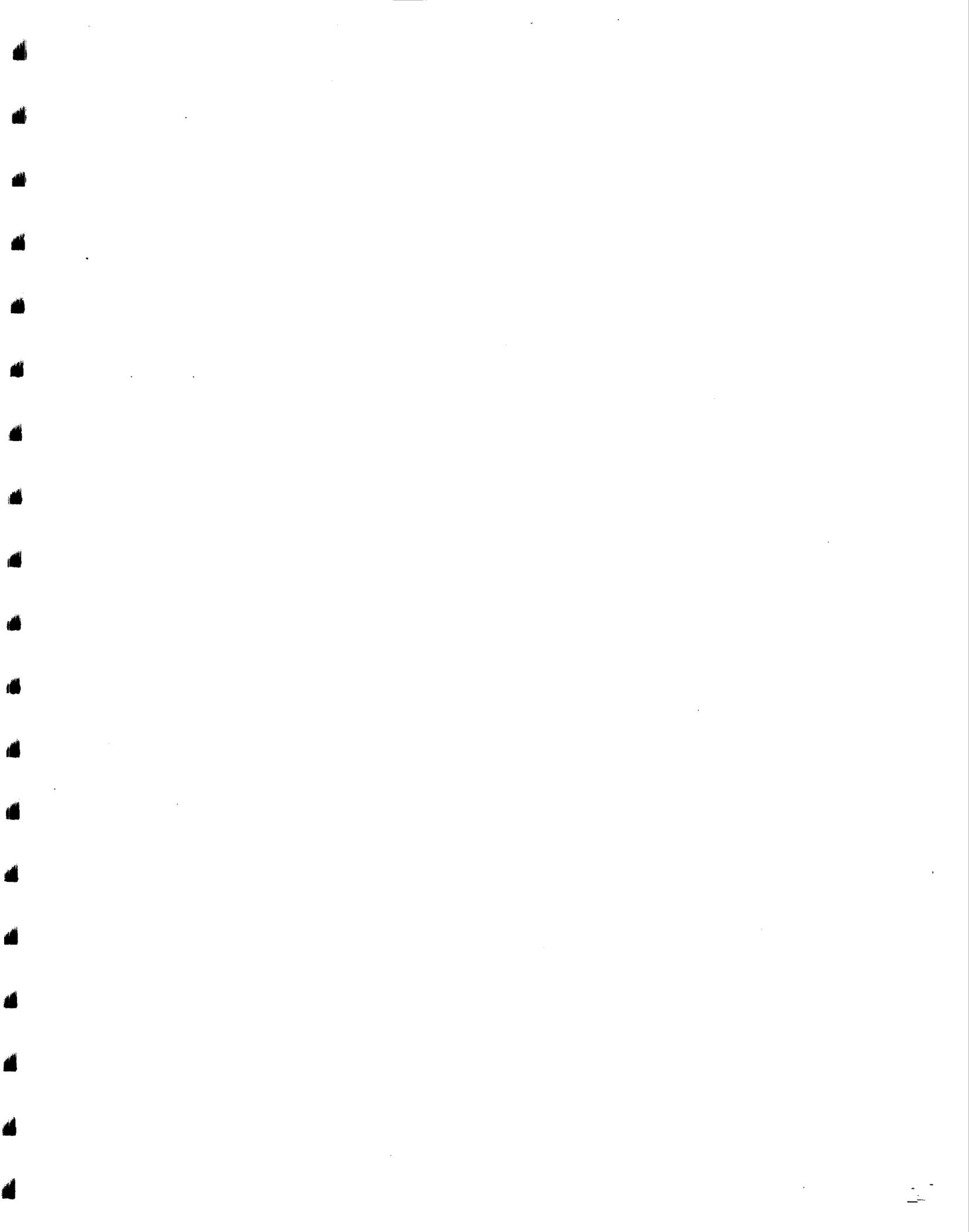
BENEFITS INCLUDE:

- ABILITY TO RECEIVE COAL BY RAIL.
- FLEXIBILITY OF RECEIVING COAL BY TWO TRANSPORTATION MODES.
- COVERED STORAGE FOR APPROXIMATELY 5,000 TONS.

CHART 11

CAPABILITIES

1. DO MORE WITH LESS
2. INFINITE CAPABILITIES
3. EAGER PERSONNEL
4. EXPERIENCED



**THE RAIL SYSTEM AT ANNISTON ARMY
DEPOT PROVIDES THE FOLLOWING FEATURES:**

- 46 MILES OF TRACK INCLUDING 4 SWITCH/
CLASSIFICATION YARDS AND 2 HOLDING YARDS.
- TRACK CONSTRUCTION AND MAINTENANCE EFFORTS
CURRENTLY PERFORMED ENSURE A RAIL SYSTEM
FULLY CAPABLE OF MEETING ALL PRESENT AND
FUTURE MISSION REQUIREMENTS FOR A HEAVY
INDUSTRIAL MISSION.
- MAINTENANCE PERFORMED BY CONTRACT.
- AVERAGE ANNUAL EXPENDITURE FOR TRACK
MAINTENANCE APPROXIMATELY \$1,000,000
PER YEAR.
- TRACK INSPECTED BY AN ON-STAFF U.S. ARMY
CERTIFIED TRACK INSPECTOR WITH OVER 28 YEARS
OF RAILROAD CONSTRUCTION EXPERIENCE.
- CONTINUATION OF CURRENT AND PROGRAMMED
RAIL MAINTENANCE PROCEDURES WILL RESULT
IN A FIRST CLASS RAIL SYSTEM INTO THE FUTURE
WITHOUT A MAJOR ONE-TIME EXPENDITURE OF FUNDS.

ANAD RAIL SYSTEM

- 46 MILES OF TRACK
- 4 SWITCH/ CLASSIFICATION YARDS
- 2 HOLDING YARDS
- 215 SWITCH/ TURNOUTS
- 89 RAIL/ GRADE ROAD CROSSINGS
- 3 TRESTLES
- 1 RAIL/ CAR WEIGH SCALES
- 3 GENERAL MOTORS EMD LOCOMOTIVES
10/ TON 2000 HP, PURCHASED 1991

RAILROAD REPAIR

COMPARISON OF \$ DOLLARS SPENT PER MILE OF TRACK

NORFOLK SOUTHERN	\$13,304	
ANNISTON ARMY DEPOT	\$12,605	47 MILES
SANTE Fe RAILROAD	\$11,740	
U.S. STEEL B'HAM	\$14,000	60 MILES
* KANSAS CITY SOUTHERN	\$27,197	1320 MILES

* FROM FEB. 94 ISSUE OF RAILWAY TRACK
AND STRUCTURES. KANSAS CITY SOUTHERN
WAS IN A 10 YEAR PLAN OF REHABILITATION.

RAILROAD TRACK STANDARDS

1-3 Track Categories

<u>Track Categories</u>	<u>Types of Tracks</u>
A Full Compliance 30 mph Max	* Active main lines. * Operating speed exceeds 10 mph.
B 10 mph	* Active passing tracks, Loading tracks, Class yd. tracks and Storage tracks. * Tracks having an occasional use or a foreseeable need.
C No Operation Maintain Switches Control Vegetation	* Inactive track with no current mission requirements.

INSPECTION FREQUENCIES (As a Minimum)

Category A & B Tracks

Two or more movements per week. Inspect once every month.
 $17.219 \times 12 = 206.62$ miles /yr.

More than one per month but less than two per week. Inspect every 2 months.
 $4.92 \times 6 = 29.52$ miles /yr.

Less than one movement per month. Once every 6 months.
 $0.89 \times 2 = 1.78$ miles /yr.

Category C Track

Annually
 $24.00 \times 1 = 24.00$ miles /yr.

TOTAL TRACK TO INSPECT EACH YEAR = 261.91 MILES

★ TRACK INSPECTION FREQUENCIES ★
for
 CATEGORY A & B TRACK

TRAFFIC FREQUENCY	MINIMUM REQUIRED INSPECTION FREQUENCY
TWO OR MORE MOVEMENTS PER WEEK	ONCE EVERY WEEK

TRACK	LENGTH (T.F.)
-------	---------------

M.L.E.	14,150
STUFFING PAD YARD	4,051
SPUR 9 & 9-B	3,581
LOOP TRACK & DOCKS 619,620,621,622	10,701
TRACK NO. 2 & DOCKS 625,626,627	12,985
UPPER & LOWER HOLDING YARDS	9,784
BUNDLE BLDG. SPUR & 56, 58	3,347
SPUR 380	3,970
M.L.S.	11,048
TRACKS TO "CLYDE"	3,218
M.L.W. & BLDG. 10	6,530
BYNUM YARD	6,101
TURNER YARD	7,175
C.E.S. YARD	11,189

TOTAL T.F. 107,830

ADDITIONAL TRACK INSPECTION REQUIRED FOR TRACK NOT LISTED ABOVE (ONCE EVERY SIX MONTHS)

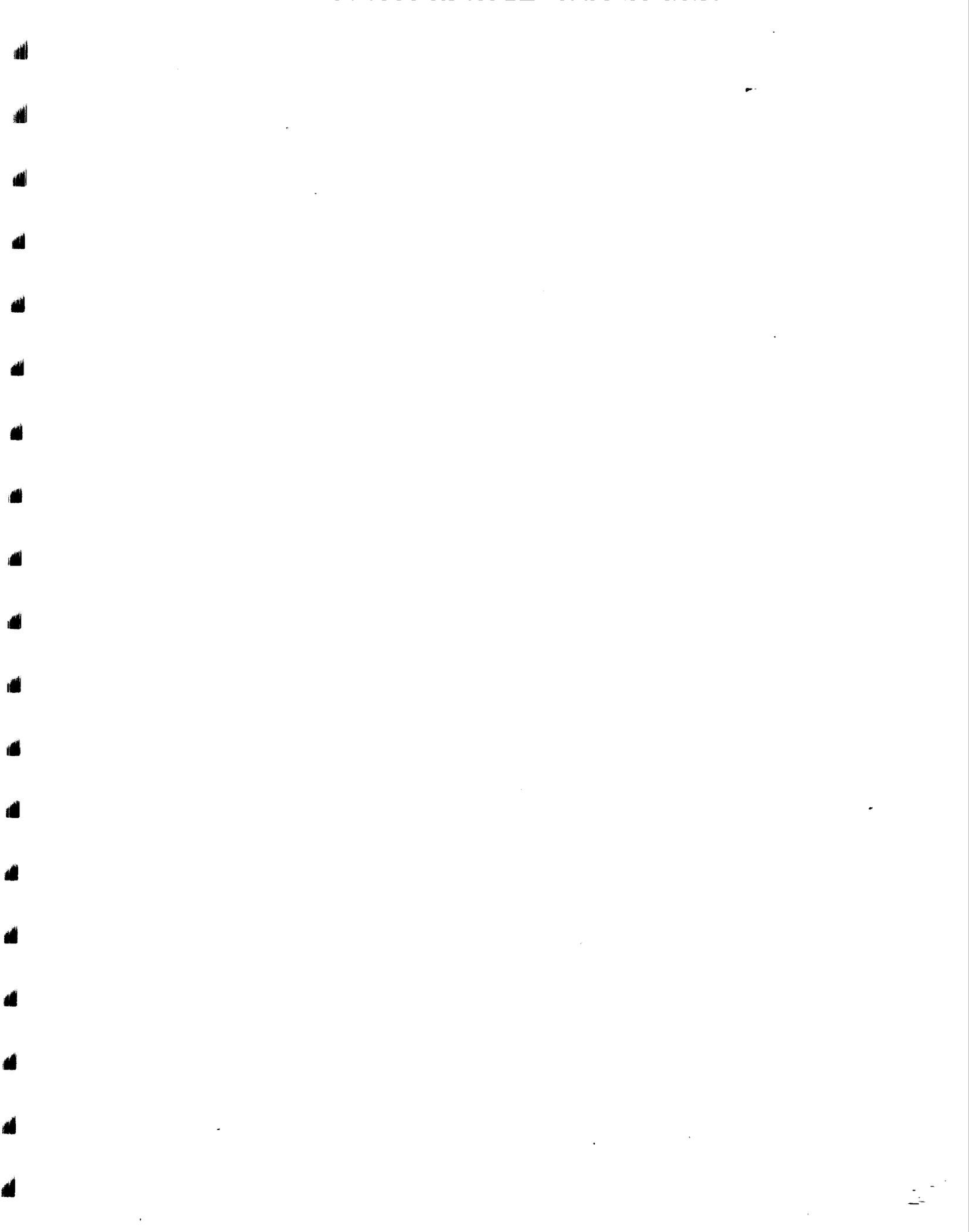
CATEGORY C TRACK IS REQUIRED TO BE INSPECTED ONCE PER YEAR

ANAD
RAILROAD REPAIR/MAJOR IMPROVEMENTS
SIX YEARS

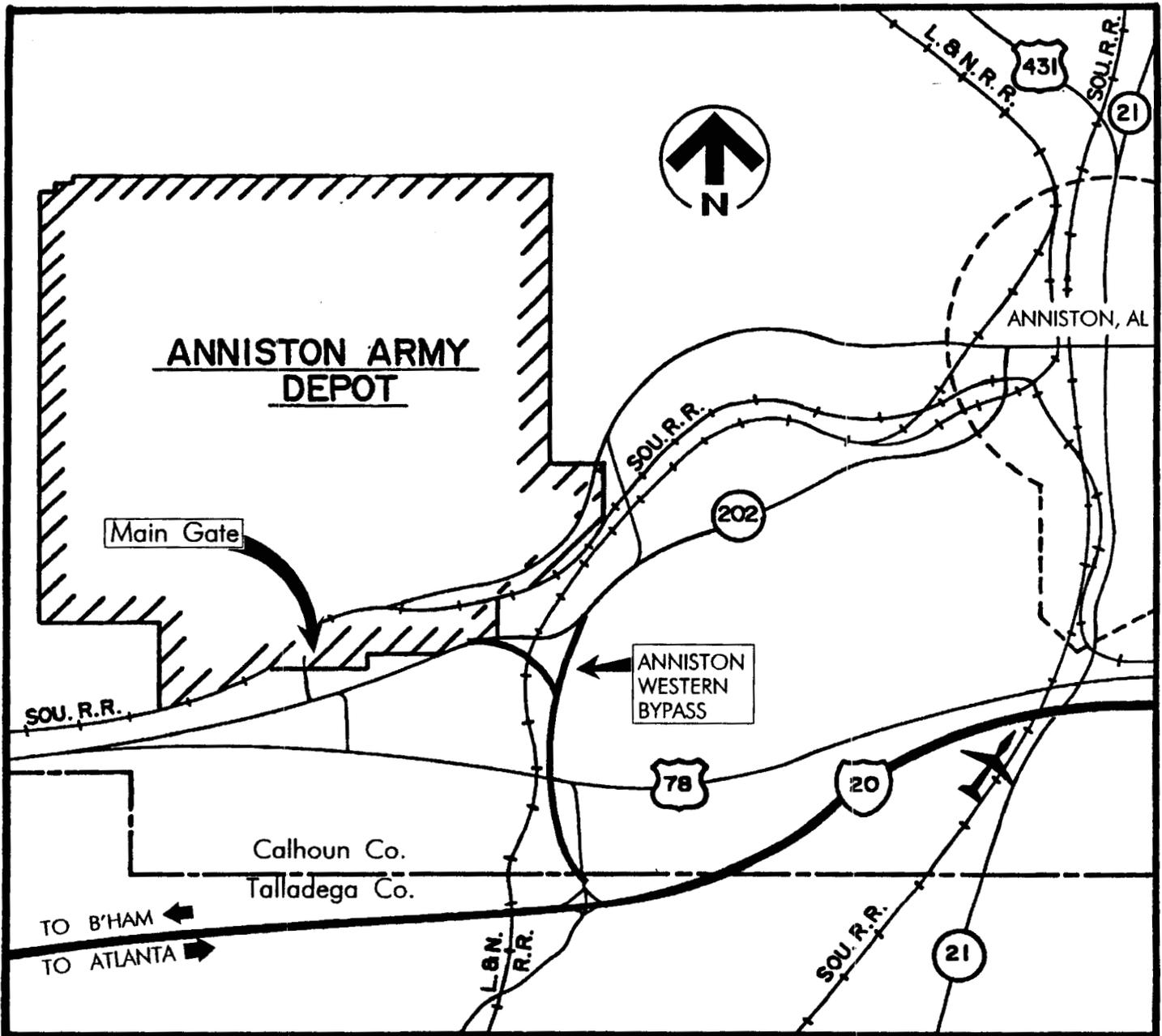
CONTRACTOR YEAR	NEW TIES EA	NEW #115 SWITCHES EA	SWITCH TIE SETS EA	NEW #115 RAIL TF	ROAD X REPAIR TF	HB STAND TIES SET	S/L/T TF
ATLAS FY 87	3529	4	6	587	4(348)	?	12,640
ALA. CON. FY 88	2646	9	11	4512	3(72)	?	9,627
ANDREW FY89	4334	1	4	0	9(300)		13,197
ANDREW FY 90	2621	7	14	1554	3(124)	4	7,476
B.R. MOORE 90 MAINT	300		3			5	500
R.R. SERVICES FY 91	1656 200 (Change Order)	4	3	5307	2(168)	2	7,908
B.R. MOORE FY 91	1977 50 (Change Order)	0	2	2700	2(54)		8,894
VOLKMANN R.R. FY 92	1529	6	3	4030	6(391)	6	4,946
B.R. MOORE FY 92	1926	2	2	2042	2(80)	4	8,437
	20,768	33	48	20,732	31(1537)	21	73,625
SYSTEM TOTALS:	152,714	215	215	248,160	89(3000)	430	248,160
ESTIMATED TIME TO REPLACE SYSTEM (IN YEARS) BASED ON THE PAST SIX YEAR REPAIR PROGRAMS							
	44	39	26.75	71.80	11.7		20

★ ANAD RAILROAD REPAIR ★
and
 MAJOR IMPROVEMENTS FOR NINE YEARS

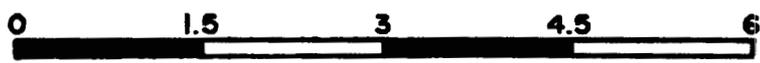
CONTRACTOR & YEAR	NEW TIES EACH	NEW 115# SWITCH EACH	SWITCH TIE SETS EACH	NEW #115 RAIL T.F.	ROAD X-ING REPAIR T.F.	HB STAND TIES SET	S/LT T.F.
QUEEN CITY FY 93	803	5	9	4,828	3(68)	6	4,636
BRASON FY 94	2,077	5	7	2,491	2(80)	4	11,223
BRASON FY 94	1,873	4	4	5,024	2(76)	4	10,609
AMERICAN R.R. FY 94	1,521	7	9	2,876	3(241)	2	7,823
B.R. MOORE FY 95	730	3	2	3,043	4(208)	3	13,727
AMERICAN R.R. FY 95	890	3	2	5,360	7(528)	2	6,298
TOTALS	28,662	60	81	44,354	2,738	38	127,941
ESTIMATED TIME TO REPLACE SYSTEM (IN YEARS) BASED ON PAST NINE YEAR REPAIR PROGRAMS.							
	48	32	23.8	50.3	12		17.5



ANNISTON WESTERN BYPASS

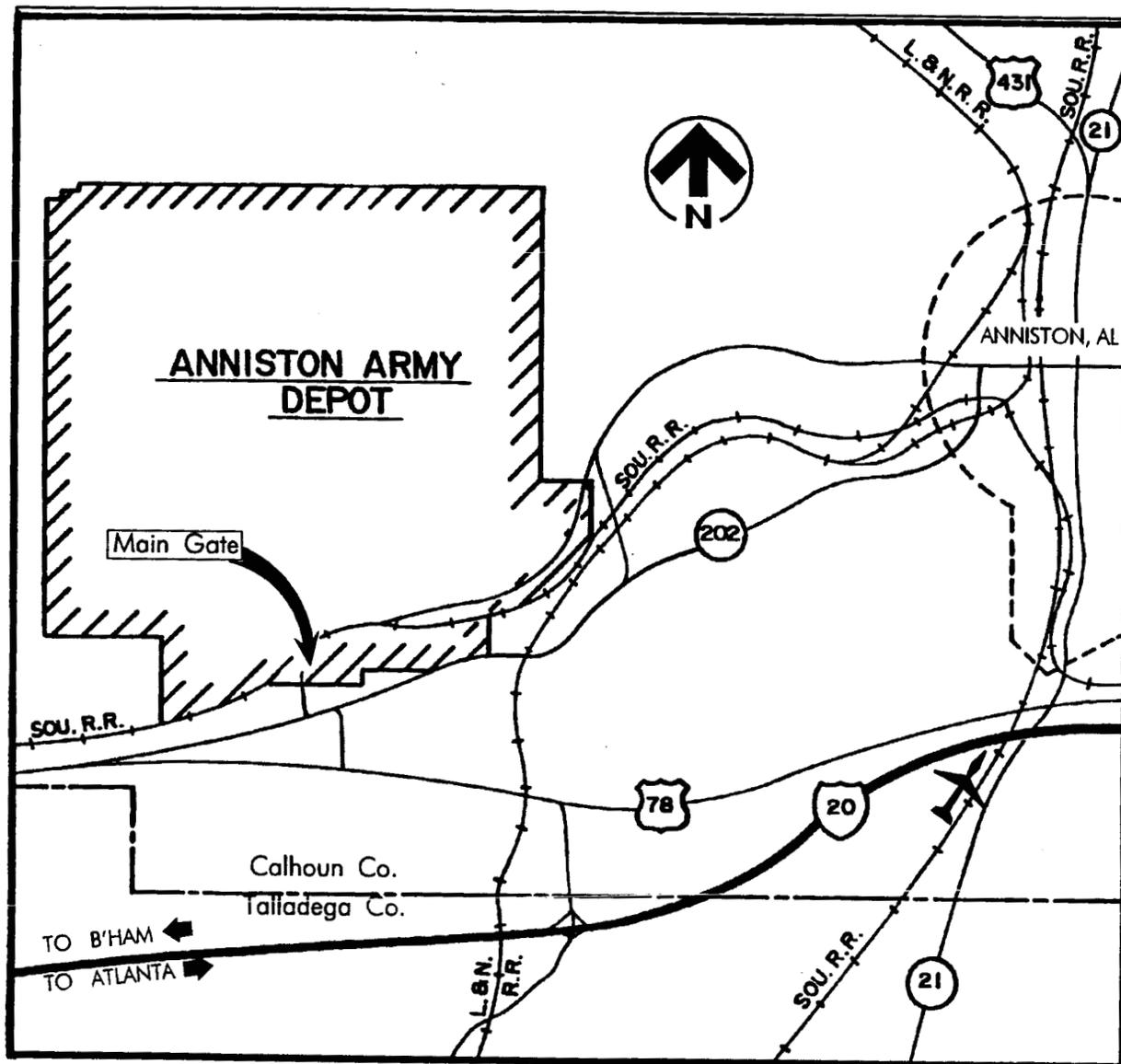


VICINITY MAP



Graphical Scale (Miles)

DEPLOYMENT NETWORK



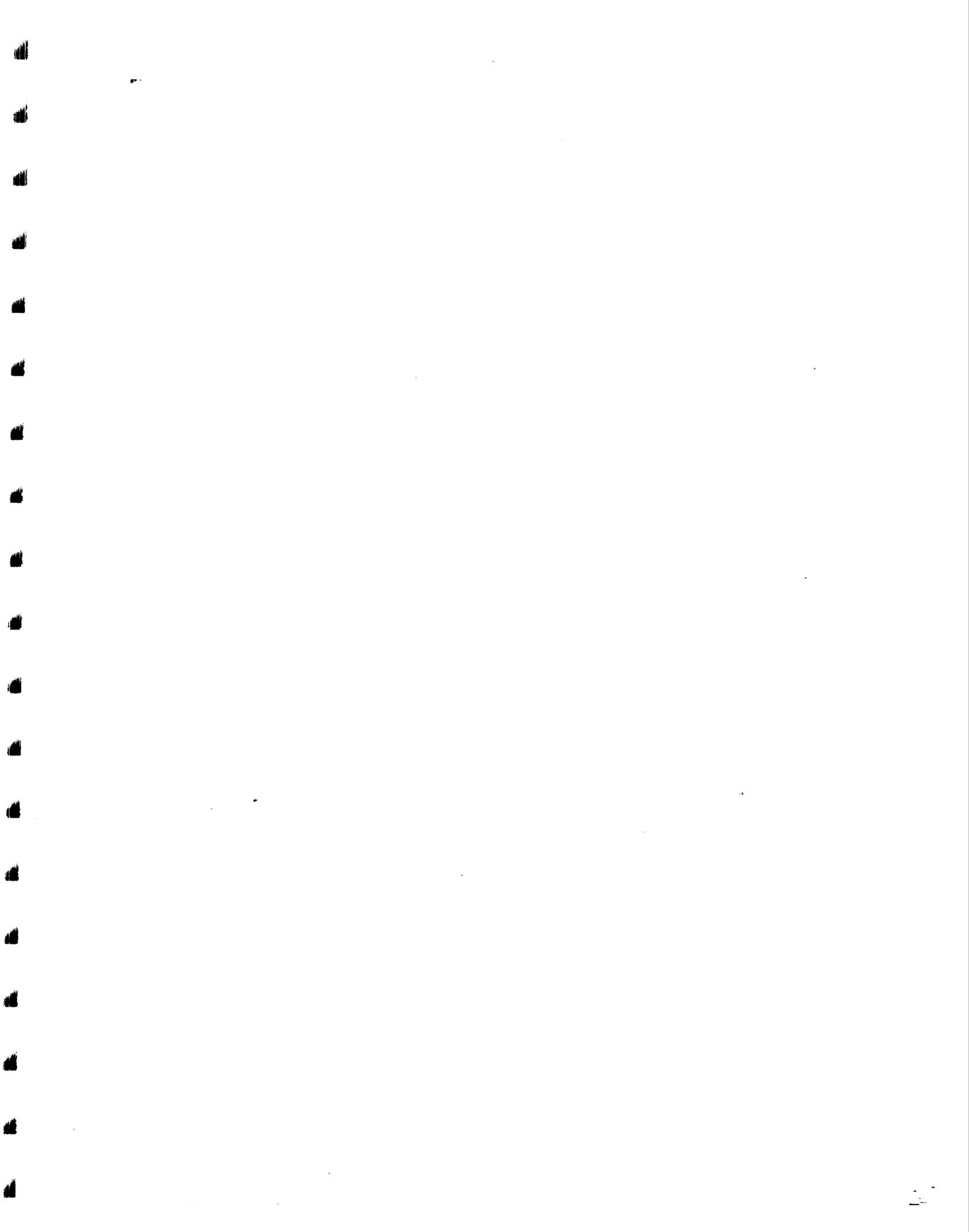
DISTANCES:

INTERSTATE HIGHWAY	—	5 MILES
AIRPORT	—	11 MILES
RAILHEAD	—	0 MILES
SEAPORT	—	280 MILES (MOBILE, AL)

VICINITY MAP



Graphical Scale (Miles)



**CAPACITY UTILIZATION
INITIATIVES**

Overtaken by

BRAC 95

LAY AWAY OF BUILDINGS AND EQUIPMENT

● WHY LAY AWAY ?

- PROPERTY IS RETAINED AS PART OF DEFENSE BASE
- BETTER CAPACITY UTILIZATION DURING PERIODS OF FLUCTUATING WORKLOAD
- REDUCED COSTS TO CUSTOMERS... UTILITIES, MAINTENANCE AND DEPRECIATION EXPENSES REDUCED

● ANNISTON'S PLAN (MAR 94)

- 17 BLDGS... 360,000 S.F. PLUS 103 PIECES OF PRODUCTION EQUIPMENT
- COST REDUCTIONS... \$450,000 ANNUALLY SAVED IN REDUCED MAINTENANCE / UTILITIES COSTS

plus

- DEPRECIATION EXPENSE REDUCED BY \$300,000 ANNUALLY
- TOTAL - \$750,000 SAVINGS ANNUALLY

● OUR SELF IMPOSED SCHEDULE

- EQUIPMENT ON LAY AWAY BY 25 MAY 94
- FACILITIES ON LAY AWAY BY 1 OCT 94

LEASING OUT OF BUILDINGS AND EQUIPMENT

- PROVIDES SAME ADVANTAGES AS LAY AWAY

plus

- HELPS TO OFFSET LOCAL ECONOMY JOB LOSSES
- PROMOTES GOV'T / INDUSTRY PARTNERSHIPS

and

- GENERATES REVENUES

ANNISTON'S PLAN - WORK WITH THE LOCAL
ECONOMIC DEVELOPMENT COUNCIL (EDC)
TO OUTLEASE 8 BLDGS... APPROX. 150,000 S.F.

- BASED ON \$2.75 / S.F., REVENUES WOULD AMOUNT TO
\$412,500 ANNUALLY
- REQUEST TO LEASE OUT THIS BLDG. (129) AND EQUIPMENT
HAS BEEN FORWARD THROUGH CHANNELS FOR CG, AMC
APPROVAL (APR 94)... IN PROCESS

● INDUSTRIAL DEVELOPMENT PROPERTIES

- RECEIVED REQUEST FROM EDC TO SURVEY OUR PROPERTIES FOR POSSIBLE USE IN INDUSTRIAL DEVELOPMENT
- OUR REVIEW IDENTIFIED APPROXIMATLY 136 ACRES (LESS 10 ACRES SET ASIDE FOR HISTORICAL HOLDING FACILITY) THAT WAS USED AS THE OLD WHERRY HOUSING PROPERTY
- THIS COULD BE USED FOR INDUSTRIAL DEVELOPMENT AND WE ARE CURRENTLY LOOKING AT EXCESSING THIS PARCEL

● *ANNISTON'S ANSWER TO THE BASIC
QUESTION IS THREEFOLD*

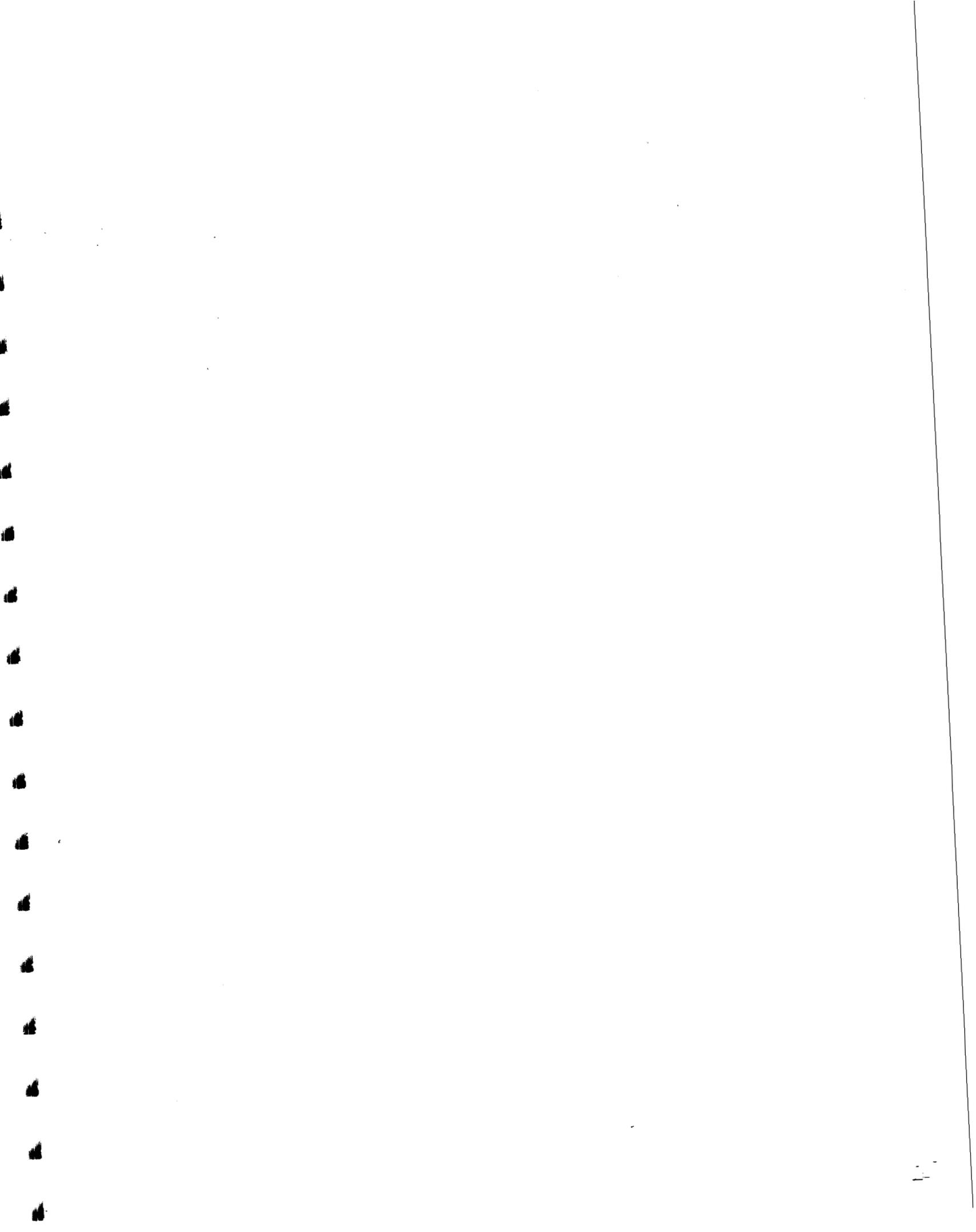
- *LAYAWAY OF BUILDINGS AND EQUIPMENT TO
INACTIVE STATUS.*
- *OUT LEASING OF BUILDINGS AND EQUIPMENT.*
- *INVESTIGATING POSSIBILITIES OF EXCESSING SOME
PROPERTIES FOR INDUSTRIAL DEVELOPMENT.*

● *CHANGES IN GLOBAL CULTURE...
SOCIO-ECONOMIC AND MILITARY*

*HAVE CREATED A
DOWNSIZED ENVIRONMENT*

*DOWNSIZING REQUIRES REDUCED COSTS AND MORE
EFFECTIVE CAPACITY UTILIZATION WHILE STILL
PROTECTING A MINIMALLY ACCEPTABLE INDUSTRIAL
BASE LEVEL*

*BASIC QUESTION... WHAT DO YOU DO WITH VALUABLE
NON-EXCESS FACILITIES, EQUIPMENT, AND PROPERTIES
IN THIS ENVIRONMENT?*



ANNISTON ARMY DEPOT

Leadership 2000

"Training for Today and Tomorrow"

**COMMAND
GROUP**

**STEERING
COMMITTEE**

**PROGRAM
MANAGER**

EEOAC

**Leadership
2000**

- ✓ **Began Mar 88**
- ✓ **Provide selecting officials w/ grads who possess critical skills/knowledge to become effective supervisors/leaders**
- ✓ **Primary emphasis - minorities/females (enhancing oppor for advancement within workforce)**
- ✓ **Graduated 13 classes (249 students)**

PHASE I

CLASSROOM INSTRUCTION

PHASE II

SPECIAL PROJECTS

PHASE III

OJT



*** American Council on Education Awarded 12 Semester Hours of Undergraduate Credit**

RESULTS/SUCCESSES

Permanent Promotions	71 (29 supv)
Temp Prom/Details	121 (31 supv)

IMMEDIATE

- ✓ Improved employee attitude toward mgt
- ✓ Dealings with co-workers have improved
- ✓ Improved communication skills

LONG RANGE

- ✓ Body of qualified applicants for leadership positions

Leadership
Education
And
Development

Status OF LEAD at Anniston Army Depot

- ✓ **6 Facilitators (3 teams) Trained and Certified**
- ✓ **23 LEAD Courses conducted**
 - **393 depot leaders trained**
 - **12 military supervisors trained**
- ✓ **6 locally developed LEAD Refresher Courses conducted**
 - **105 depot leaders trained**

Total
Quality
Management

for ANNISTON ARMY DEPOT

U.S. Army Management
Engineering College
TQM Program Implementation

- ✓ **Pre-Training Consultation**
- ✓ **Executive Course**
- ✓ **Managers Course**
- ✓ **Process Action Team Course**
- ✓ **Trainer/Facilitator Course**
- ✓ **TQM Awareness Training**
- ✓ **Teaming**



**Hazardous Waste
Operations
Emergency Response
(HAZWOPER)
Training**

- ✓ **Satellite Education Network**
- ✓ **Automation Training**
- ✓ **Technical Training**

'C' BAND SATELLITE SYSTEM

Sources of Broadcast

- ✓ **AMERICAN MANAGEMENT ASSOCIATION**
- ✓ **PBS ADULT LEARNING SATELLITE SERVICE**
- ✓ **EMERGENCY EDUCATION NETWORK**
- ✓ **GEORGE WASHINGTON UNIVERSITY**
- ✓ **THE BUSINESS CHANNEL**

Under KU Band System

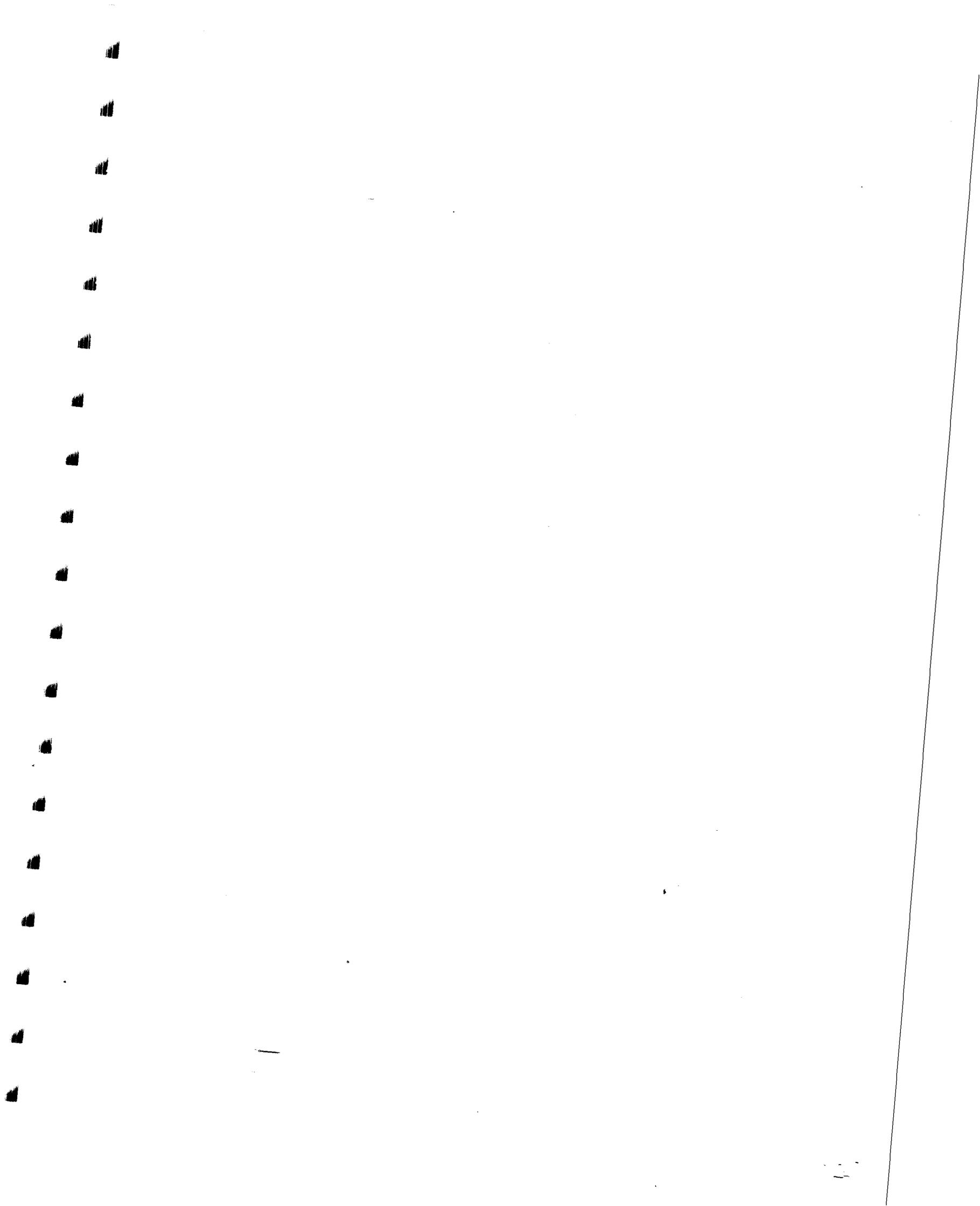
STUDENTS TRAINED 1,095
COST SAVINGS \$1.96 M

Automation Courses

- ✓ **INTRO TO PCs**
- ✓ **INTRO TO WINDOWS**
- ✓ **WORD FOR WINDOWS**
- ✓ **DBASE III**
- ✓ **WORD FOR DOS**
- ✓ **LOTUS 1 2 3**
- ✓ **EXCEL**

Technical Courses

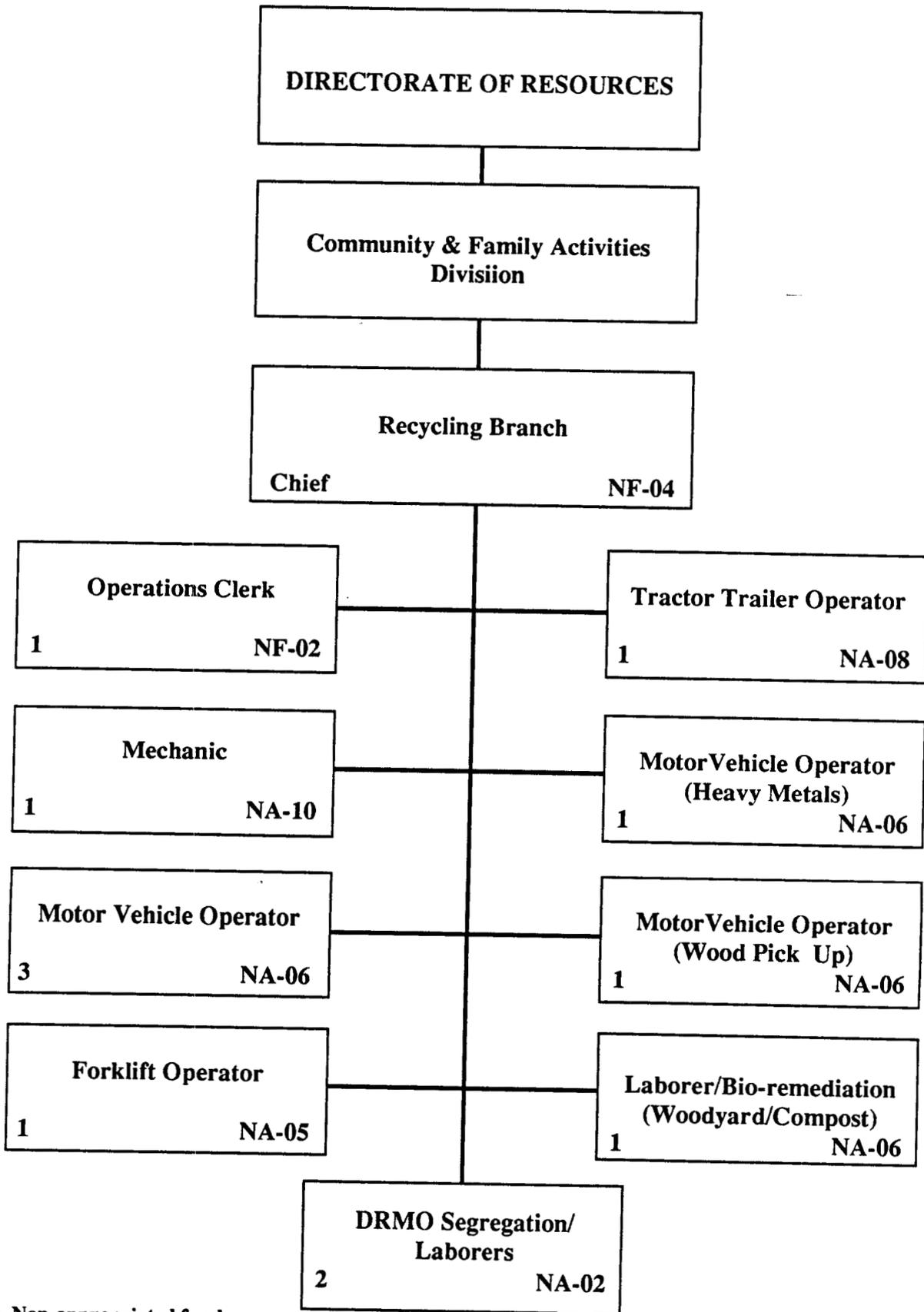
- ✓ **SHOP MATH**
- ✓ **BASIC MATH FOR ELECTRONICS**
- ✓ **LASER OPTICS FUNDAMENTALS**
- ✓ **MICROPROCESSOR INTERFACE &
MEMORY CONCEPTS**



Morale Welfare Recreation

Recycling Program





NA: Non-appropriated fund

Background

Established in 1982

Expanded in 1989

**Utilize NAF Employees*

**Concentrate on Non-Metallic
Recyclables*

**50-50 Split of Revenue with DBOF*

Recycling Potential

**200,000 Cu .Yds. of Industrial
Waste/Yr.*

**200,000 Cu .Yds . of Scrap Wood/Yr.*

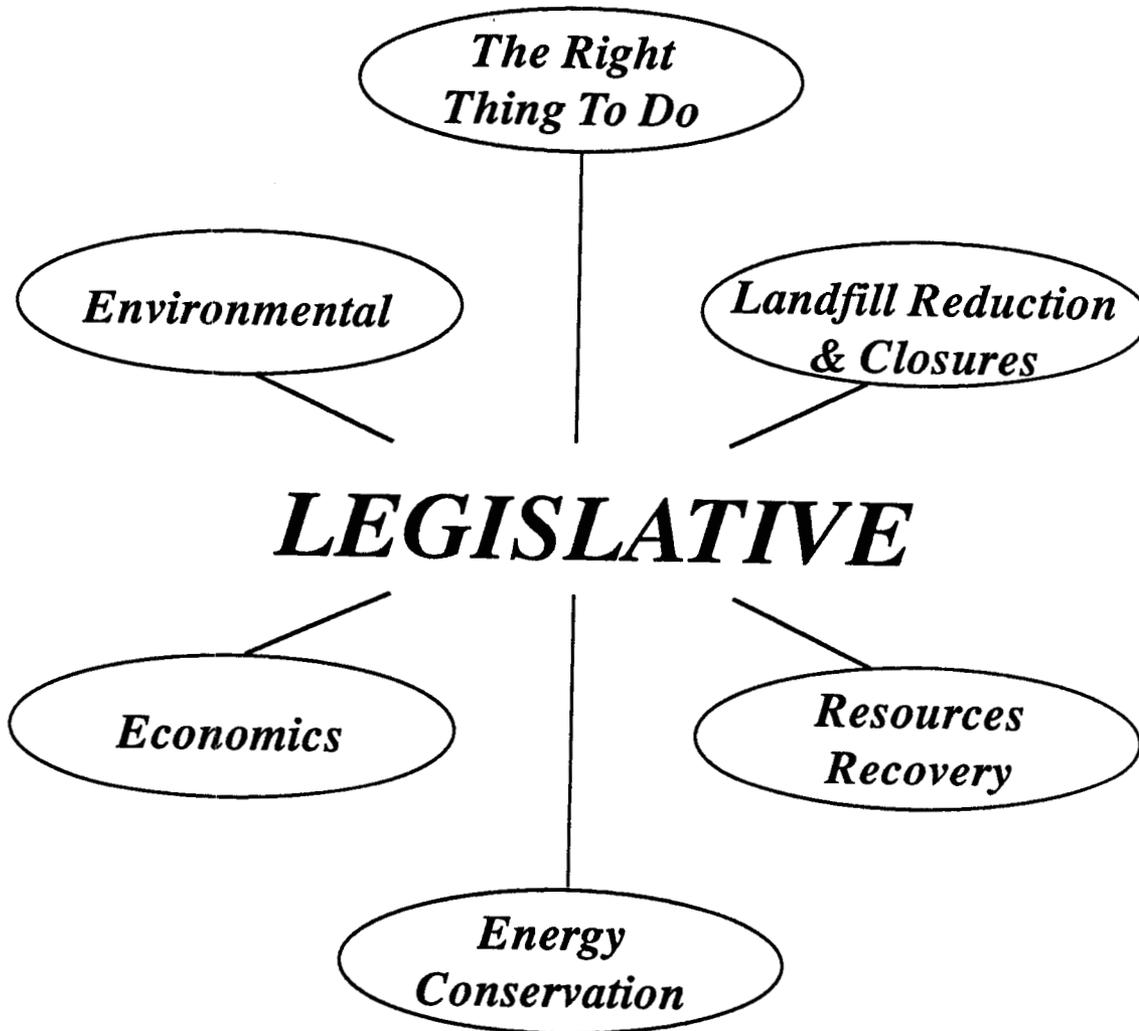
Present Day

- Co-Alignment with Directorate of Resources and Directorate of Public Works*
- Utilization of NAF Employees to Operate Program (13)*
- Expansion into Non-Traditional as well as Traditional Recyclables*
- 50-50 Split of Revenue with DBOF*

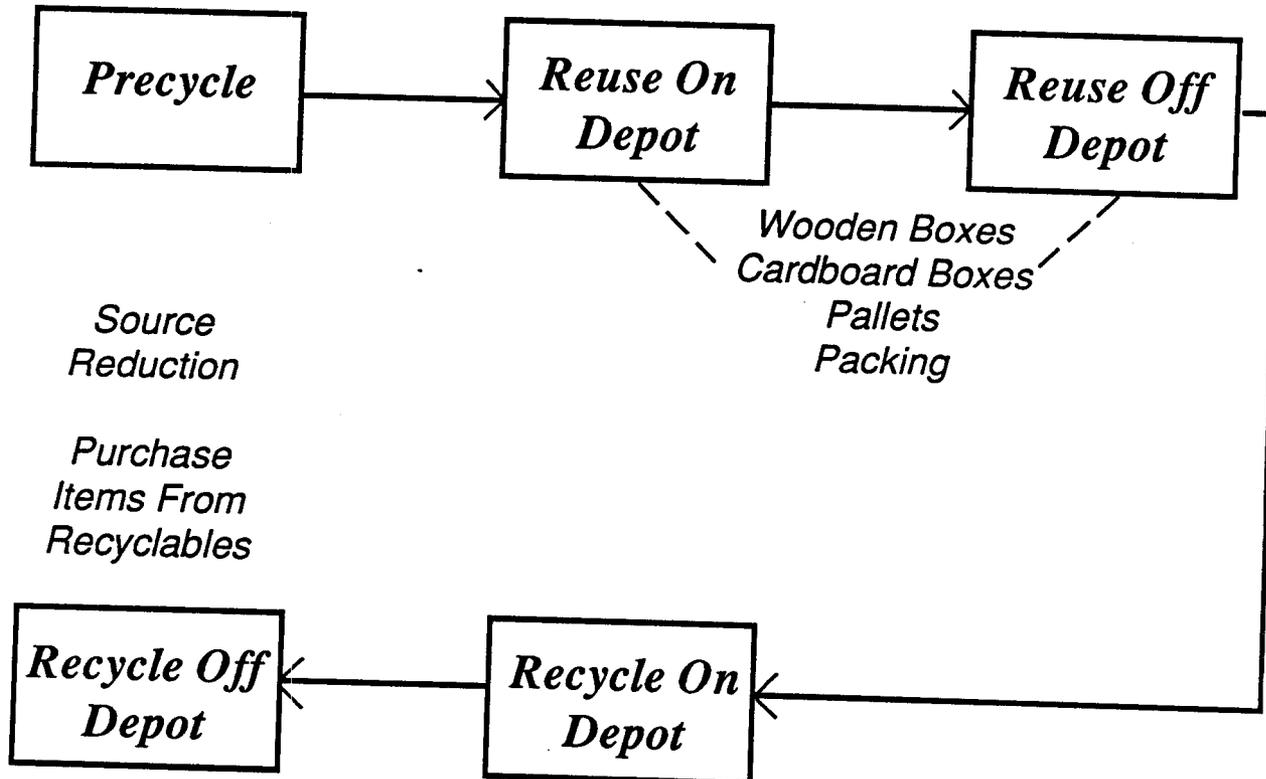
The Future

- Waste - To - Energy (WTE)*
- Composting*
- Soil Erosion Maintenance*

Drivers of Recycling



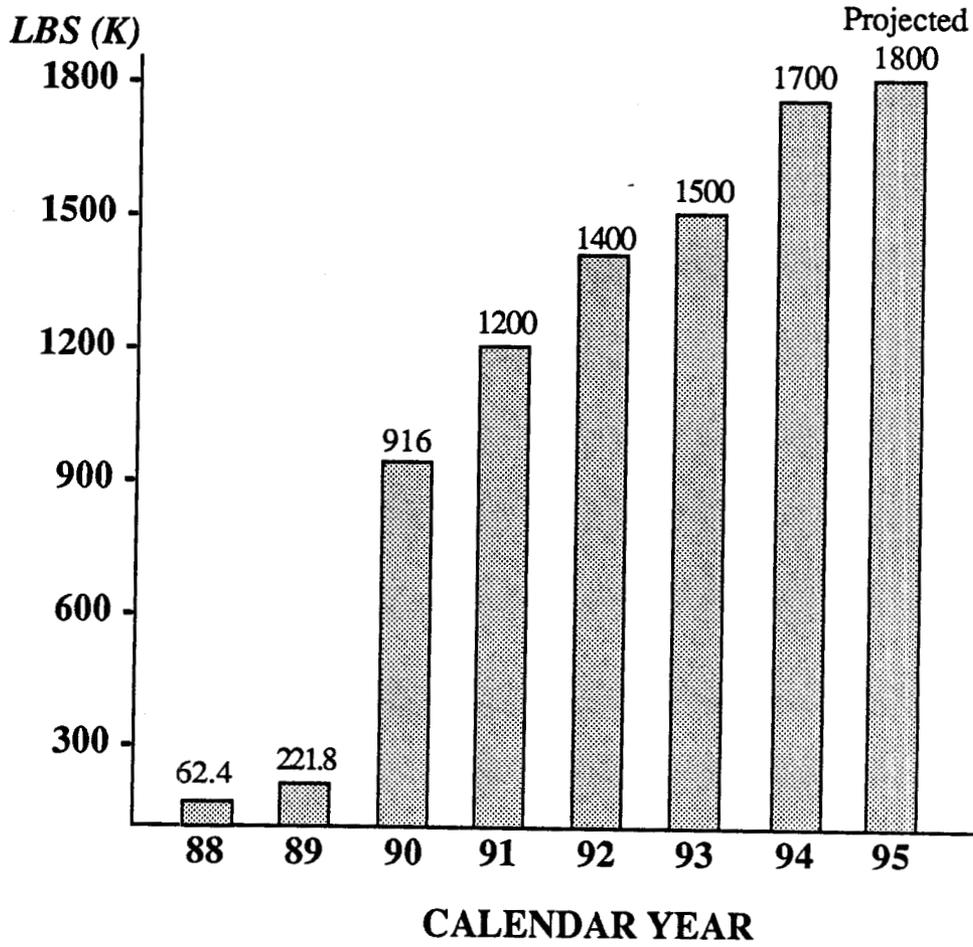
Recycling Process



- *Paper Products
- *Aluminum Cans & Foil
- *Glass
- *Scrap Wood/Chips
- *Styrofoam
- *Tin Cans

- *Mixed Paper to Packing
- *Bio-Compost
- *Wood Chips
- *Carbon Paper to Soil
- *Recyclables from Home Program

Recycling

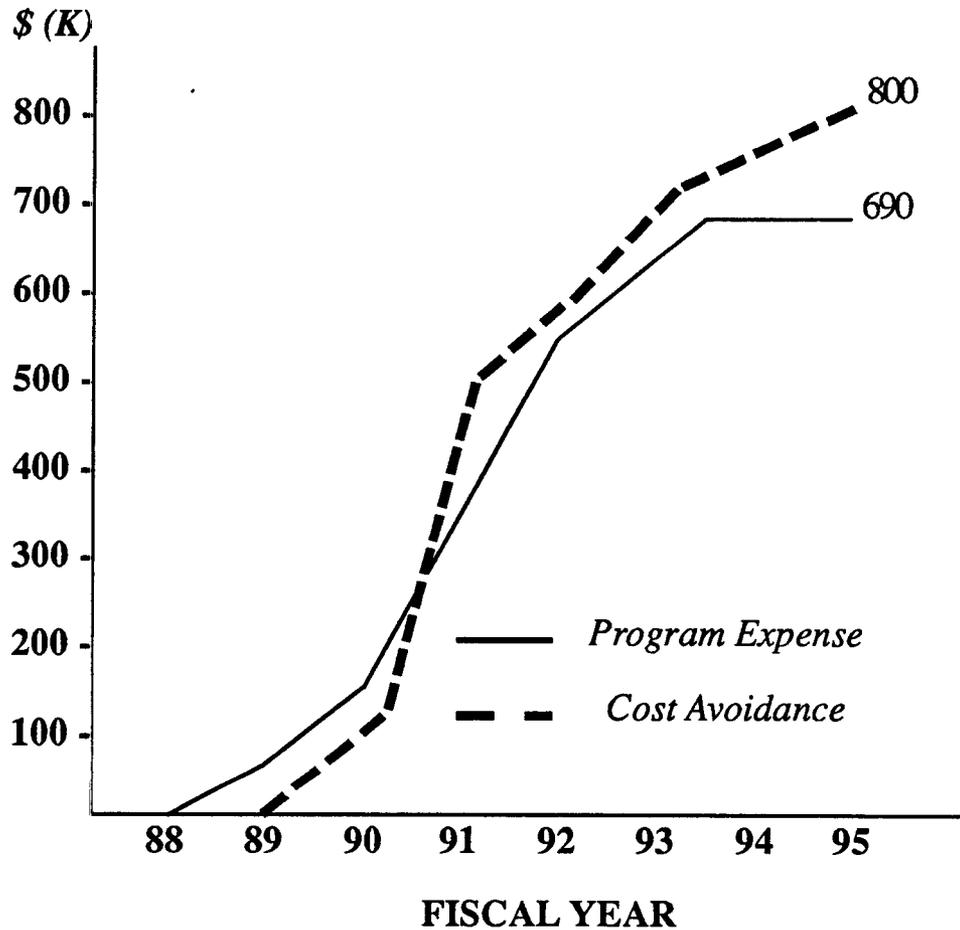


Other Materials

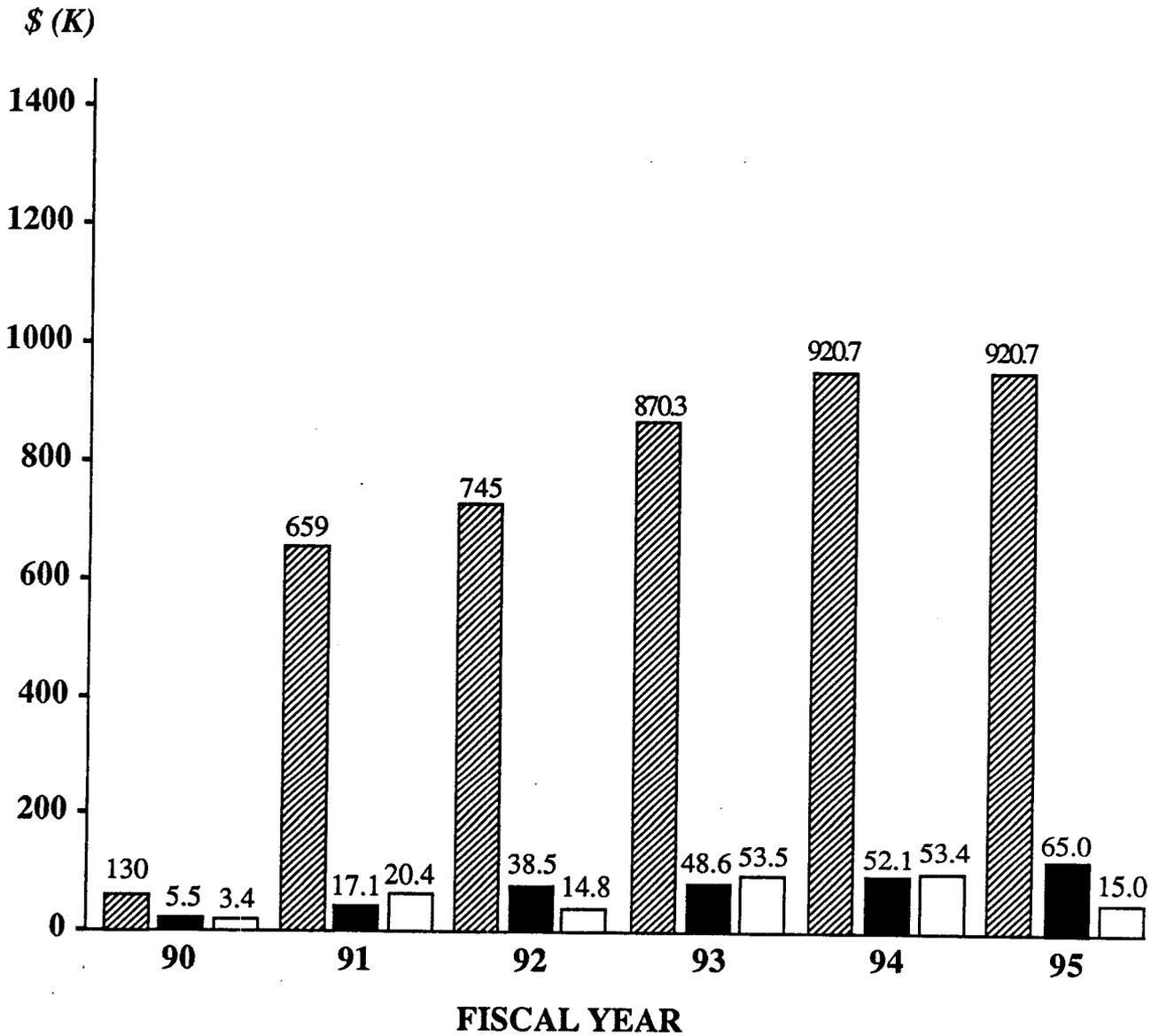
- Aluminum Cans & Foil*
- Compost/Wood Chips*
- Pallets & Boxes*
- Scrap Wood*
- Plastics*
- Glass*
- Styrofoam*

NOTE: The depot also maintains a Recycling Relationship with Bynum Elementary School, the Federal Corrections Institute in Talladega and the City of Anniston.

Benefits vs. Expense (cum)

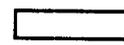


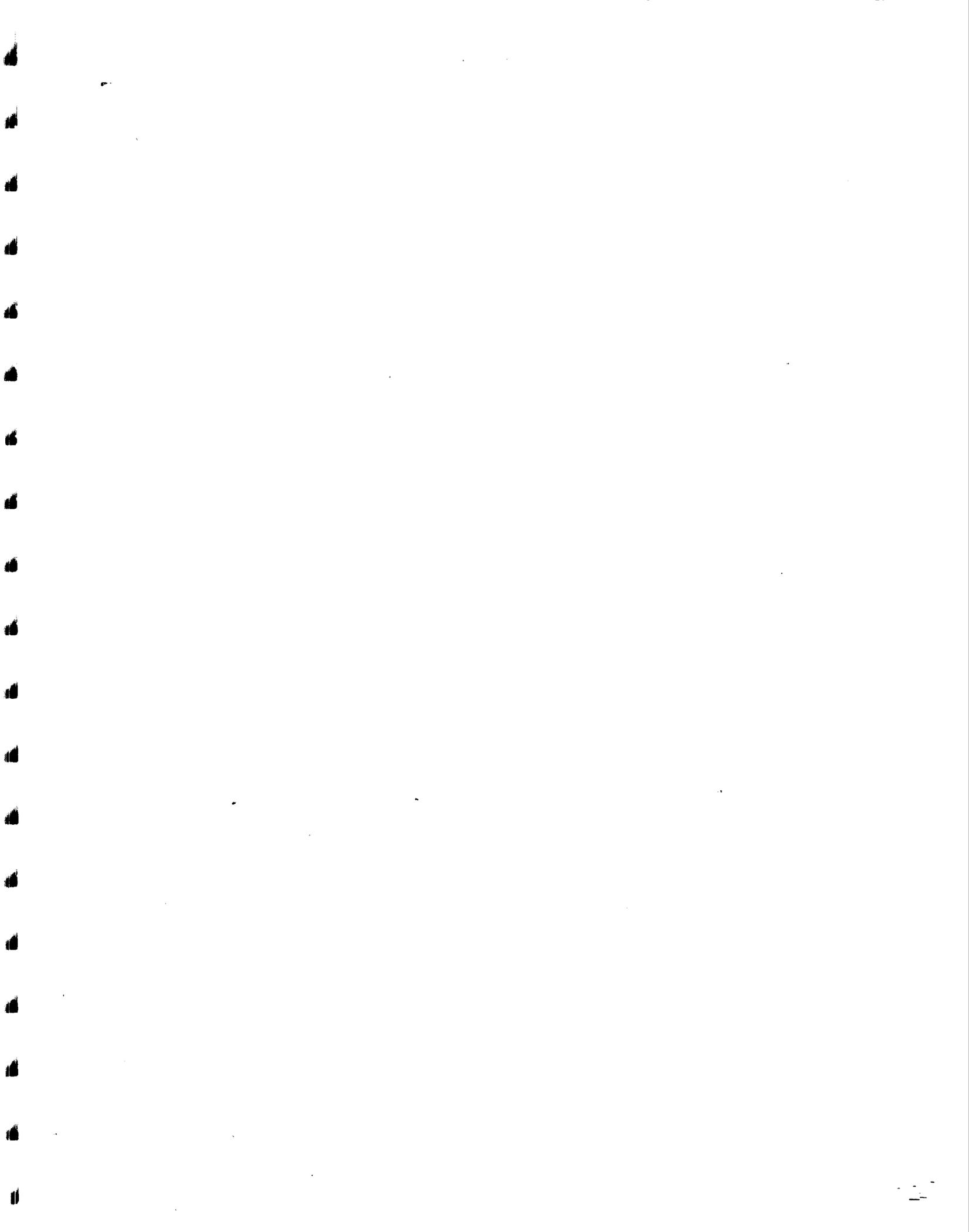
Projected Revenue



 *Metals*

 *Paper*

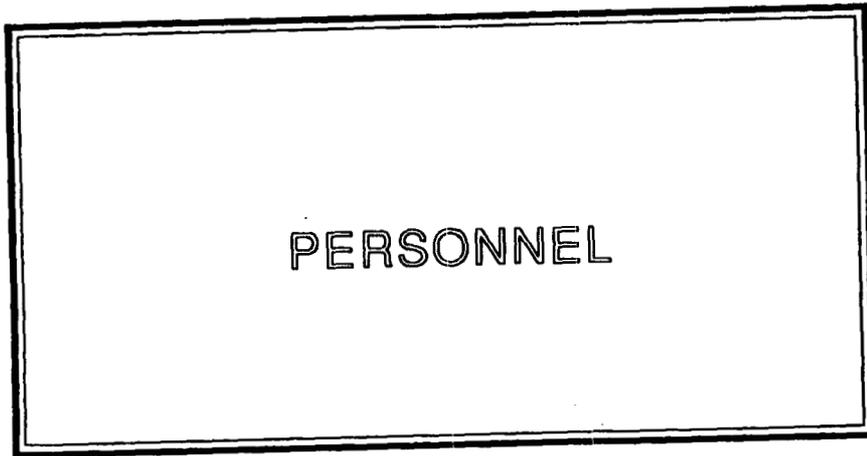
 *Other*



Mission Statement

Anniston Army Depot is the only depot capable of performing maintenance on heavy-tracked combat vehicles and their components. The depot is designated as the Center of Technical Excellence for the M1 Abrams Tank, and is the designated candidate depot for the repair of the M60, AVLB, M728, M88 and M551 combat vehicles. Anniston also performs maintenance on individual and crew-served weapons as well as land combat missiles. Additionally, the maintenance and storage of conventional ammunition and missiles as well as the storage of chemical munitions are significant parts of Anniston Army Depot's overall mission and capabilities.

1



PERSONNEL

Personnel Manning

We develop dollar and manpower estimates for each program. When programs are authorized, manpower is allocated to the work center based on the estimates made where the standards were developed. Manning levels are then allocated to each work center based on those hours. Processes are constantly refined as changes occur.

4

**COMMISSIONER
JOSUE (JOE) ROBLES, JR.**

Visit to

ANNISTON ARMY DEPOT

9 June 1995

... To be the Army's leader in assuring world-wide power projection and decisive victory through the maintenance and logistics sustainment support of combat vehicle systems, individual and crew-served weapons, and ammunition stocks for the total force.

2

**Total Depot Direct/Indirect
People/Manhour Cost Ratio**

	(Budgeted)			
	Equivalent Manpower		\$	
	<u>FY95</u>	<u>FY96</u>	<u>FY95</u>	<u>FY96</u>
Direct	1,914.7	1,971.7	184,212	217,477
Indirect	<u>1,283.5</u>	<u>1,128.3</u>	<u>99,796</u>	<u>94,480</u>
TOTAL	3,198.2	3,100.0	284,008	311,957
% Ind. to Total	40.1%	36.4%	35.1%	30.2%

3

Anniston Army Depot Personnel Statistics
- (Continued)

Number of Employees:	GS	904
	GS Supervisors	104
	Non Supervisors	800
	Wage Board	2,256
	WG	2,037
	WL	116
	WS	103
	TOTAL	3,160

8

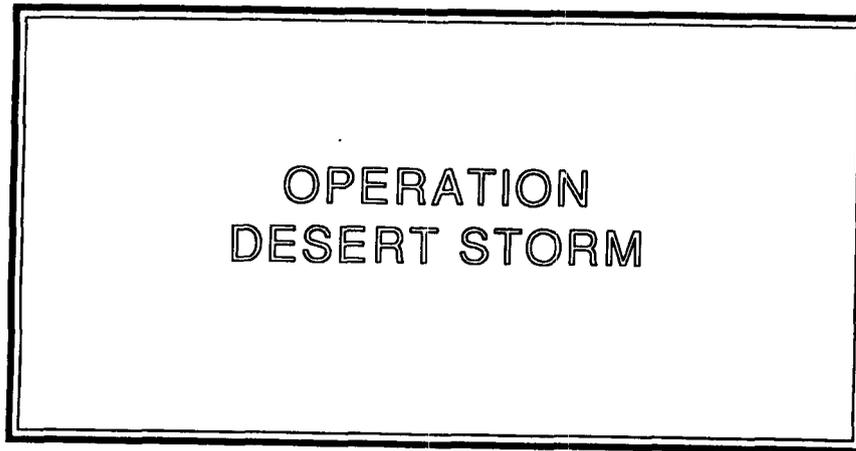
Anniston Army Depot Personnel

	<u>Permanent</u>	<u>Temporary</u>	<u>Total*</u>
Maintenance (MD)	2,290	37	2,327
Ammunition (ML)	251	8	259
Base Ops	565	9	574
Total	3,106	54	3,160

Military - 6 Officers, 4 Enlisted

*Figures as of 31 May 95.

5



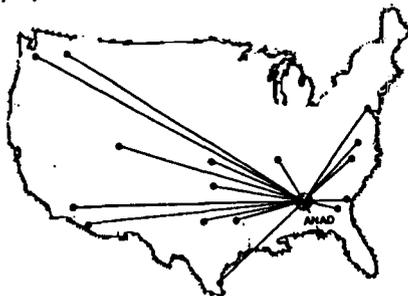
Tenants of Anniston Army Depot

Childersburg	1
DLA (including 1 Mil. Officer)	371
DRMO	21
TMDE	31
Ctr. of Military History	3
Defense Printing	2
DFAS	39
Health Clinic (Incl. 2 Military)	13
SOTS (ARDEC)	3
Total	490

6

Pre-Deployment

Equipment Readiness and Systems Training:



217 Anniston Systems Specialists dispatched throughout the United States.

9

Anniston Army Depot Personnel Statistics

Average Age	46 years
Average Length of Service	18 years
Average Grade:	
GS	8.0
WG	8.5
WL	9.6
WS	10.1
Average Salary (W/ Fringe Benefits)	\$39,189.00
(W/Out Fringe Benefits)	\$32,961.00

(Continued)

7

Deployment - (Continued)

- ✓ Inter-Service Support - USMC Applique Armor
- ✓ Forward Support:
 - DESCOM USA Support Group - Maintenance/Supply
 - Field Support of Armored Vehicles
- ✓ New Production Hand-Off: M1A1 Tanks for USMC

11

SWA Support

237 Personnel were provided as follows:

- 207 M1 Rollovers*
- 13 Marine Corps Applique Armor (Welders)
- 17 USA Support Group (Small Arms)

*M1 Rollover Breakdown: 73 HME, 26 Artillery Repairers, 31 Welders, 10 Painters, 16 Electronic Systems Integrated Mechanics and 51 Support Personnel. (A total of 198 were deployed.)

13

Electronic Integrated Program Management

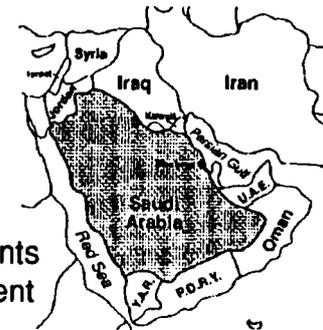
- Joint Flexible Computer Integrated Manufacturing (FCIM) Experiment on the Army's M1A2 Tank Upgrade Program.
- Electronically Connecting: Anniston Army Depot, GDLS/Lima Tank Plant, and Abrams PMO.
- Providing Real Time Visibility for: Material Review Board Issues, Defective Government Material, and Vehicle Flow Process.
- Benefits: Historical Data, Improving Quality, and Reducing Work In Process.

14

Deployment

Deployed 476 ANAD Employees:

- ✓ ANAD Mini Depot
 - M1A1 Modifications
 - Armor Package
 - Optical Improvements
 - Survivability Improvements
 - CARC Painting Equipment
 - 1243 Total Vehicles



10

Reconstitution

At the conclusion of Desert Storm, the heavy-tracked combat vehicle fleet in SWA was evaluated to determine the degree of repair necessary to ensure readiness was not compromised. Listed here is a recap of quantities and series of vehicles workloaded at ANAD.

As of 6 Jun 95:	
<u>SERIES</u>	<u>QUAN.</u>
IPM1	236
M1A1	365
M1	300
M728 CEV	46
M88A1	371
AVLB	70
Total	1,338

12

SPECIAL INITIATIVES

Specialized Mining Equipment

- Defense Conversion Project.
- Industry Partner: United Defense Industries, LP.
- Technology: High Integrity Welding, Plating, Hydraulics, Electrical & Electronic Controls.
- Economic Impact: \$34 Million to develop, fabricate, test, & field Specialized Mining Equipment in the U.S.
- Employment Potential: 200 plus in the next 24 - 30 months.
- Why do it? To preserve Core skills.

18

AVIATION MAINTENANCE

- ANAD interface with Sensor Artificial Intelligent Communication Integrated Maintenance System (SACIMS).
- On-board sensors imbedded in the AGT 1500 engine predicts failure prior to occurrence. This eliminates the need to conduct exhaustive diagnostic procedures, erroneous replacement of operational components, and enables the Maintenance Manager to preposition support (i.e., replacement assets, tools, parts, and personnel).
- Benefits: Improve Cost Estimates, Response Time and Theater Distribution.

19

Tele-Maintenance-Video Assisted Repair

- ANAD interfaces SACIMS with the MICOM initiative tele-maintenance for the upcoming Prairie Warrior Exercise at Ft. Leavenworth, KS, 15 - 25 May 1995.
- ANAD takes the factory to the foxhole.
- Electronic transmissions of video/audio data.
- Remote technician field support.
- Improved maintenance technology.

20

Manufacturing Technology Consortium

- Technology Transfer & Defense Reutilization Project.
- Primary Partners: Jacksonville State University, Anniston & Small Business firms.
- Mission: Assist small and mid-sized manufacturing firms, utilizing available capacity in production facilities, equipment, and at times, personnel, to transfer state-of-the-art technologies to regional manufacturers.
- Method: Serve as a critical link to the private sector's economic development and provide resources available to academic institutions.

15

Abrams Integrated Management

- NTC M1A1 Fleet Sustainment Project
- Industry Partner: ANAD and General Dynamics Land Systems
- Technology: Heavy Combat Vehicle Overhaul & Readiness Management.
- Why do it? To sustain equipment and training for our fighting forces and provide a worldwide power projection program.

16

Fox Vehicle Upgrade

- Upgrade U.S. Army Basic XM93 Fox NBC Reconnaissance Systems to M93A1 Configuration.
- Industry Partner: ANAD and General Dynamics Land Systems
- Technology: Combat Support Vehicle and Readiness Management.
- Why do it? To support our force's ability to fight and survive on a chemical battlefield.

17

Rapid Acquisition of Manufactured Parts (RAMP)

- RAMP is a system of hardware and software that quickly (within 30 days), produces parts requiring long lead times through electronic integration of functions required to produce the part.

These functions include:

- order entries
- inventory control
- technical data management
- manufacturing engineering
- shop floor control
- quality, and others.

(Continued)

24

Rapid Acquisition of Manufactured Parts (RAMP)

- Software system designed to integrate the movement of component parts through the fabrication process.
- Determines completion dates based on availability of:
 - Tools
 - Materials, and
 - Other equipment.

(Continued)

25

Rapid Acquisition of Manufactured Parts (RAMP)

- On line in ANAD's Machine Shop since 29 July 1994.
- Patterned after system at Charleston Naval Shipyard (CNSY).
- Enhancements incorporated currently make Anniston's system the most advanced within the U.S. Military depot community.
- Developed and installed by Team SCRA (South Carolina Research Authority), a consortia of: SCRA, Northrop/Grumman Data Systems, Arthur D. Little, Systems Engineering Associates, Co., and Battelle Memorial Institute

(Continued)

26

Nichols Research Corporation

- TACOM Broad Agency Announcement (BAA).
- Primary Partners: Anniston Army Depot, Nichols Research Corporation (NRC), and Alabama A & M University.
- Proposed Projects: Investigate the use of Composites Bracketry/Components for M1-Series Tank Weight Reduction, and the Complex Combat Vehicle Failure & Failure Prediction.
- NRC to prepare Project Description for Possible Approval and Funding from TACOM.

21

Pentastar Corporation

- Electronic Drive for HUMM-V. This technology, when fully developed, will provide the soldier with silent drive, extended range, and reduced signature capability in the Army's HUMM-V Fleet.
- Primary Partners: Anniston Army Depot and Pentastar Corporation.
- The new, hybrid vehicle will address military missions, functions, and usefulness, as well as possible commercial applications.

22

Allied Signal Engines

- Sector Management Team.
- Industry Partner: Anniston Army Depot and Allied Signal Engines.
- Technology: AGT 1500 ABRAMS Tank Engine.
- Employment Potential: Defines Anniston as "Core" for maintenance and Allied Signal as "Core" for engineering, etc.
- Why do it? To preserve the Army's Industrial Base, sustain equipment for our fighting force's and provide a worldwide power projection platform.

23

Personnel Strength

TOTAL DM DIRECT SKILLS

HME Mechanics	605	Painters	54
Turret Mechanics	118	Sheet Metal Workers	12
Pneudraulic Mechanics	46	Machinists	68
Electronic & EIS Mechanics	142	Sand Blasters	24
Welders	125	Tank Drivers	2
Small Arms Repairers	70	Machine Tool Operators	75
Electro-Optics Workers	34	Preservation Packers	11
Electronic Computer Workers	51	Technical Manual Writer/Editors	15
Optical Instrument Repairers	26	Visual Information Specialists	4
Upholstery Repairers	12	Support Personnel	7
Electroplaters	16	TOTAL	1,517

As of 6 Jun 95.

29

Vehicle Production

Rapid Acquisition of Manufactured Parts (RAMP) - (Continued)

● Benefits:

- Generic Site Interface Module, tailorable to Anniston's interface;
- Configurable System Controller and application control interfaces;
- "Paperless" production environment;
- Real-time systems control and status update;

(Continued)

27

Rapid Acquisition of Manufactured Parts (RAMP) - (Continued)

● Benefits - Continued:

- Computer-controlled information with common data accessible by all elements;
- Finite capacity scheduling of production resources;
- Multi-function process planning capability;
- Textool and graphical instructions presented electronically;
- SPC and capture of part pedigree, when required; and, user-friendly man-machine interfaces.

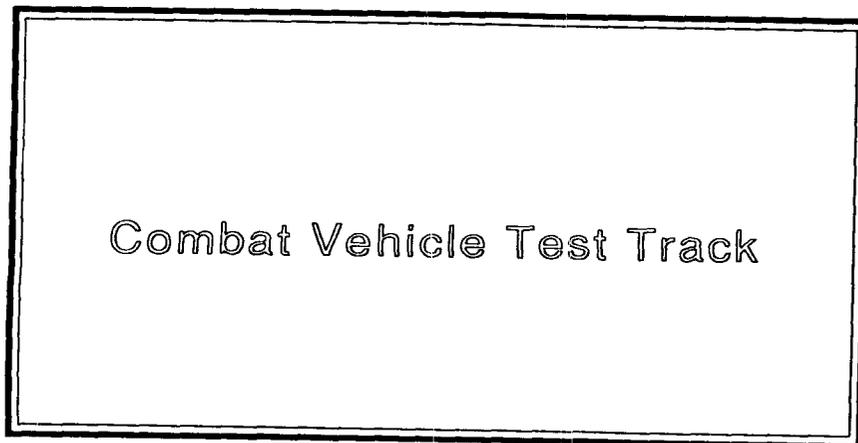
28

MAINTENANCE

FMS Workload - M60 FOV

<u>Item</u>	<u>Customer</u>	<u>Qty</u>
M60A3TTS	Taiwan	160
M60A3TTS	Thailand	102

33



Combat Vehicle Test Track

1. All weather, hard surface 1.1 mile oval track with wide radius.
2. Has directional and night lighting.
3. 30, 40, and 60 percent test slopes, spin pads, and bump course.

(Continued)

Vehicle Overhaul Workload

<u>Vehicle</u>	<u>FY92</u>	<u>FY93</u>	<u>FY94</u>	<u>FY95</u>	<u>FY96</u>
M1 Overhaul	1	3	6	14	3
M88A1 Overhaul	14	47	3	8	24
M88A1 (IRV)			13	6	9
M728 Overhaul	3	10		10	6
M60/M48 AVLB	43	41		14	4
M551A1/OPFOR	105	39	17		

30

RC-Iron Vehicle Workload

<u>Vehicles</u>	<u>FY90</u>	<u>FY91</u>	<u>FY92</u>	<u>FY93</u>	<u>FY94</u>	<u>FY95</u>	<u>FY96</u>
M1	14	62	320	476	225	279	143
M88A1			51	150		132	10
M728			5	37		32	
M60AVLB			16	15		7	
M48A5 AVLB			6	10		28	

31

Marine Corps Programs

	<u>Scheduled Qty.</u>	
	<u>FY95</u>	<u>FY96</u>
M1A1 Refurbish & Upgrade	50	0
M1A1 RC IRON	11	42
M1A1 T84 RC IRON	21	63

M1A2 AUT Production - (Continued)

Phase II

- 792 production vehicles and engines (10 per month)
- November 1995 start date

37

M1A2 AUT Engine

ANAD is overhauling engines to Service Life Extension configuration.

38

Partnering

Combat Vehicle Test Track - (Continued)

4. Has two ranges to test laser rangefinders. Range #1 has targets at 400,600,620, and 1065 meters. Range #2 has targets at 225, 480, and 500 meters.
5. Has 24' x 90' shed on hardstand with slope for gun-sight synchronization.

35

M1A2 Abrams Upgrade
Tank (AUT) Production

M1A2 AUT Production

Pilot

- Six engines and six hulls shipped to GDLS

Phase I

- (November 1993 start date)
- 206 production vehicles and engines (10 per month)
- 86 engines completed in FY94.
- 120 engines in process in FY95.

(Continued)

36

ARDEC Turret

- ✓ Teaming - Army Research Development Engineering Command
- ✓ Planned Quantity: 2

Schedule

FY	95
QTY	2

42

70-Ton Bridge Upgrade

- ✓ Teaming - TACOM and Ft. Belvoir
- ✓ Planned Quantity: 10

Schedule

FY	95
QTY	10

43

M88A1 Improved Recovery Vehicle (IRV)

M88A1 - M88A1 IRV

- ✓ Co-Production: BMY
- ✓ Planned Quantity: 52

Schedule

FY	94	95	96	97	98
QTY	13	6	9	12	12

44

M1 FOV Upgrade

M1/M1A2

- ✓ Co-production - GDLS
- ✓ Planned Quantity:
Phase I - 206; Phase II - 792

Schedule

FY	94	FY 95 - FY 2001	2002
QTY	86	120 Per year	72

39

M1 FOV Upgrade

M1/HAB

- ✓ Co-production - GDLS
- ✓ Planned Quantity: 106 per year

Schedule

FY	94	96-99
QTY	2	106

40

M1 FOV Upgrade

M1/Breacher

- ✓ Co-production - BMY
- ✓ Planned Quantity: 106 per year

Schedule

FY	94	97-99
QTY	1	106

41

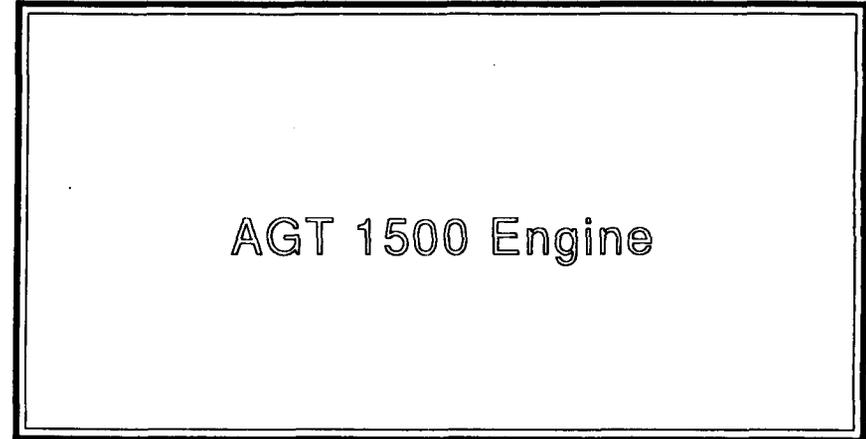
AGT 1500 Engine DMWR vs. DMWR-Plus

Cost:

DMWR - \$91,223.27 DMWR-Plus - \$115,312.66

- Enhancements (DMWR Rewrite)
- 100% Laser-welded A&B Plate Pairs
- Disassembly of Compressors
- Mandatory Replacement of Curl Ring
- Inspection of Blades for Erosion
- Increase Shaft HP Requirements

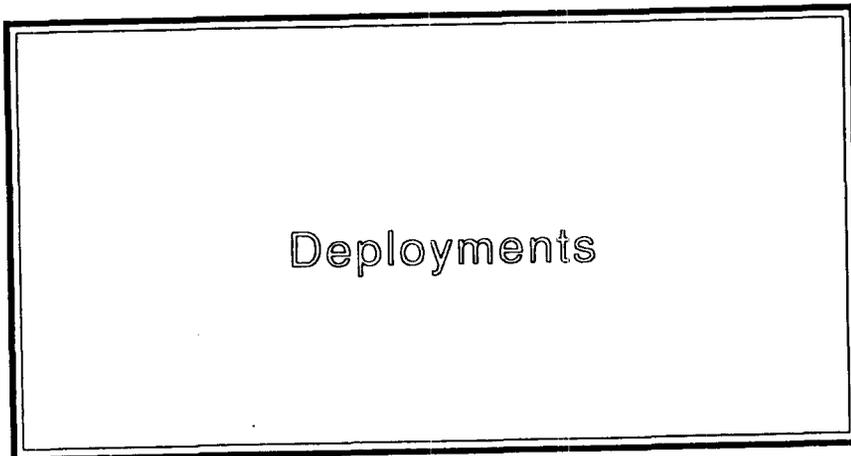
47



Turbine Engine Cost

	<u>DMWR Overhaul</u>	<u>DMWR Overhaul Plus</u>	<u>New</u>
ANAD	\$91,223.27	\$115,312.66	-
TEXTRON	N/A	\$275,000.00	\$550K

48



AGT 1500 Engine Production

	<u>93 Prog.</u>	<u>94 Prog.</u>	<u>95 Prog.</u>	<u>96 Prog.</u>
Engines	52	0	0	167
RM	218	206	743	573
FM	58	276	310	361
RGB	11	0	0	165
AGB	4	0	0	0

45

AGT 1500 Engine Reclamation of Parts

- Parts Repair Procedures - 420
- Reclaim Parts - 274
- Labor Effort for Overhaul - 569 M/H
- Reclamation Effort - 119 M/H (21% of Labor Effort)
- Net Cost Avoidance - \$70K (Approximate)

Key Point - Cost Savings via Reclamation Efforts

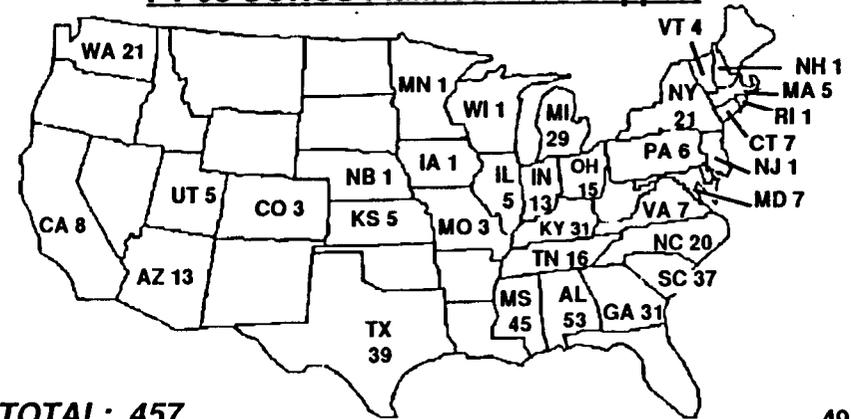
46

Production

	<u>FY92</u>	<u>FY93</u>	<u>FY94</u>	<u>FY95</u>	<u>FY96</u>
M16 Rifle	21,049	18,101	40,000	15,045	24,205
M16A2 Rifle (A1)	0	0	3,000	3,000	0
M2 Machine Gun	559	1,469	500	1,339	500
M60 Machine Gun	1,004	1,039	1,400	1,000	406
M60D Machine Gun	290	424	0	0	0
M1911A1 Pistol	3,000	5,887	3,450	0	0
M203 Grenade Launcher	1,110	2,701	490	1,110	0
M1 Rifle	5,000	32	500	500	0
M134 MiniGun	170	157	0	110	0

51

FY 95 CONUS Planned Field Support

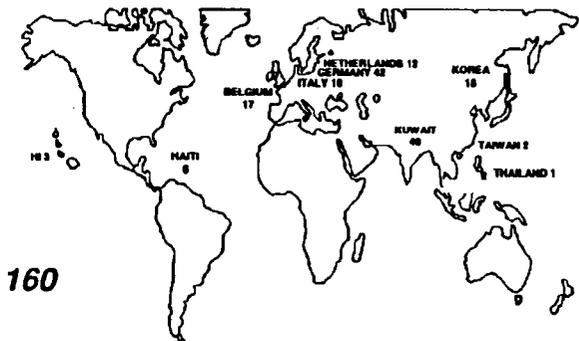


TOTAL: 457

49

AMMUNITION

FY 95 OCONUS World Wide



TOTAL: 160

50

Overview
Class V Assets

Tons in Storage:	249,485 (As of Feb. 95)
Conventional	83%
Missiles	17%
Chemical	7.1% of Army's Stockpile
Dollar Value:	\$3,819,508,806.00
Serviceable:	65%
Unserviceable:	35%
Storage Occupancy Rate:	85%

52

Small Arms

XVIII ABN Contingency Plan (Project Code AGZ)

1. Mission assigned August 1973.
2. 76 line items with a total weight of 705 tons configured on 774 pallets.
3. Pallet loads rigged for airdrop using the A22 Cargo Bag and G12D Cargo Parachutes.
4. At present, the project occupies 13 storage locations.

(Continued)

56

Contingency Stock Rigged For Airdrop

The depot has three (3) plans:

- a) 75th Ranger Regiment, Ft. Benning, GA
- b) XVIII Airborne Corps, Ft. Bragg, NC
- c) Special Operations Command, Norfolk, VA

(Continued)

53

XVIII ABN Contingency Plan (Project Code AGZ) - (Continued)

5. Total plan would require approximately 86 vanloads for movement.
6. Partial call forward by specific pallets is possible.
7. Timeframe calls for first vanload to reach Dobbins AFB within 10 hours after call forward is received.
8. The entire project would be loaded and delivered to Dobbins within a 24-hour timeframe.

57

Contingency Stock Rigged For Airdrop - (Continued)

- Two emergency and one operational project
- Total of 1002 rigged pallets, which is 112 truckloads
- Plans include Class I, III, V, weapons, medical items, communication equipment
- 785 tons stored in 22 igloos
- All plans have prepositioned MROs
- Call forward by specific pallets is a possibility
- Depot maintains a 24-hour on call duty roster

54

Special Operation Command Atlantic (Project PZY) Norfolk

1. Mission assigned December 1962.
2. Plan has two parts - internal and resupply.
 - a. Initial - 27 line items; 30 tons; 120 rigged for airdrop pallets (Class I, III, V, and VIII).
 - b. Resupply - 60 tons; 240 pallets.
3. Primary APOE - Talladega Airport, AL.

58

75th Ranger Regiment

1. Mission assigned July 1975.
2. 108 pallets rigged in A22 cargo bag with G-12E parachute.
3. 42 line items: 50 tons; Class I, II, V, and VIII.
4. Plans consist of two identical 54 pallet increments.
5. Primary APOE: Lawson Field, Ft. Benning, GA.
6. Alternate APOE: Hunter Army Airfield, Ft. Stewart, GA

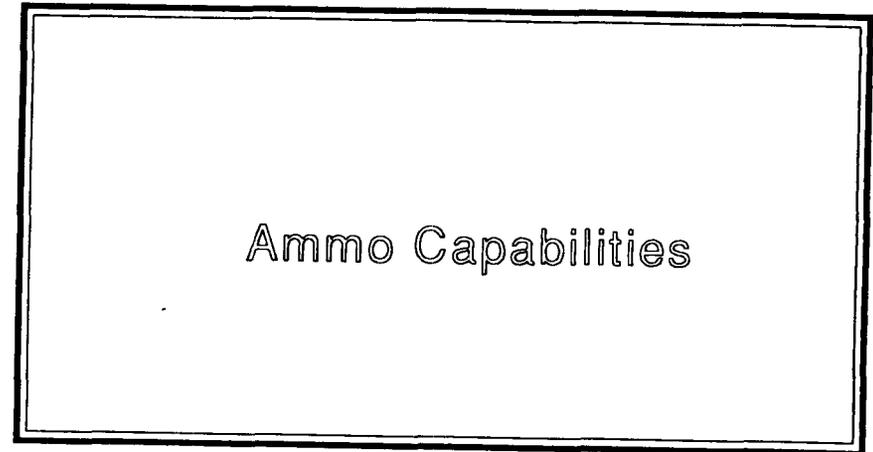
55

Storage Capabilities - (Continued)

Standard Magazines
6 ea. - Bldg. #641-646

(Continued)

61



Storage Capabilities - (Continued)

Number of Igloos By Block

- A - 99 (Plus 1 Unserviceable)
- B - 109
- C - 109 (51 in CLA)
- D - 100
- E - 134
- F - 116

(Continued)

62

Open Burning/Open Detonation

Propellant Burning: 15 Pans/Beds; 1,000 lbs. ea.

Open Detonation: 21 Ptis Available.

Limits: 15 lbs. Above Ground, 1,000 lbs.
Below Ground (4 Per Set)

Tons in B5A: 18,139

59

Storage Capabilities - (Continued)

Number of Igloos By Block - (Continued)

- G - 106 (104 in CLA)
- H - 28
- I - 198
- K - 183
- L - 97

63

Storage Capabilities

Igloos

- 40' - 2 ea. (in "G" Block)
- 60' - 699 ea.
- 80' - 100 ea.
- Stradley - 478 ea.
- TOTAL - 1279

TS - Sheds

- TS - 22 (Bldg. # 59)
- (Bldg. #294)
- TS - 13 (Bldg. #295)
- TS - 10 (Bldg. #297)

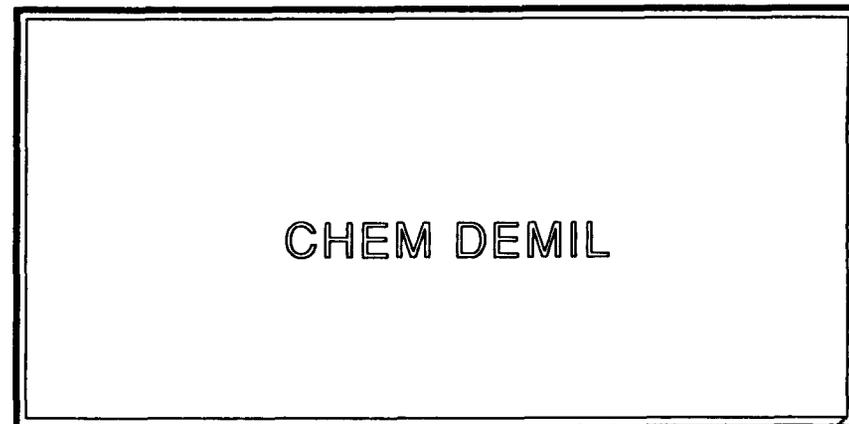
(Continued)

60

II. Chem Demil Support Facility
(Download/Reconfiguration)

Contract No.: DACA01-92-C-0058
Award Date: 7 May 1992
Completion Date: June 1994
Contractor: Goodner Construction
Contract Amt.: \$8.32M
Includes: Reconfiguration Bldg. (CLA Road and
Igloo Apron Upgrades & Construction of
3 Service Magazines adjacent to
Reconfiguration Bldg.

66



II. Chem Demil Support Facility
(Download/Reconfiguration)

- 105mm Howitzer Cartridge GB/HD
- 4.2-in. Mortar HT/HD
- Download Propellant/Increment
105mm & 4.2-in.
- Reconfigure to a 24-round pallet
- Production based on 576 rounds/day ... 2.8 yrs.
- Download propellant burned daily at Burning Ground.
- Proposed start date: June 1995

67

Chemical Demilitarization Related Projects

- I. **Site Preparation for Chem Demil**
- II. **Chem Demil Support Facility**
(Download/Reconfiguration)
- III. **Ammo Demil Support Facilities**
- IV. **Roads and Utilities for CSDP**
- V. **ANAD Chem Demil Facility (ANCDF)**

64

III. Ammo Demil Support Facilities

Contract No.: DACA01-93-C-0028
Award Date: 5 December 1992
Completion Date: June 1994
Contractor: Contex (SDB)
Contract Amt.: \$3.42M

(Continued)

68

I. Site Preparation for CSDP

Contract No.: DACA01-91-C-0130
Award Date: 23 July 1991
Completion Date: March 1993
Contractor: Brown Brothers Grading and Paving
Contract Amt.: \$2.413M
Includes: Site "Platform"
Total Constr. Area: 78 Acres - Cleared
Actual Platform: 20 Acres - on which demil facility will be
built

65

III. Ammo Demil Support Facilities - (Continued)

Includes: Sally Port Modifications
 Refueling Pad
 Shower/Change House
 Coosa Gate Parking Lot
 Battery Recharge Fac.
 Government Parking Lot
 Laundry Expansion B87
 Sewage Treatment Plant
 Modification

69

Combat Vehicles

	<u>DM</u>	<u>DDAA</u>	<u>TOTAL</u>
M1 Series	70	620	690
M48 Series	0	112	112
M60 Series	0	1057	1057
M728 CEV	2	12	14

(Continued)

73

IV. Roads and Utilities for CSDP

Contract No.: DACA01-92-C-0093
 Award Date: 11 September 1992
 Completion Date: April 1994
 (Mod Pending for Fiber Optic Cables -
 June 94)
 Contractor: Taylor Corporation
 Contract Amt.: \$8.1M

(Continued)

70

Combat Vehicles - (Continued)

	<u>DM</u>	<u>DDAA</u>	<u>TOTAL</u>
M551	1	895	896
M88 Rec. Veh.	79	90	169
M48 AVLB	11	38	49
M60 AVLB	0	26	26
			<u>1,140</u>

* Qty on Stock Record as of 13 Mar. 95.

** 24 each, M60A3 Tanks, are war reserve vehicles.

*** Includes all condition codes.

74

IV. Roads and Utilities for CSDP - (Continued)

Includes: North East Access Road
 Major Utilities - water, sewage,
 gas, and electrical
 Guard House
 Parking Lot at New Entrance
 Corps of Engineering Construction
 Office

71

Commercial Utility Cargo Vehicle (CUCV)

1722 Total Program

34 On Depot

- Distribution - Worldwide U.S. Army Units
- Mission - On Types II and III, install tool sets.
- On Type I, install radio mounting equipment.
- 23 held for FMS.

(Continued)

78

Commercial Utility Cargo Vehicle (CUCV) - (Continued)

Mission - (Continued):

Apply MWO to correct fractured frame. All vehicles except the 23 designated for FMS are being shipped to various units, who are applying modifications due to lack of funding.

(Continued)

79

Commercial Utility Cargo Vehicle (CUCV) - (Continued)

ODS Deployment - 207 Vehicles.

80

Avenger Missile System

0 On Depot

Mission transferred to LEAD.

M998 HMMWV

36 On Depot

Purpose: Will retain 28 ea. for disposition by Project Manager, Forward Area Air Defense (FAAD). 8 ea. were designated for Special Defense Acquisition Fund for FMS customers.

75

M200A1 Trailers

369 Received

Purpose: Storage.
33 Retained for AMCCOM.

76

M925A2 5-Ton Trucks

95 Received/20 On Hand

Purpose: Storage.

Special Defense Acquisition Fund vehicles for FMS customers.

77

Vehicles Shipped FY95

Tracked: 576
Wheeled: 169

Vehicles Received FY95

Tracked: 142
Wheeled: 25

Tracked Vehicles in Supply

166 Serviceable* **2501 Unserviceable****
2667 Total

Serviceable Vehicles Being Shipped.

M1 Series, M728 CEVs, M88A1 Rec. Veh., M48 and M60 AVLBs, M551A1 and M551 NTC.

* Condition codes "A" & "B".

** Condition codes "F" & "H".

84

81

M116A2 Trailer (Single Wheel)

249 Total Program

222 On Depot

Purpose: Storage, and upgrade for AMCCOM.

Tracked Vehicles in Supply - (Continued)

Unserviceable Vehicle Distribution.

(M60, M47, M48A1, and M551).

Hard Target of Display to U.S. Army,
Navy or Air Force destinations.

REEFEX

Demil

Donations to Museums, VFW Posts, etc.

85

82

Serviceable Vehicles Being Shipped. M1 Series, M728 CEVs, M88A1 Rec. Veh., M48 and M60 AVLBs, M55A1 and M551 NTC.

Small Unit Support Vehicles (SUSV)

Purpose: Camouflage pattern Paint by Supply, also contractor retrofit.

Initial Receipts: 3rd Qtr FY 89.

Primary Shipments: Alaska, Minnesota and Vermont (U.S. Army) and USMC, and Italy (U.S. Troops).

Program was for 800. 14 are on stock records.

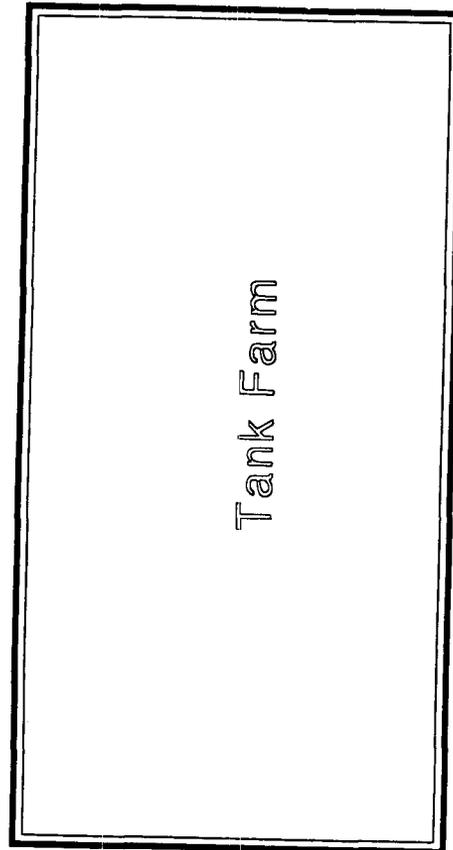
86

83

List of Repairable (CC"F") Items Stored at the Tank Farm

Cylinders
Wheel Sprockets
Gun Mounts
Parts Kits
Sight Units

Mod Kits
Trucks (5-ton)
Generator Sets (All Sizes)
Shelter System Trailers



87

V. ANAD Cheml Demi Facility (ANCDF)

Contract #: DAA09-92-R-0221
Award Date (Est): August 1995
(Based on issuance of state permit)
Competition Date (Est): May 1998
Operations Begin (Est): November 1999
Operations Completed (Est): May 2003
Contact Amount Construction: Over \$100M
Purpose: Construct Demil Facility

72

