

11-9-88 - 1400 / Precious metals

● Robert Neal, My Sgt  
(Precious metals coordinate for MCB)  
lth

BD 4555.1B

Oct 86 - Precious metals Order

- have control over Naval Hospital  
Dental BN etc
- coordinate w/ Top deal for reclaimers
- has DD 1348 for 1977/1988
- calls DRMO for copies
- does have copies showing turn ins for  
Naval Hospital / 2d Dental etc.
- has Silver Estimate paper  
6760-00-933-4342  
10 books - 20 leaves per  
Johnson Test Papers
- units needing try go back to  
company for help -

\* 7 Dec 1988  
Bldg 1502  
10:30

11/11/11

1. The first part of the paper is devoted to a discussion of the general theory of the subject.

2. In the second part, we shall consider the special case of the problem.

3. The third part of the paper is devoted to a discussion of the results obtained.

4. In the fourth part, we shall consider the special case of the problem.

5. The fifth part of the paper is devoted to a discussion of the results obtained.

6. In the sixth part, we shall consider the special case of the problem.

7. The seventh part of the paper is devoted to a discussion of the results obtained.

8. In the eighth part, we shall consider the special case of the problem.

9. The ninth part of the paper is devoted to a discussion of the results obtained.

10. In the tenth part, we shall consider the special case of the problem.

11. The eleventh part of the paper is devoted to a discussion of the results obtained.

12. In the twelfth part, we shall consider the special case of the problem.



UNITED STATES MARINE CORPS  
MARINE CORPS BASE  
CAMP LEJEUNE, NORTH CAROLINA 28542-5001

LOG

BO 4555.1B  
LOG/pah  
7 Oct 1986

OIC  
31 Oct 88

BASE ORDER 4555.1B

From: Commanding General  
To: Distribution List

Subj: RECLAMATION AND UTILIZATION OF PRECIOUS METALS FROM SCRAP AND WASTE MATERIALS

Ref: (a) MCO 4555.3C

Encl: (1) Silver-Bearing and Gold Bearing Scrap Descriptions  
(2) DD 1348-1 Sample Turn-in Document

1. Purpose. To provide information and instructions in establishing an effective Precious Metals Recovery Program within Marine Corps Base, Camp Lejeune, North Carolina 28542.

2. Cancellation. BO 4555.1A.

3. Background. The reference requires activity commanders to designate a local Precious Metals Recovery Coordinator to internally implement, monitor, and coordinate the activity's Precious Metals Recovery Program as prescribed therein.

4. Information. While the Printing Plant, Photographic Laboratory, Medical and Dental Facilities are the most probable sources for recovery of silver from solutions used in processing photographic and x-ray film (fixing baths), there are other sources where silver bearing material is generated. Enclosure (1) contains a list of silver and gold bearing scrap descriptions.

5. Policy

a. Maximum participation in the Precious Metals Recovery Program is required by all Marine Corps activities, including photographic, medical laboratories, printing plants, etc. Expenses incurred by activities participating in the program are not reimbursable.

b. Generating activities are responsible for the transportation of precious metals scrap (film, recovery cartridges) and harvested silver to the local Defense Reutilization Marketing Office (DRMO). Transportation costs are not reimbursable.

c. The DRMO is responsible for accepting all excess and surplus precious metal or precious metal-bearing materials, including scrap or harvested silver generated by the military services.

6. Action

a. In accordance with instructions contained in the reference, the Operations Officer, Assistant Chief of Staff, Logistics is designated as the Base Coordinator for the Precious Metals Recovery Program for commands located on Marine Corps Base, Camp Lejeune. All generating activities will provide the Base Coordinator a point of contact for their command. The Base Coordinator, guided by the instructions contained in the reference, will establish an effective Precious Metals Recovery Program for Marine Corps Base, Camp Lejeune and tenant commands. Addressees are enjoined to cooperate with the Base Coordinator to the extent necessary to ensure that Marine Corps Base, Camp Lejeune, has an effective Precious Metals Recovery Program.

REC'D 8 14 OCT 1986  
DIST. CODE A  
ACTION Log Chf  
FILE 1  
COPIES TO 1-EA DIV

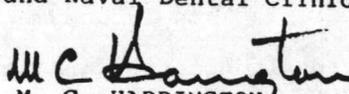
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ACofS, LOG		
SUPMGMT O		
OPNS OFF		
LOG CH		<i>[Signature]</i>
ADM BR		
SUPSUPT BR		<i>[Signature]</i>
SUPANAL SEC		<i>[Signature]</i>
MAINSVSUPT		<i>[Signature]</i>
BUDGET DIV		<i>[Signature]</i>

BO 4555.1B  
7 Oct 1986

b. Those activities turning in precious metal bearing materials to DRMO (Building 906) will identify on the turn-in document (DD 1348-1) the type of metals being turned in and the precious metal content. The turn-in document will be prepared as shown on enclosure (2). After turn-in of material, DRMO will provide a receipted copy of the 1348-1 to the generating unit and the Base Coordinator.

c. The DRMO will provide generating activities technical assistance, as required, to ensure visibility of precious metal generations, collection/recovery training requirements, and adequacy of collection/recovery methods, system, and equipment.

7. Concurrence. This Order has been coordinated and concurred in by the Commanding Generals, 2d Marine Division, FMF, 2d Force Service Support Group, (Rein), FMF and the Commanding Officers, Naval Hospital, and Naval Dental Clinic.

  
M. C. HARRINGTON  
Chief of Staff

DISTRIBUTION: A

86 OCT 14 AM 0:19

NAVY  
MORNING  
NOV 1986

SILVER-BEARING AND GOLD-BEARING SCRAP DESCRIPTIONS

1. Silver-Bearing Scrap Designations

<u>Class</u>	<u>Estimated Silver Percentage</u>
CLASS A	90 (13.13) <u>1/</u>
Consists of used anodes, drillings from anodes and grain silver, wire for welding or brazing, silver flakes, silver extracted from spent hyposolution by the electrolytic process, and all other silver of a purity content of 90 percent or better.	
CLASS B	49 (7.15) <u>1/</u>
Consists of silver foil battery plates separated by magnesium plates and silver chloride sheets (primarily MK 61-0 and 67-1 batteries).	
CLASS C (Reserved)	
CLASS D	1 (1.15) <u>1/</u>
X-ray film, exposed industrial film and aerial film, millimeter film, and all types of shredded or cut-up film.	
CLASS E	1.5 (2.22) <u>1/</u>
Battery cell sections consisting of a plastic container (approximately 1/8 inch thick); some cells containing a silver chloride solution (primarily MK 53-0), 42-0, 58-0, and 66-0 batteries).	
CLASS F (Reserved)	
CLASS G (Reserved)	
CLASS H (Reserved)	
CLASS K	33 (4.81) <u>1/</u>
Silver-bearing amalgam.	
CLASS L	8 (1.14) <u>1/</u>
Silver-bearing plated electrical components, such as leads, capacitors, and other silver-plated or bonded materials.	
CLASS M	31 (4.47) <u>1/</u>
Silver sludge and silver-bearing ash.	

ENCLOSURE (1)

<u>Class</u>	<u>Estimated Silver Percentage</u>
CLASS N	10 (1.46) <u>1/</u>
Silver-bearing missile batteries encapsulated in epoxy-type plastic with metal cases and attachments.	
CLASS P	8 (1.14) <u>1/</u>
Silver recovery cartridge consisting of a spun metallic filter through which the spent hyposolution has been filtered.	
CLASS R	24 (3.50) <u>1/</u>
Desalter kits.	

1/ Conversion factors shown in parentheses when used as multipliers applied to the number of avoirdupois pounds of scrap will produce a reasonably accurate estimate of the silver content equated to troy ounces.

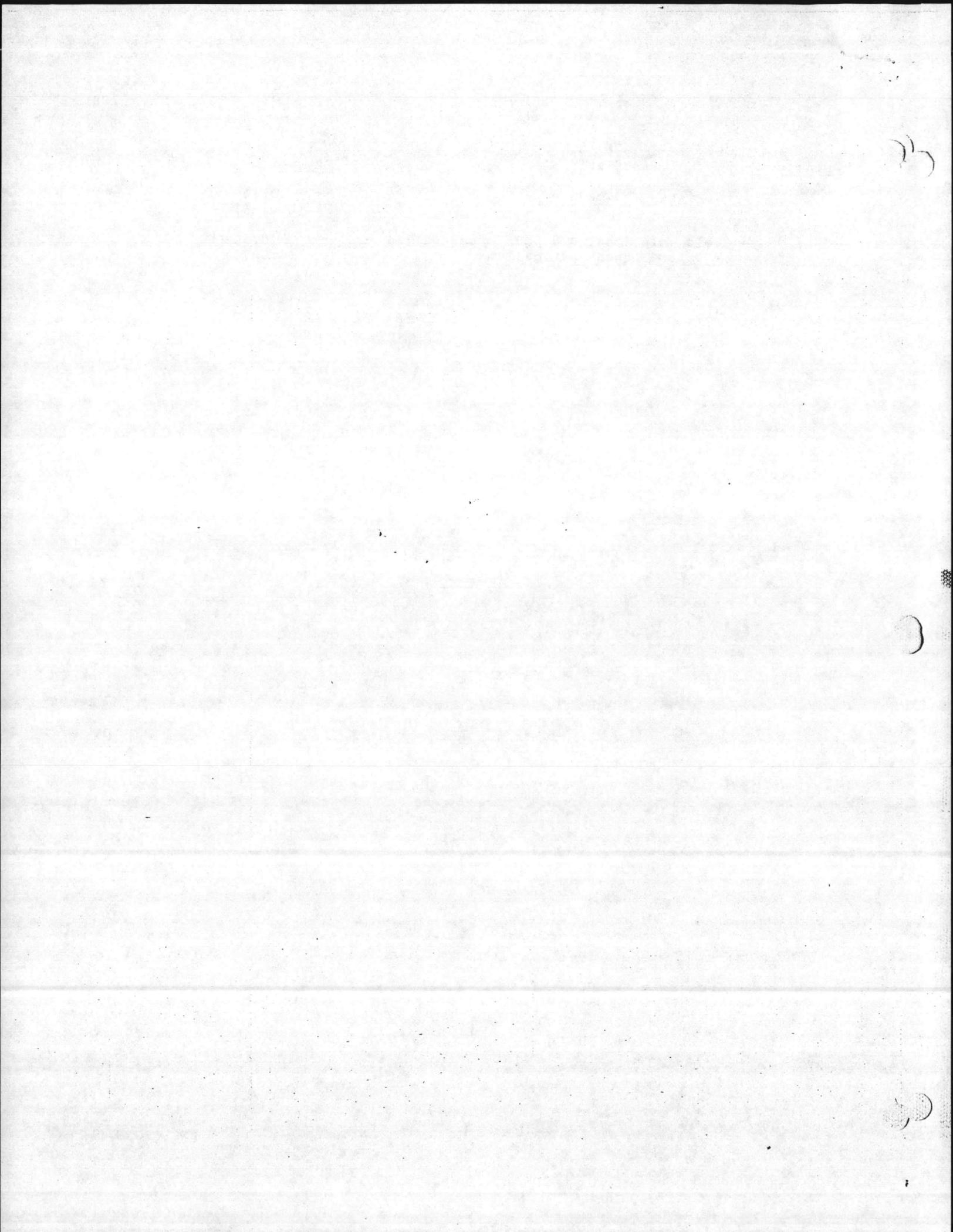
2. Gold-Bearing Scrap Designations

<u>Class</u>	<u>Description</u>	<u>Est. Gold % by Weight</u>
A	Dental Scrap	40.00% (5.8332)
A-1	Metallic (foil, leaf, wire, casting, and brazing alloy)	65.00% (9.4790)
A-2	Dental sweepings	15.00% (2.1875)
B	Electronic scrap (plated or washed)	0.40% (0.0583)
B-1	Integrated circuits/assembly and pins (not boards or transistors) (pins are ferro magnetic)	12.00% (1.7500)
B-2	Electronic circuits/assembly and strips	6.50% (0.9479)
B-3	Electronic hardware, pins and connectors	0.60% (0.0875)
B-4	Rivets (gold-plated)	0.50% (0.0729)
B-5	Electronic chassis parts	0.20% (0.0292)
C	Eyeglass frames (gold-filled)	4.00% (0.5833)
D	Buttons	0.90% (0.1313)

ENCLOSURE (1)

<u>Class</u>	<u>Description</u>	<u>Est. Gold % By weight</u>
E	Insignia and medals	0.10% (0.0146)
F	Gold solutions, 8.3 pounds per gallon (.7 troy ounces per gallon)	0.60% (0.0875)

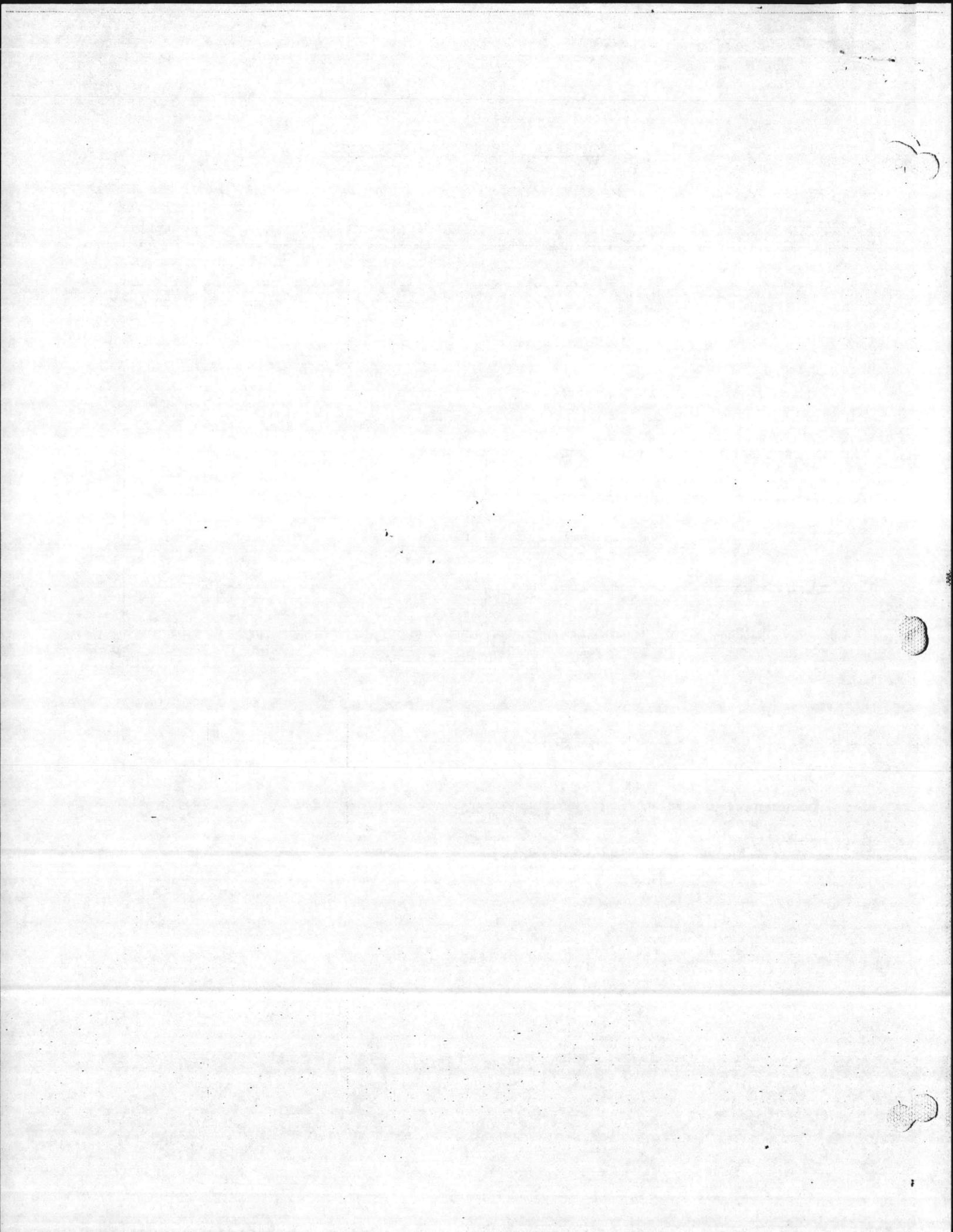
ENCLOSURE (1)



DD 1348-1 SAMPLE TURN-IN DOCUMENT

DOC IDENT		STOCK NUMBER		QUANTITY		DOCUMENT NUMBER		SUPPLEMENTARY ADDRESS		PROJECT		UNIT PRICE	
BY	FROM	ADD	UNIT	WEIGHT	UNIT	REQ	DATE	SERIAL	ADDRESS	BLTION	ECT	DEL	CTS
SHIPPED FROM		SHIP TO		MARK FOR		PROJECT		TOTAL PRICE					
WAREHOUSE LOCATION		TYPE	UNIT	UNIT	UNIT	U F C	N M F C	FREIGHT RATE	DOCUMENT DATE	MAT CONG	QUANTITY	DOLLARS	CTS
SUBSTITUTE DATA ITEM OR ORIGINALLY REQUESTED		FREIGHT CLASSIFICATION NOMENCLATURE		ITEM NOMENCLATURE		ITEM NOMENCLATURE		ITEM NOMENCLATURE					
SELECTED BY AND DATE		TYPE OF CONTAINERS	TOTAL WEIGHT	RECEIVED BY AND DATE	INSPECTED BY AND DATE								
PACKED BY AND DATE		NO OF CONTAINERS	TOTAL CUBE	WAREHOUSED BY AND DATE	WAREHOUSE LOCATION								
REMARKS:		DATE SHIPPED		RECEIVER'S SIGNATURE (AND DATE)									
FIRST DESTINATION ADDRESS		TRANSPORTATION CHARGEABLE TO		RECEIVER'S DOCUMENT NUMBER									

1. BWA
2. NSN
3. Unit of Issue
4. Quantity
5. Document #
6. Unit Name
7. DRMO
8. Type of Material & Metal Content



UNITED STATES MARINE CORPS  
Marine Corps Base  
Camp Lejeune, North Carolina 28542-5001

4555  
LOG  
21 Sept 1988

From: Precious Metals Coordinator, Marine Corps Base,  
Camp Lejeune, North Carolina

Subj: PRECIOUS METALS COLLECTION/RECOVERY RESPONSIBILITIES AND  
LETTERS OF APPOINTMENT UPDATE

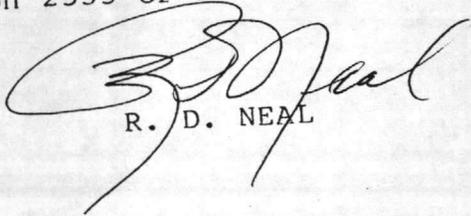
Ref: (a) BO 4555.1B

1. This letter is to provide information as to the units having the responsibility for accepting, processing and turning in of precious metals bearing materials. The below listed units are as follows:

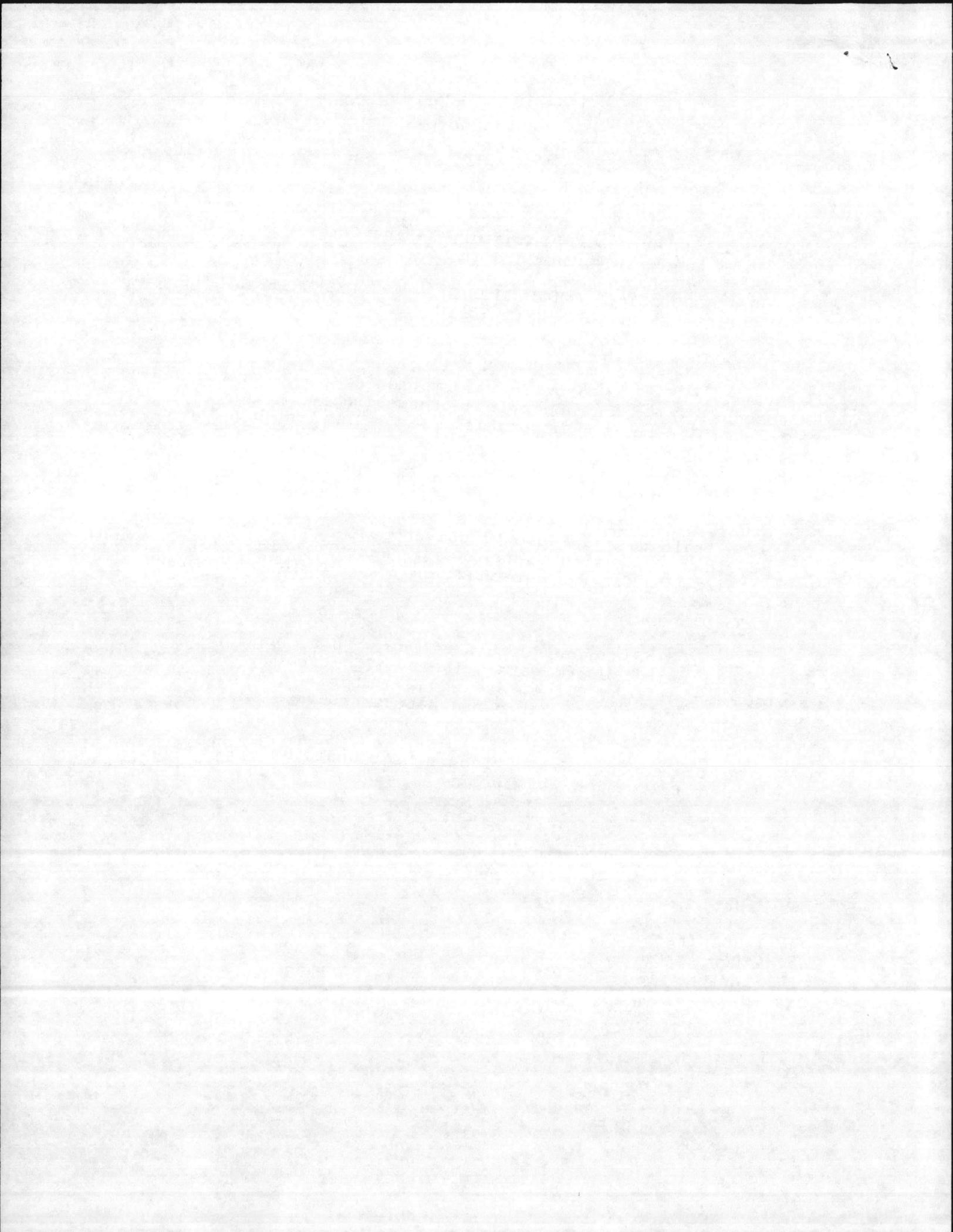
2d FSSG  
Naval Hospital  
Naval Dental Clinic  
Base Training and Audio Visual Support Center (which also provides processing support for: Base Printing, Joint Public Affairs, 2d MarDiv, Reproduction and Division Photography Centers)  
Base Disbursing

2. Further, please provide this office with an appointing letter of all your unit's coordinators (Name, SSN, area where recovery of precious metals take place, and phone number). Letters of appointment for replacement coordinators should also be sent to this office.

3. Point of contact this office is MSgt Neal, Base Precious Metals Coordinator, extension 2535 or 2507.

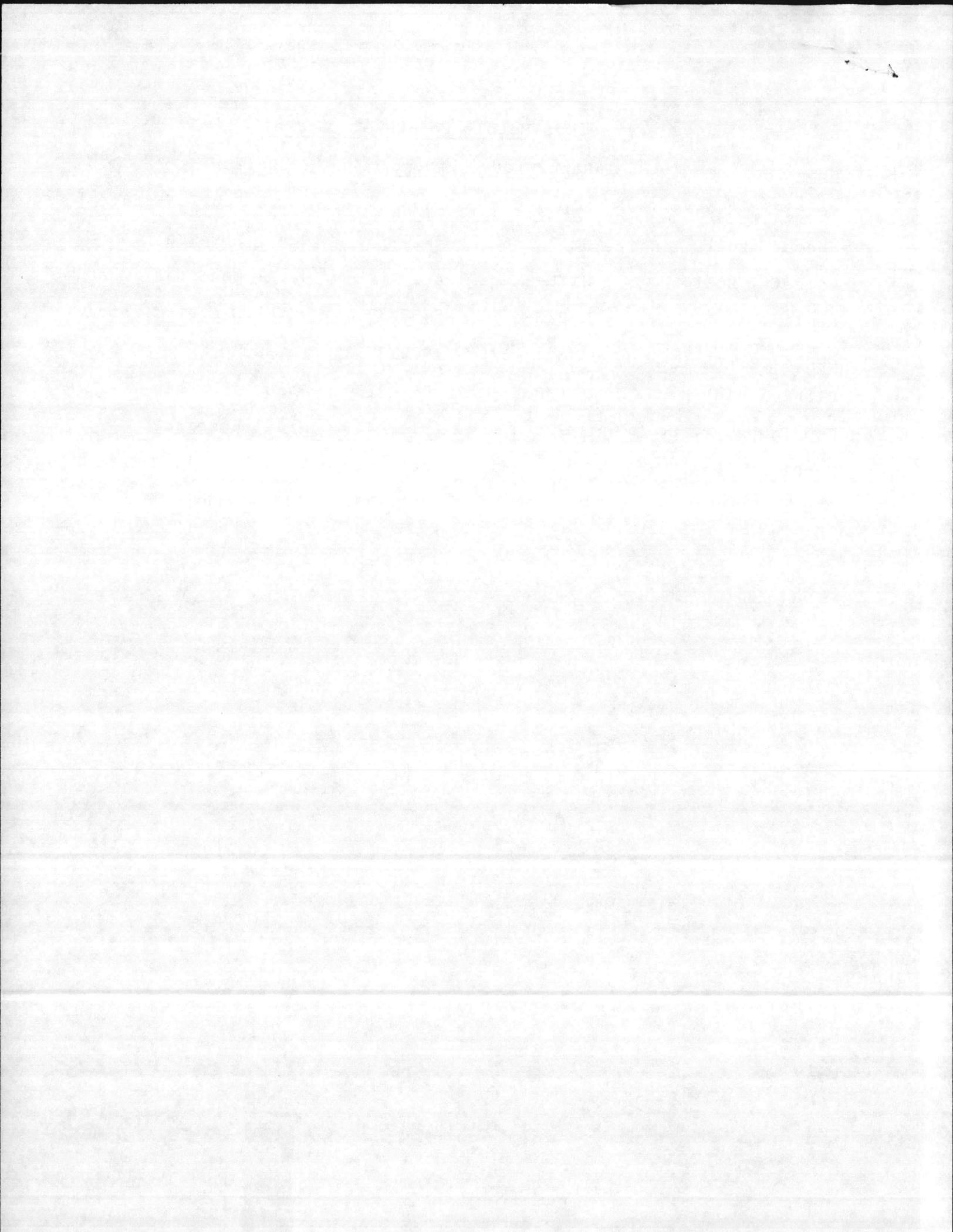
  
R. D. NEAL

Distribution:  
CG 2d FSSG  
Naval Hospital  
Naval Dental Clinic  
OIC, TAVSC  
Base Disbursing



Precious Metals Points of Contact

<u>Name</u>	<u>Rank/Grade</u>	<u>Phone</u>	<u>Unit</u>
Verrill, Michael S.	LCpl, E-3	5655	Joint Public Affairs
↙ Seeger, Phil	HM 1/E-6	4810	Naval Hospital
↙ Bennett, Holly	HN/E-3	4920	Naval Hospital
Hamlin, M. A.	DT2/E-5	5357/5314	Naval Dental Clinic
Ruark, J. R.	SSgt/E-6	1972/3733	TAVSC
Blankenship, M. L.	Sgt/E-5	3053/3730	Base Disbursing
Rodriguez, T. L.	HM2/E-5	4914/4945 <sup>44</sup>	Naval Hospital
Schultz, K. A.	WG-9	3364/5919	Base Printing Plant
Glovie, Guy	Capt	3321/3322	2d FSSG Hq
<i>VENTURA</i>	<i>C3Sgt</i>	<i>1972/3733</i>	<i>2d. Div. Photo</i>



# AN INTRODUCTION TO





## INTRODUCTION

The DoD Precious Metals Recovery Program (PMRP) was established by DoD Directive 4160.22, Recovery and Utilization of Precious Metals. By this Directive, the Defense Logistics Agency (DLA) is assigned overall management responsibility for the PMRP. (Precious metals are gold, silver and the platinum family of metals, i.e., platinum, palladium, iridium, rhodium, osmium, ruthenium).

The provisions of the directive apply to the Military Departments, the Organization of the Joint Chiefs of Staff, and the Defense Agencies.

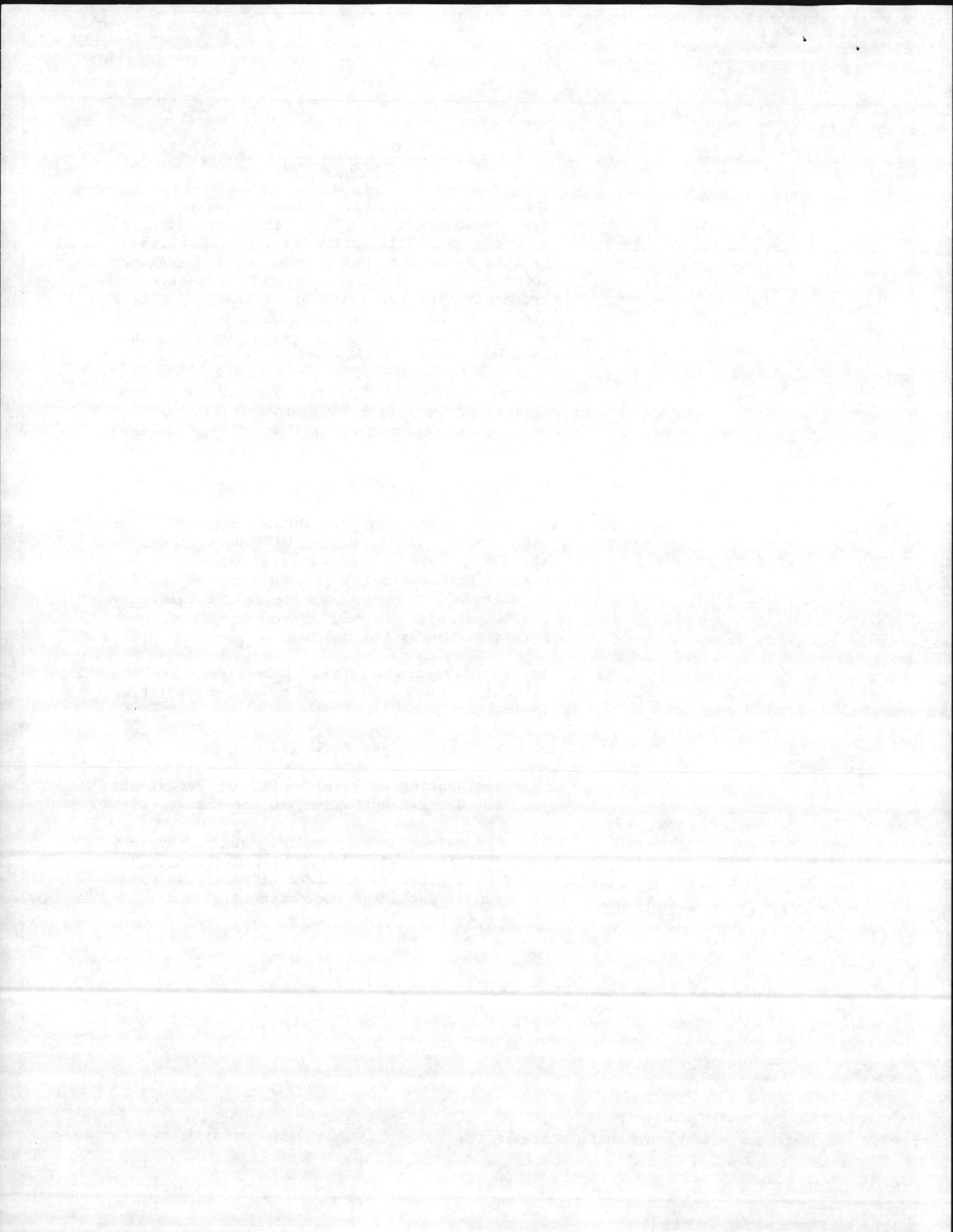
By the policy prescribed in the Directive, all DoD components generating precious metal bearing scrap or residual material, or requiring precious metals, will participate in the PMRP. Also, other Federal agencies generating precious metal bearing scrap or residual material, or requiring precious metals, may participate in the PMRP upon approval of such participation by DLA and GSA.

By the responsibilities prescribed by the Directive, DoD component's responsibilities include:

Full participation in the PMRP.

Designating a focal point to coordinate all matters pertaining to the PMRP.

Operating and maintaining recovery equipment which includes performing minor maintenance as required, identifying major repair parts and requesting equipment.



Shipping precious metal bearing material to Defense Reutilization and Marketing Offices (DRMOs) or other designated collection activities.

Assisting in the identification of additional generating activities within DoD.

Identifying precious metal bearing material on turn-in and in the Federal Cataloging System.

By the responsibilities prescribed by the Directive, DLA responsibilities include the following, which are performed by Defense Reutilization and Marketing Service (DRMS) activities.

Receiving, processing and arranging for the refinement of recovered precious metals and precious metal bearing materials generated by all DoD components.

Establishing procedures for the acquisition of equipment, repair parts, and maintenance.

While the above excerpts from the DoD Directive establishing the PMRP give us a framework for the Program it does not provide operating level information. The following pages include specific information with regard to your participation in the PMRP.



POLICY

The DoD policy promotes the economic recovery of precious metals from excess and surplus precious metal bearing materials. The recovered precious metals are for use for authorized internal purposes or as Government Furnished Material (GFM) on supply contracts. Costs associated with the recovery must not exceed the market value of the precious metals recovered.

FIRST STEPS

You have been advised of your activity's participation in the DoD PMRP and that you have some responsibilities in the operation of your activities PMRP, what is your next step???

CALL YOUR PMAR  
(Precious Metals Area Representative)

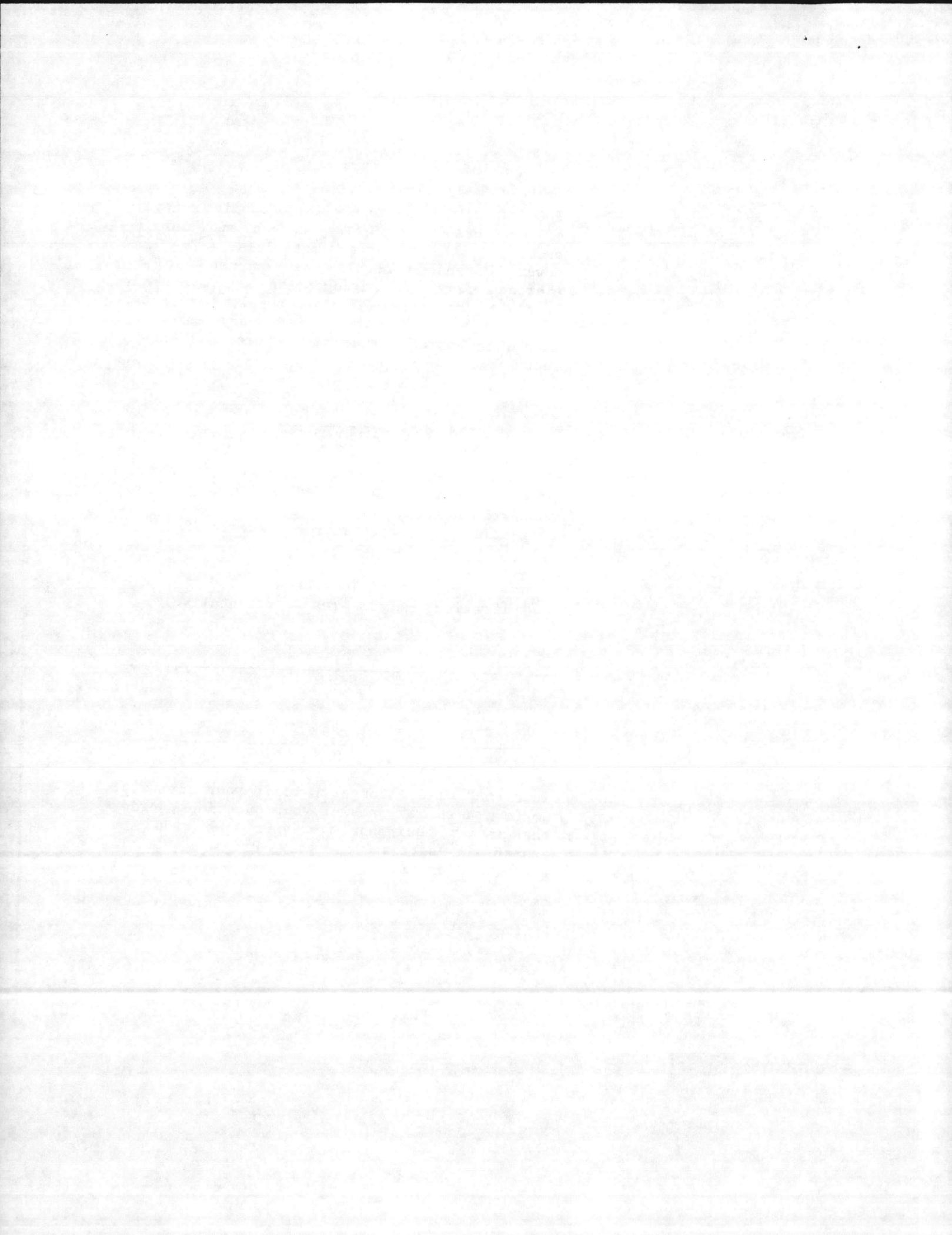
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NAME

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PHONE

Your PMAR will arrange to visit your activity, perform a survey, answer your questions, order the proper equipment for your operation and assist in setting up your Precious Metals Recovery Program.



### WHERE ARE THE PRECIOUS METALS?

Examples of precious metal bearing scrap and residual material items include: silver cell batteries, missile and electronic parts, turnings, spent photographic fixing solution, insignia, film, and dental scrap.

### SILVER RECOVERY

Silver is recovered from various types of property, as mentioned in the previous paragraph. Silver cell batteries, tableware, holloware, insignia fixtures, buttons, dental amalgam, desalter kits, anodes, and wire for welding and brazing are some of the sources for silver. One source which warrants further explanation is photographic materials (fixing solution, also called hypo solution, films and papers).

A major source for silver is from photographic and X-ray film and paper. Some silver remains in processed black-and-white materials such as negatives, prints, motion picture films, radiographs (x-ray films), microfilms and the like, as well as from unprocessed material of almost any kind. Unprocessed color films, negatives and transparencies also contain recoverable silver, however, processed color films and paper do not contain silver.

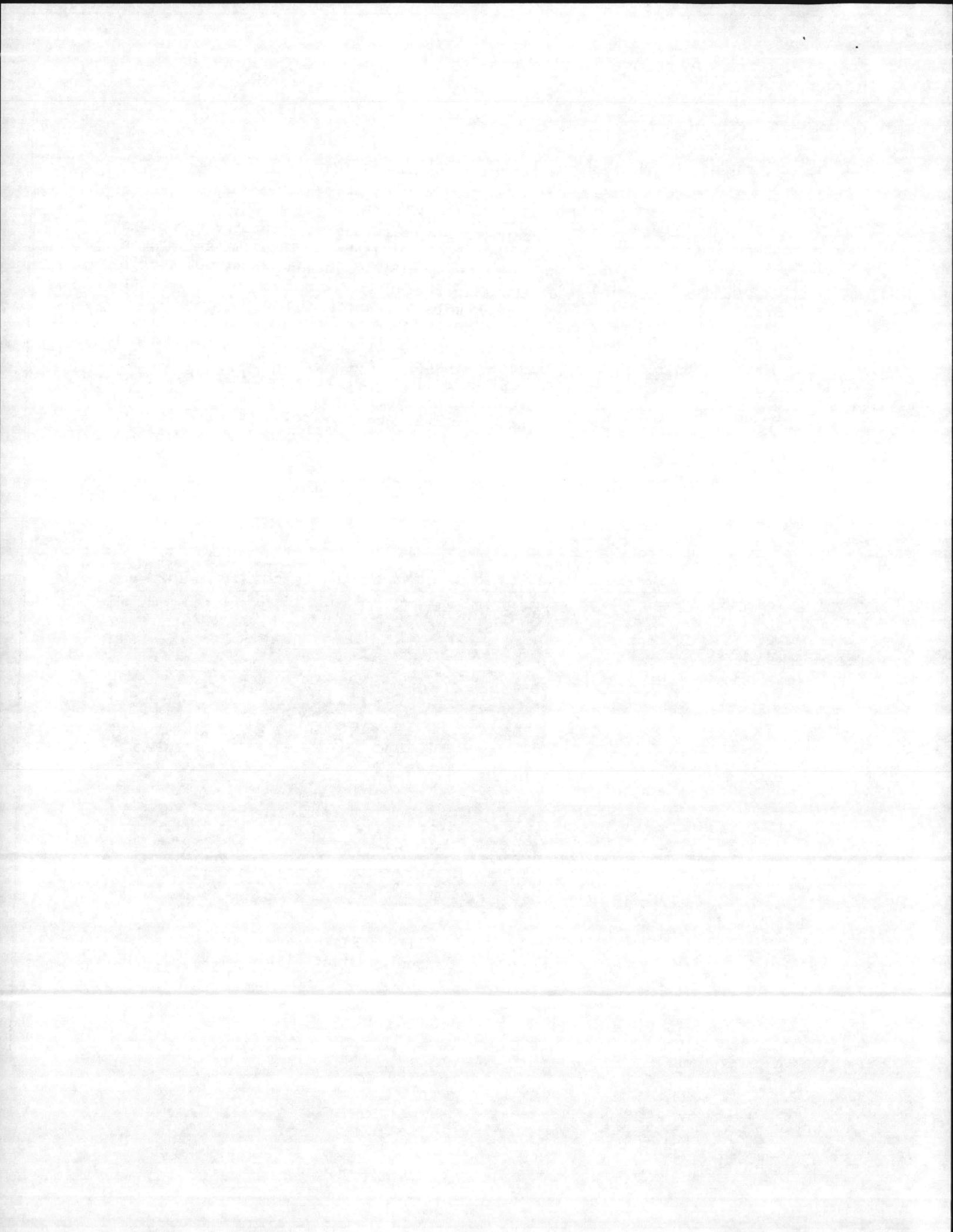


Certain silver compounds have ability to change when exposed to light. This makes modern photography possible. In some cases 60% to 80% of the silver contained on the film is left in the hypo solution after the development process.

Silver recovery from hypo solution can be accomplished by metallic replacement, precipitation, or electrolytically, either on site or at a central recovery facility.

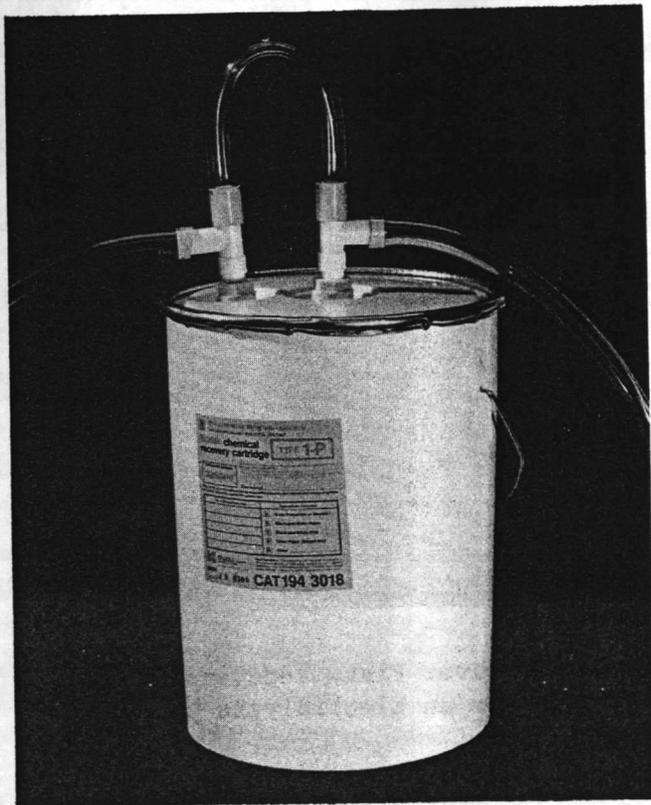


Silver Flake Recovered  
from an Electrolytic Unit



### RECOVERY CARTRIDGE

Simply stated, a recovery cartridge accomplishes metallic replacement. A more active metallic element in the filter (usually iron or copper) reacts with the silver thiosulphate complex. (This complex is formed in the fixing reaction of a photographic process). The silver, a less active metal, is separated from the complex and the more active metal takes its place. The silver settles to the bottom of the recovery cartridge. Metallic replacement within the recovery cartridge is nothing more than chemical precipitation controlled to take place over a greater length of time. The metallic replacement element dissolves slowly in the fixer and precipitates (replaces) silver.





### ELECTROLYTIC UNIT

Nearly pure metallic silver is deposited on the cathode of an electrolytic unit. This is accomplished by passing a controlled, direct electrical current between two electrodes (a cathode and an anode), which are suspended in the fixer solution. Silver plates out on the negatively charged electrode (the cathode). The cathode must be removed periodically to strip off, or harvest, the plated silver, which is called silver flake.





### GOLD RECOVERY

Gold is recovered from various types of property such as badges, insignia, anodes, turnings, buttons, and eyeglass frames.

High concentrations of gold are found in such materials as powders, salts, foil, leaf, pellets, dental lingual bars, goldwire, dental castings and brazing alloys.

### PLATINUM FAMILY RECOVERY

Platinum family metals are recovered from such items as aircraft spark plugs, magneto and relay contact points, detonator fuses, anodes, cathodes, crucibles, foil, resistor furnace coils, and thermocouple wires.

High concentrations of platinum family metals are found in such materials as dental alloys, jewelry, laboratory ware and wire.

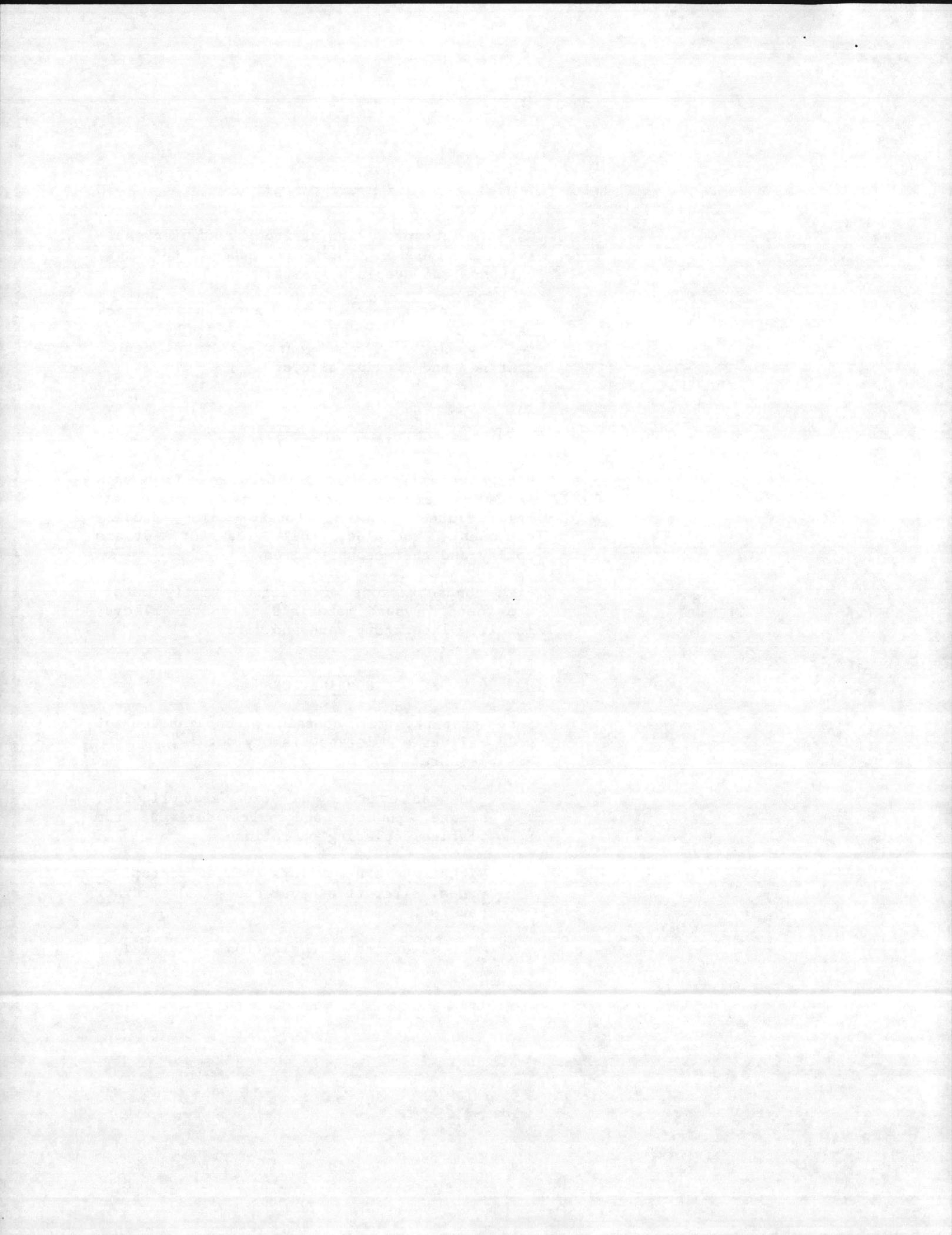
### COMBINATIONS

Some property may contain a combination of gold, silver or platinum family metals, examples are:

Expended cyanide and acid based liquids, sludge, powders and salts derived from plating/deplating operations.

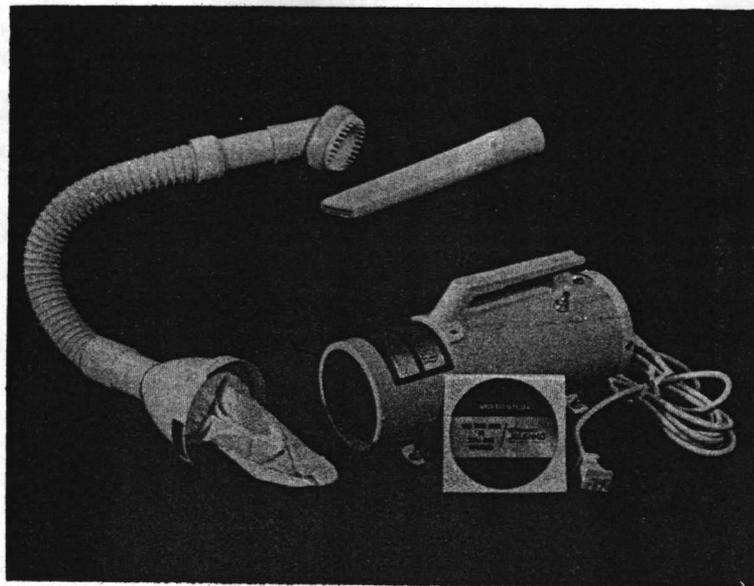
High temperature alloys such as stator vanes, aircraft exhaust cones and aircraft panels.

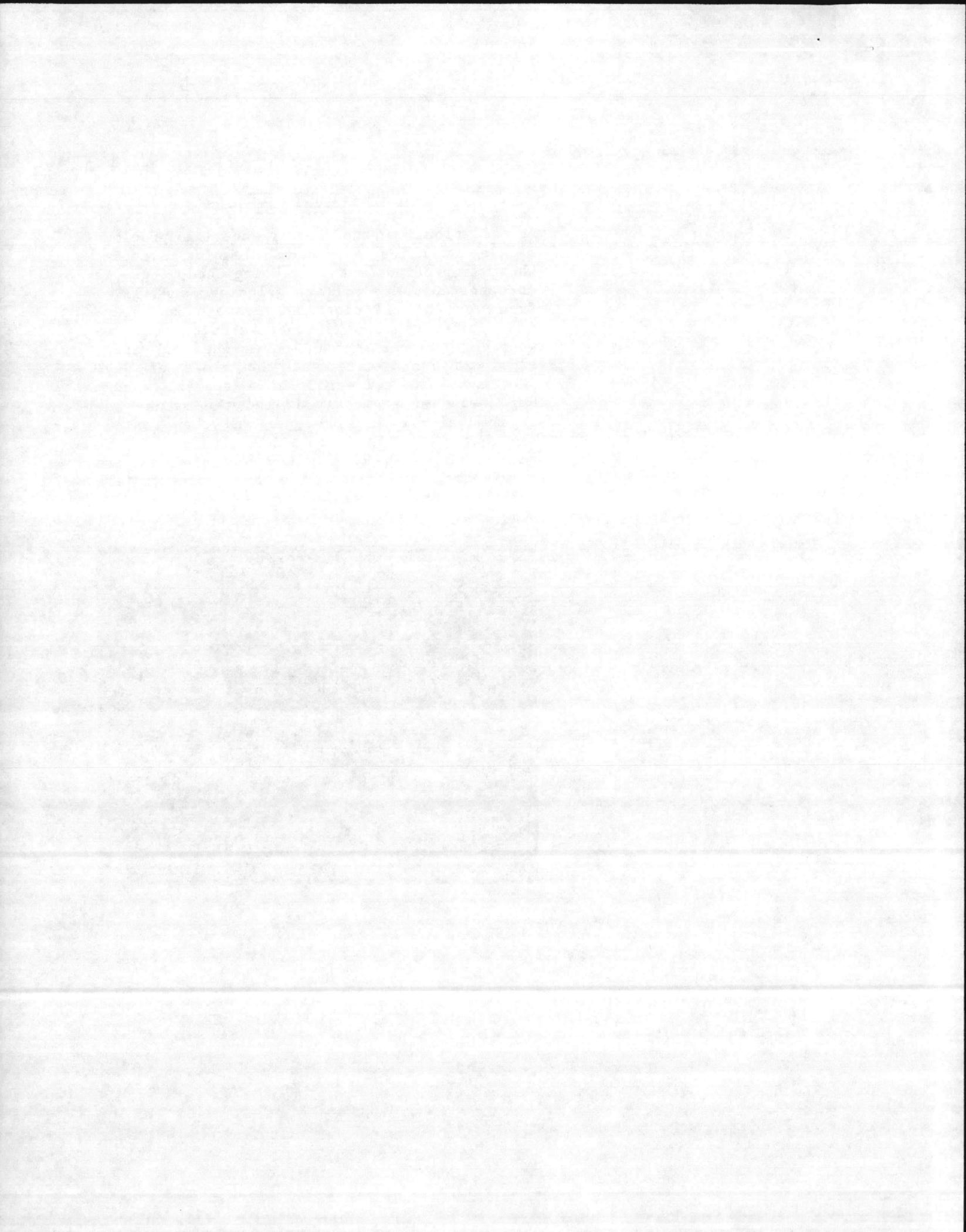
Most electrical and electronic materials.



### VACUUM CLEANING SWEEPER

An additional method of recovering precious metals is using a vacuum cleaning sweeper. Whenever precious metal is being used, there is an opportunity to collect grindings and flakes from work areas, clothing, drawers and crevices. The vacuum cleaner should be used whenever the technician leaves the work area, e.g., at lunch time, at the close of day. Sweepings are collected in a special vacuum bag. When sufficiently filled the vacuum bag is removed from the sweeper and then sealed. The contents of the vacuum bag should never be removed from the bag. Replacement bags are provided. The vacuum bag and contents are called Vacuum Cleaner Sweepings.





TURN-IN

Precious metal bearing material should be turned in to the nearest Defense Reutilization and Marketing Office (DRMO).

Your DRMO is located at:

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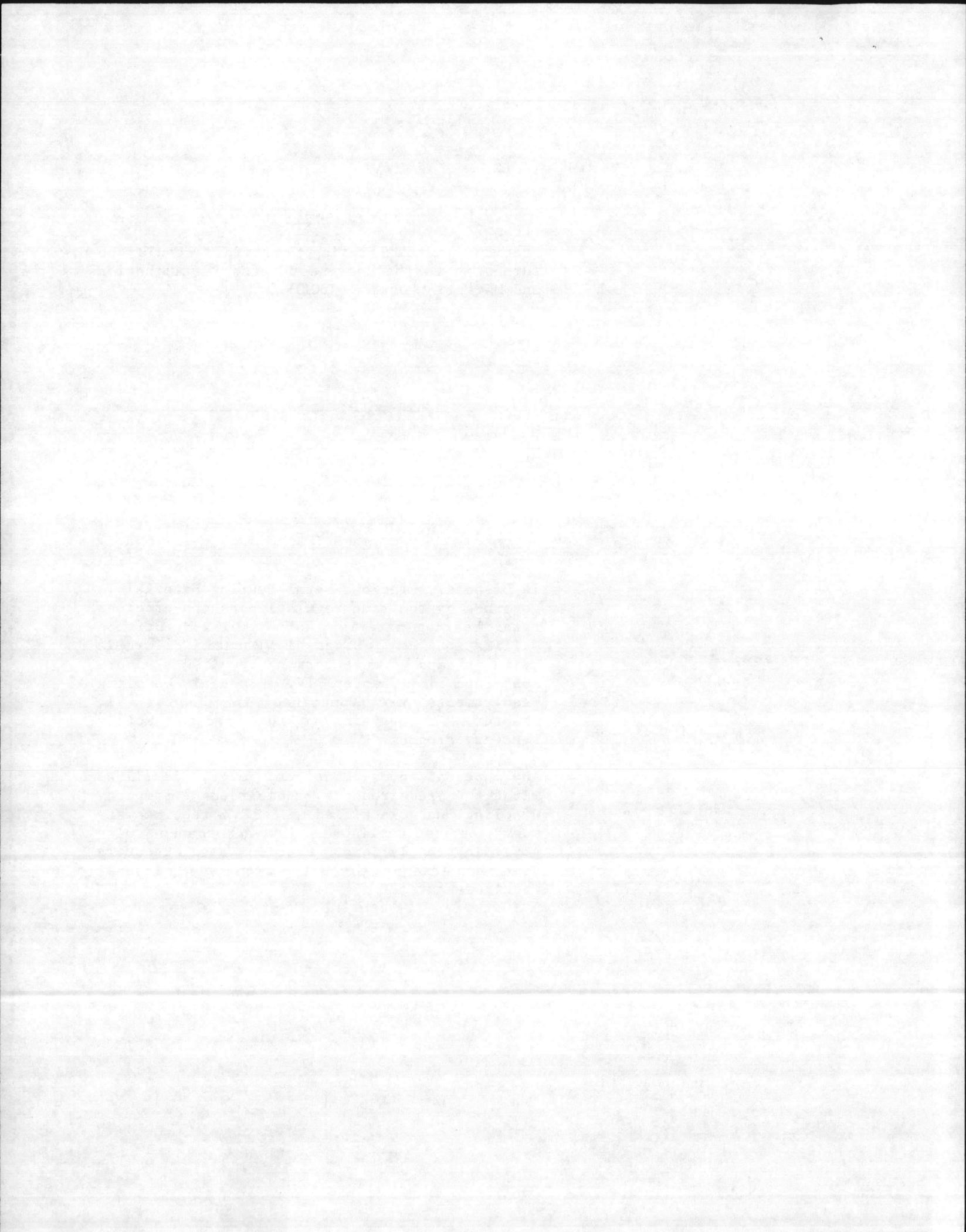
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Phone

In Disposal, Precious Metal Bearing Material is governed by the same regulation as non-precious metal bearing material, DoD 4160.21-M, Defense Utilization and Disposal Manual. Turn-in criteria and documentation requirements are contained in Chapter IV. Special handling requirements are contained in Chapter VI. Chapter XVII pertains to the Precious Metals Recovery Program.

Any special considerations, e.g., demilitarization requirements, hazardous property handling and classified material requirements must be accomplished in accordance with governing regulations. Precious metal recovery does not exempt property from any disposal requirements.

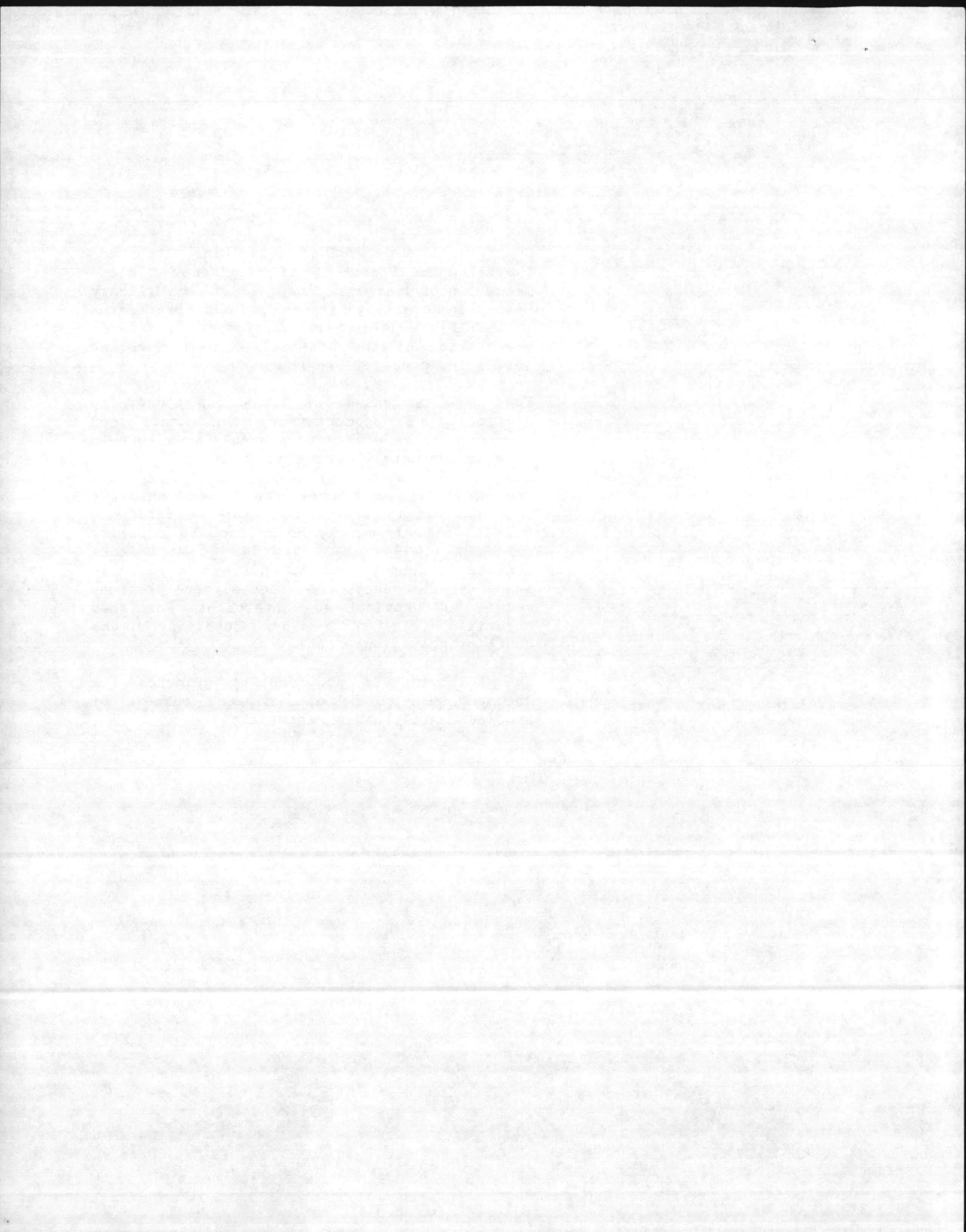


DD Form 1348-1, DoD Single Line Item Release/Receipt Document, is required for documentation of turn-ins. DoD 4140.17-M, Military Standard Requisitioning and Issue Procedures (MILSTRIP), provides the entries to be made in preparation of the Disposal Turn-In Document (DTID) for transfers to the DRMO.

Your DRMO can answer any questions concerning completion of documentation requirements when you contact the office to schedule your turn-in of precious metal bearing material.

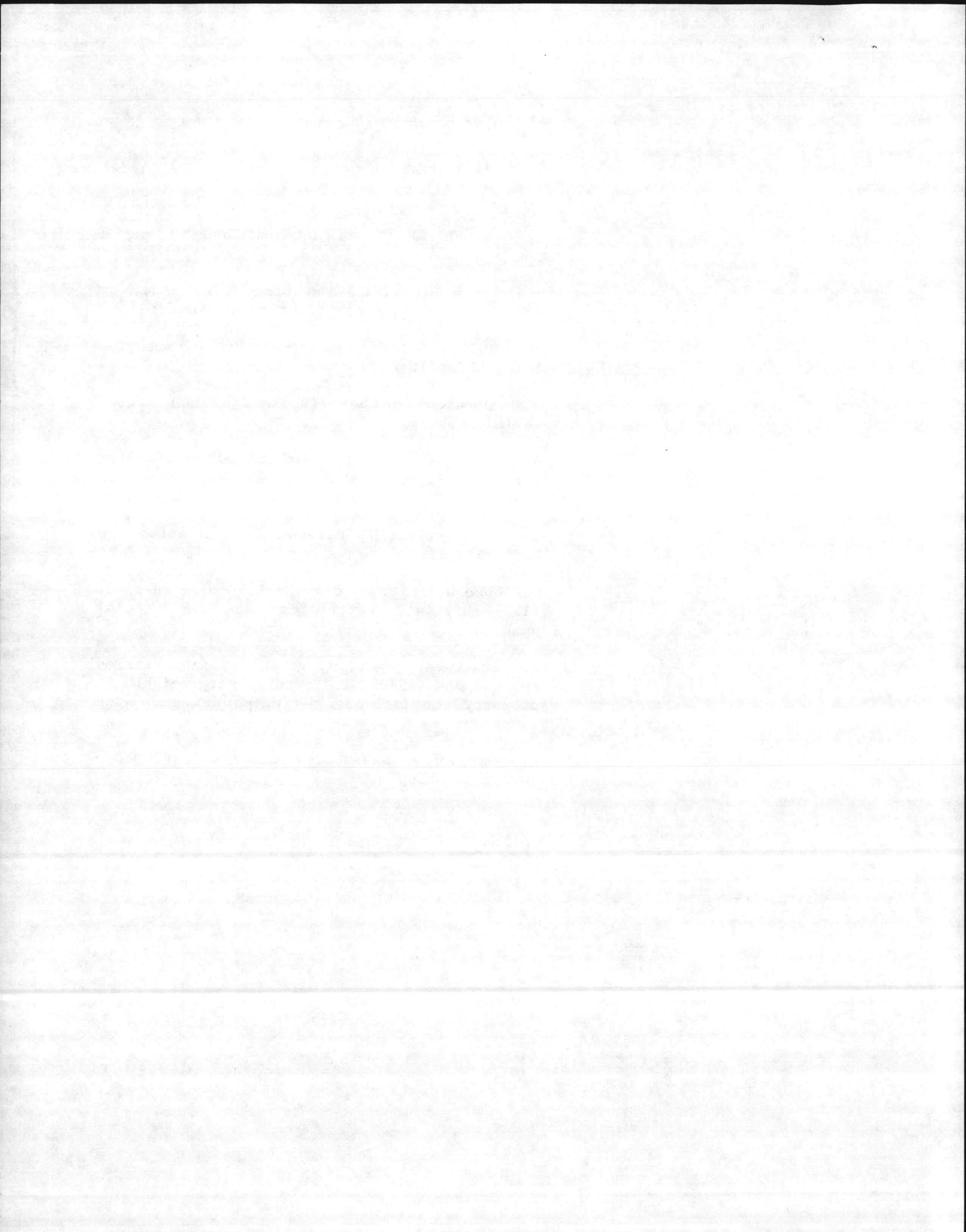
The DRMO will accumulate, report, and ship the precious metal bearing material as directed, and it will ultimately be refined to a purity of 99.9% (.999 fine). It will go to Defense Industrial Supply Center, where as a participant, your agency can requisition precious metal to provide as Government Furnished Material (GFM) to vendors supplying items containing precious metal.

The following is provided as guidance for documentation to be used in the turn-in of precious metal bearing material:



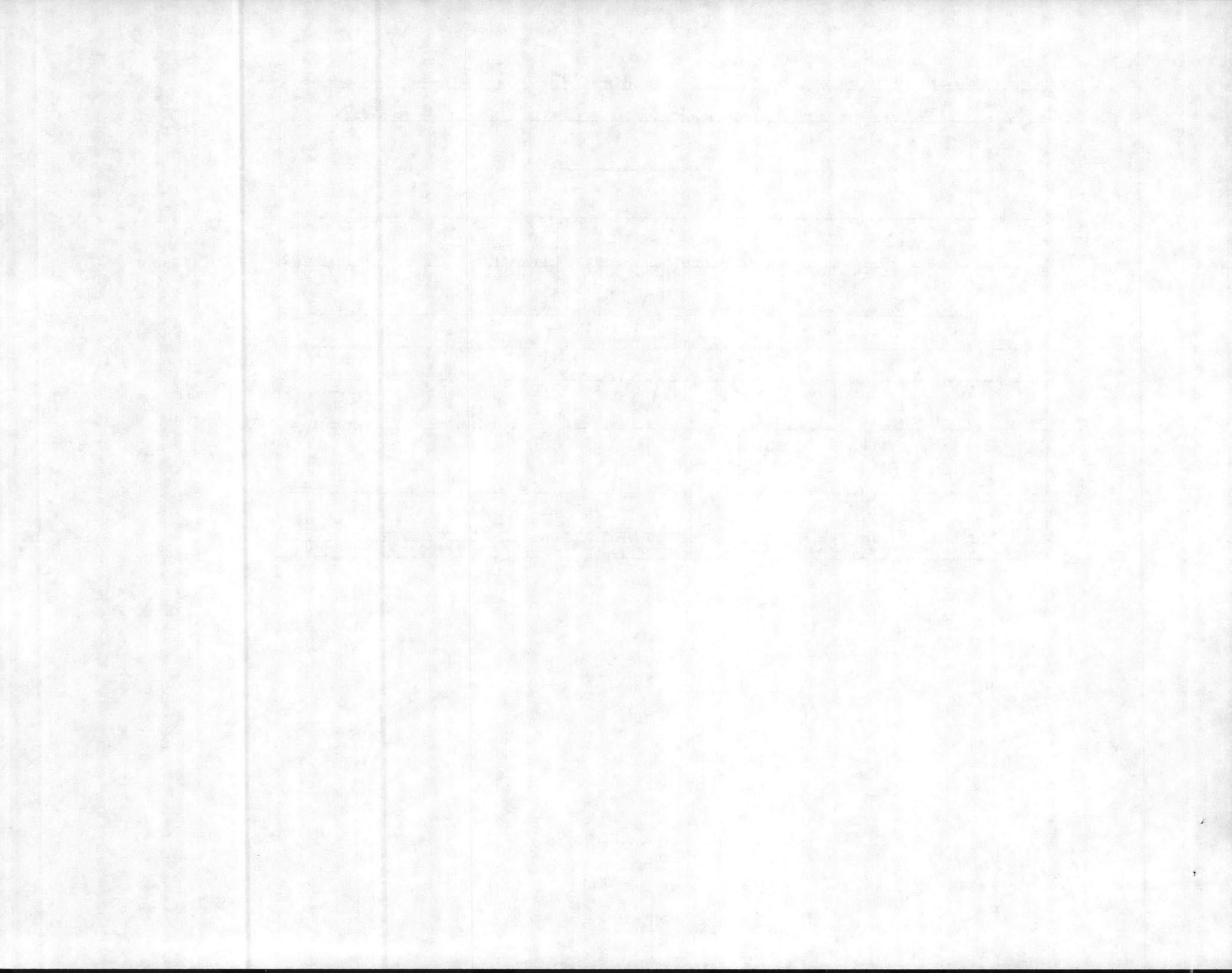
HOW TO COMPLETE DD FORM 1348-1

1. Scrap Classification List (SCL) code, or NSN/noun name if classification unknown.
2. Unit of issue and quantity of material being shipped.
3. Document number (DoDAAC, Julian date, serial number).
4. DoDAAC and in-the-clear address of shipping activity (include building number and zip code).
5. Your servicing Defense Reutilization and Marketing Office.
6. Noun description of material being shipped. (If shipping cartridges include serial numbers.)
7. Statement regarding whether weight entered in columns 25-29 is actual net weight of property, or includes the weight of packaging container.
8. Authorized signature, title and telephone number of shipper.



13

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
DOC. IDENT.	RI FROM	M & S	FSC	STOCK NUMBER		ADD	UNIT OF ISSUE	QUANTITY	REQUISITIONER	DATE	SERIAL	SUFFIX	SUPPLEMENTARY ADDRESS	SIGNATURE	FUND	DISTRIB	PROJ	PRI	ORIG	REQ'D DEL DATE	ADVANCE	RI	UNIT PRICE	DOLLARS	CTS.																																																						
(1)										(2)										(3)																																																											
SHIPPED FROM (4)										SHIP TO (5)										MARK FOR PROJECT										TOTAL PRICE DOLLARS CTS.																																																	
A WAREHOUSE LOCATION										B TYPE OF CARGO		UNIT PACK		UNIT WEIGHT		UNIT CUBE		U F C		N M F C		C FREIGHT RATE		D DOCUMENT DATE		MAY COND		Q QUANTITY																																																			
F SUBSTITUTE DATA (ITEM ORIGINALLY REQUESTED)										G H I J K L M N O P Q R S																																																																					
T U										V W X Y																																																																					
W SELECTED BY AND DATE										X TYPE OF CONTAINER(S)										Y TOTAL WEIGHT										Z RECEIVED BY AND DATE										AA INSPECTED BY AND DATE																																							
SHIPPERS 1 PACKED BY AND DATE										2 NO. OF CONTAINERS										3 TOTAL CUBE										7 WAREHOUSED BY AND DATE										8 WAREHOUSE LOCATION																																							
REMARKS (7)																																																																															
AA FIRST DESTINATION ADDRESS										BB										CC DATE SHIPPED										DD										EE (8)																																							
11										12										13										14										15																																							
13 TRANSPORTATION CHARGEABLE TO										14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)										15 RECEIVER'S DOCUMENT NUMBER																																																											



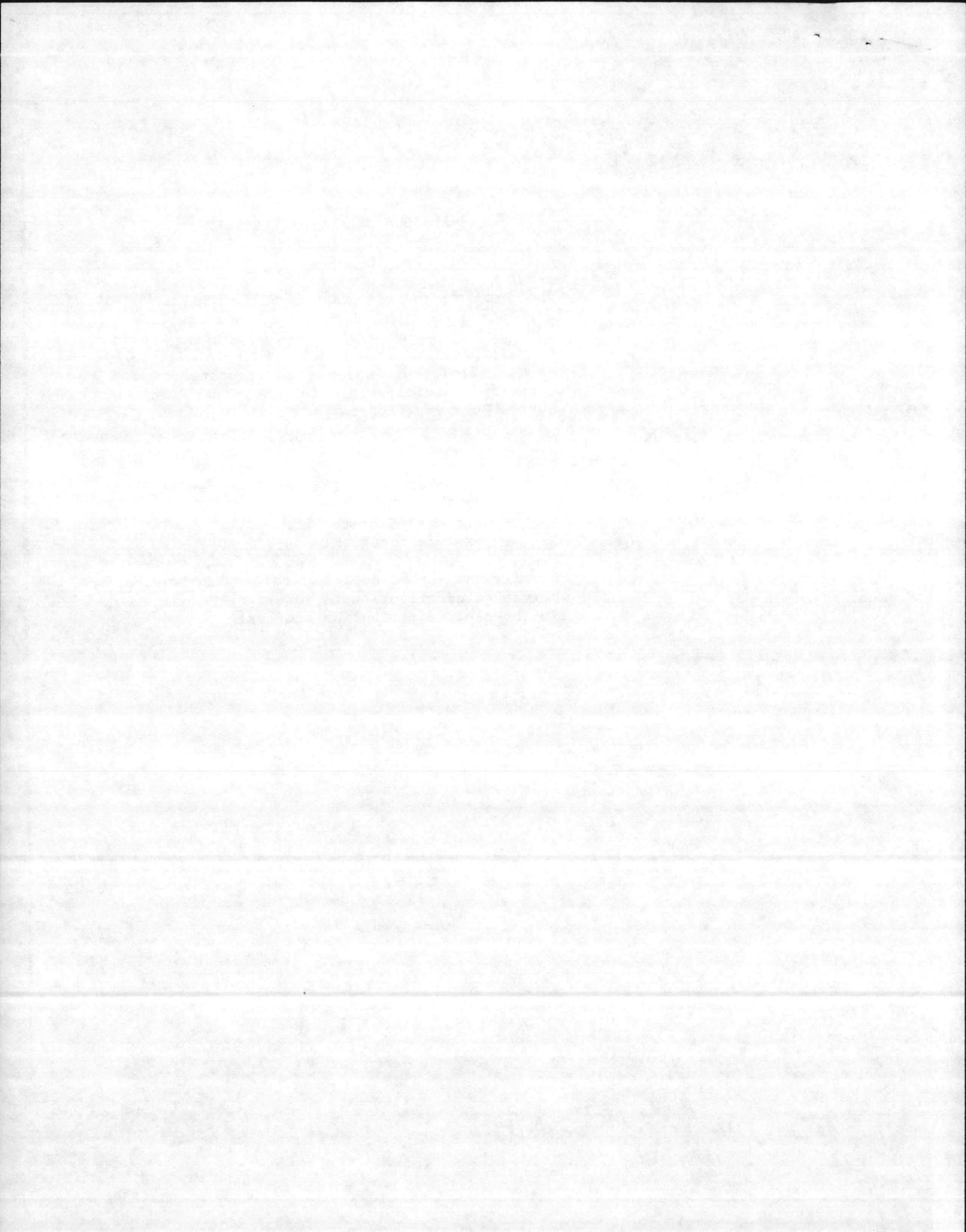
## PRECIOUS METALS MASTER FILE

The Precious Metals Master File (PMMF) is a mechanized file for use as a management tool in identifying stock numbered (NSN) items which contain precious metals. The PMMF is available on microfiche only and may be requested by any activity participating in the DoD Precious Metals Recovery Program.

Submit request for PMMF to:

Defense Logistics Services Center  
ATTN: DLSC-WPCA  
Federal Center  
Battle Creek, MI 49017-3092

Specify number of copies required and whether permanent distribution is required. Provide an in-the-clear distribution address.





OK  
31 Oct 76  
JWS  
R Moore \*  
December 1, 1976  
NUMBER 4160.22

ASD(I&L)

## Department of Defense Directive

SUBJECT Recovery and Utilization of Precious Metals

References: (a) DoD Directive 4160.22, "Reclamation and Utilization of Silver from Scrap Materials," August 23, 1968 (hereby cancelled)  
(b) Assistant Secretary of Defense (Installations and Logistics) Memorandum, "Reclamation of Precious Metals," January 16, 1971 (hereby cancelled)  
(c) through (i), see enclosure 1

### I. REISSUANCE AND PURPOSE

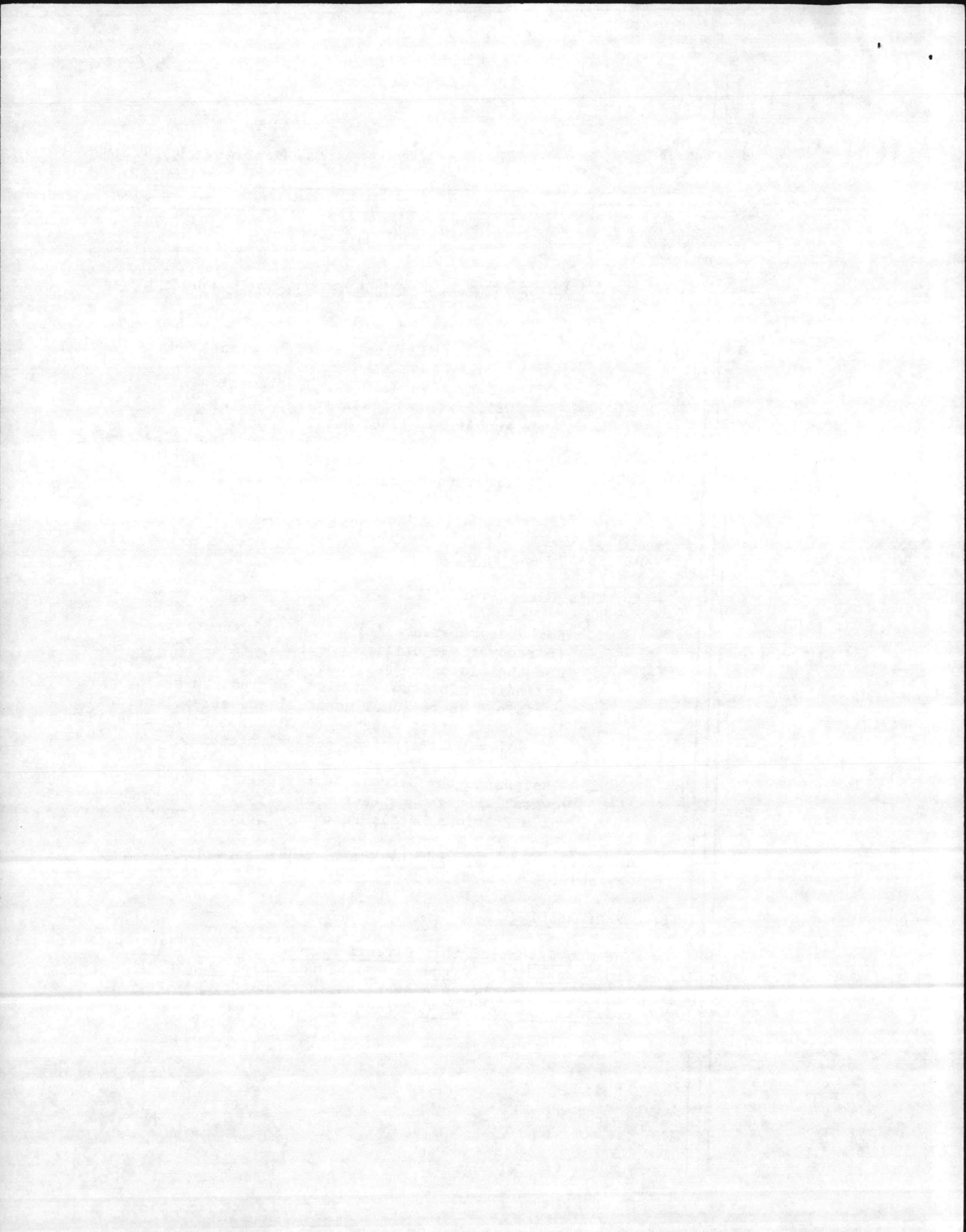
#### A. This Directive:

1. Reissues reference (a) and establishes a program to recover and utilize precious metals (gold, silver, and the platinum family of metals; i.e., platinum, palladium, iridium, rhodium, osmium, ruthenium) contained in residual material and scrap generated by Department of Defense (DoD) Components worldwide and other participating Federal agencies; and
2. Assigns to the Defense Supply Agency (DSA) the overall management responsibility for the conduct of a Precious Metals Recovery Program (PMRP).

B. References (a) and (b) are hereby superseded and cancelled.

### II. APPLICABILITY

The provisions of this Directive apply to the Military Departments, the Organization of the Joint Chiefs of Staff, and the Defense Agencies (hereinafter referred to collectively as "DoD Components").

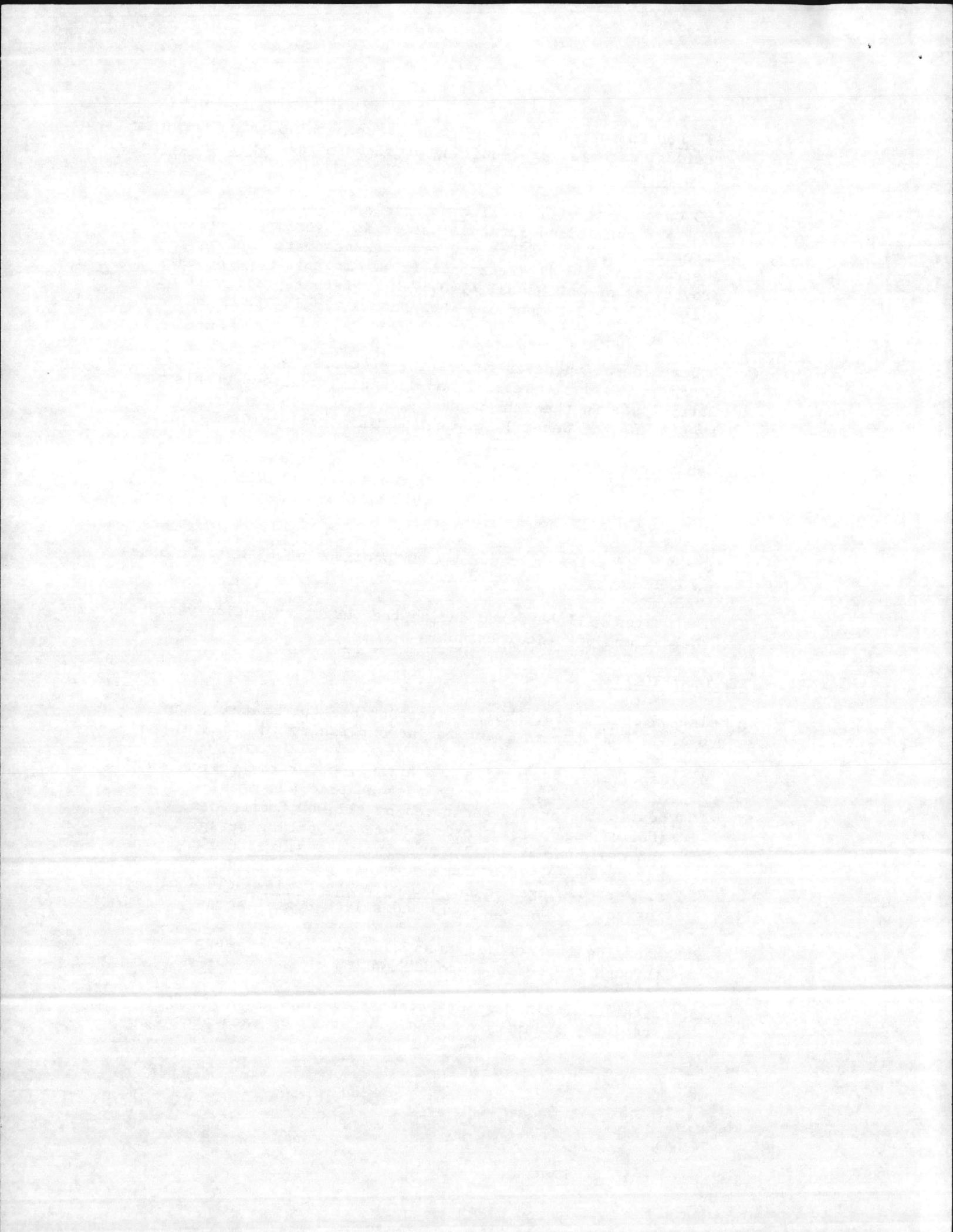


### III. POLICY

- A. All DoD Components generating precious metal-bearing scrap or residual material or requiring precious metals will participate in the PMRP.
- B. DoD Components will utilize materials recovered under the PMRP for authorized internal use or as Government-Furnished Material (GFM) to reduce new procurement costs (DoD Instruction 4140.41 (reference (c))). In this regard, the provisions of DoD Manual 4140.17-M (reference (d)) will be followed by DoD Components when requisitioning from the Defense Stock Fund. SJ
- C. Other Federal agencies generating precious metal-bearing scrap or residual material, or requiring precious metals, may participate in the PMRP upon approval of such participation by DSA and the General Services Administration (GSA).
- D. Consistent with the DoD policy of effecting maximum use of excess property as set forth in DoD Directive 4160.21 (reference (e)), utilization will take precedence over precious metal recovery.
- E. Stock fund sales prices for each precious metal will be based on PMRP costs.
- F. The prices will be fixed during the budget execution year to the maximum practical extent.

### IV. RESPONSIBILITIES

- A. The Director, DSA, shall be responsible for managing the overall PMRP program, and for accomplishing the following:
  - 1. Receiving, processing and arranging for the refinement of recovered precious metals and precious metal-bearing materials generated by all DoD Components. (NOTE: Examples of precious metal-bearing scrap and residual material items include: silver cell batteries, missile and electronic parts, gold and silver turnings, spent photographic-fixing solution, insignia, film, and gold and silver dental scrap.)
  - 2. Managing the refined material as an item of supply through the Defense Stock Fund.
  - 3. Establishing and maintaining stock fund records of receipts, quantity on hand, and issues of each precious

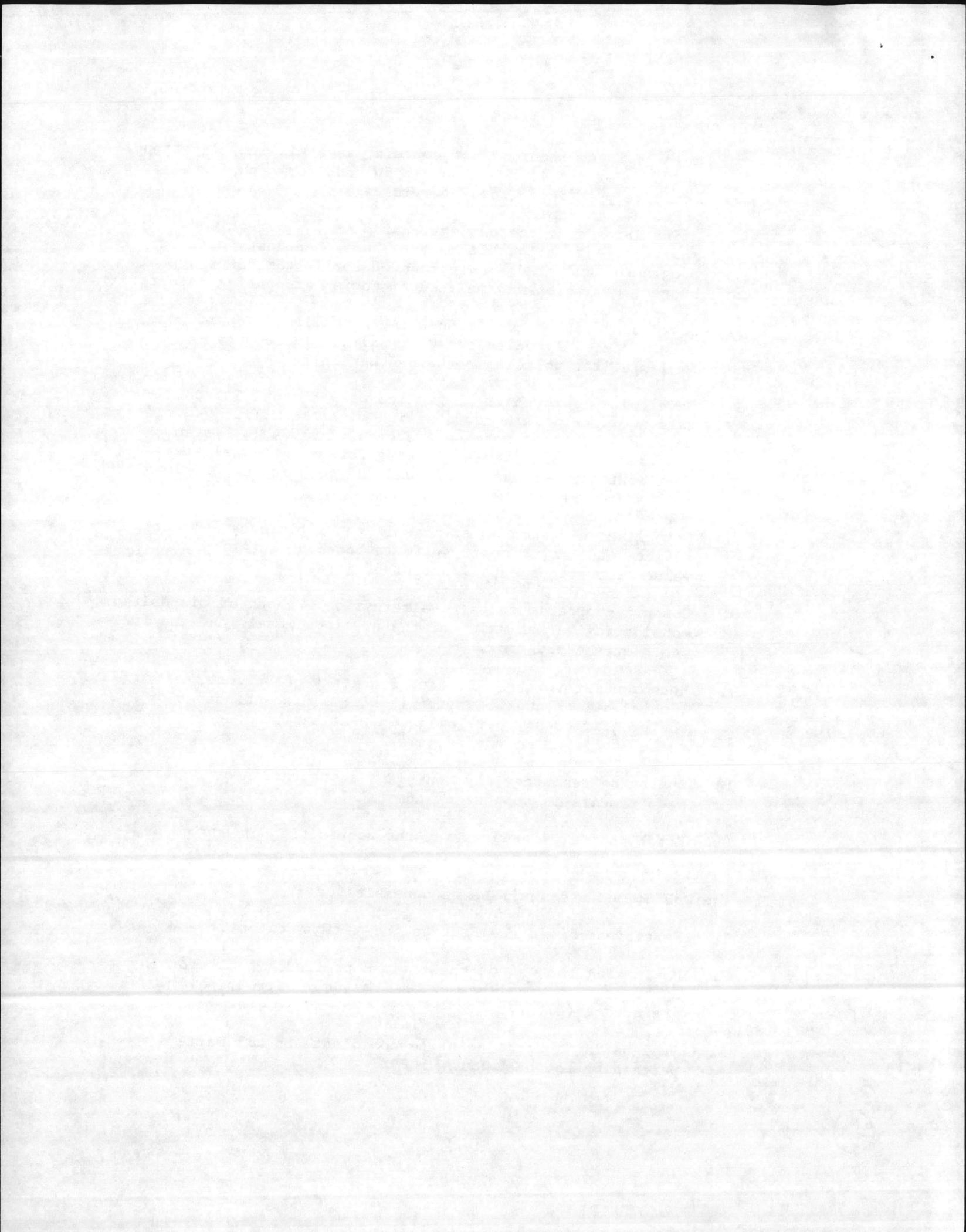


metal. These records must contain, as a minimum, location and type of metal, and a condition code for each; e.g., scrap, reclaimed, refined (ready for issue).

4. Maintaining cost-accounting records of the direct and indirect costs allocable to the PMRP. The costs will be programed, budgeted, and accounted for in the DSA's annual budget submission and related financial accounting reports.
5. Developing, in coordination with the Military Departments, other Defense Agencies, and GSA, uniform procedures to implement the policies contained herein.
6. Developing, through the Logistics Data Element Standardization Office and in coordination with the Military Departments, other Defense Agencies, and GSA, a system of standard codes for identifying Defense materiel items that contain precious metals and the quantity of precious metals content.
7. Establishing standards to measure the efficiency and cost effectiveness of recovery efforts based on quantity and value of precious metal content of items.
8. Comparing program costs to alternative methods of disposition, considering market value of the precious metals and the full costs of the program.
9. Recommending to the Assistant Secretary of Defense (Installations and Logistics) (ASD(I&L)) discontinuance of the program or any part of it when it has been determined to be no longer cost effective.
10. Approving resources and equipment augmentation or replacement requirements in support of the PMRP.
11. Establishing procedures for the acquisition of equipment, repair parts, and services.

B. The DoD Components shall be responsible for:

1. Participating in the PMRP to the maximum extent.
2. Maximizing the use of the refined precious metals for authorized internal use or as GFM (DoD Instruction 4140.41 (reference (c))).
3. Designating a focal point to coordinate on all matters pertaining to the PMRP.



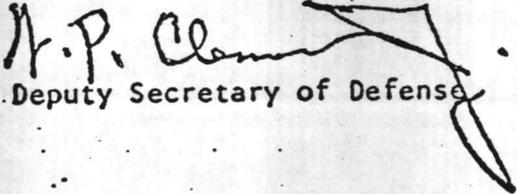
4. Identifying items containing precious metals by type of metal and quantity, and notifying DSA in order that such items may be included in the Federal Catalog records.
5. Operating recovery equipment under their purview, performing minor maintenance as required, and recommending or identifying to the Program Manager (Director, DSA) equipment and major repair parts and services required for maximizing recovery efforts.
6. Shipping precious metal-bearing material to Defense Property Disposal Offices or other designated collection activities or to the designated recovery activity as approved by the Director, DSA.
7. Assisting in the identification of additional potential generating activities within DoD.

V. FINANCING, ACCOUNTING, AND REPORTING

Financing, accounting, and reporting procedures are set forth in enclosure 2.

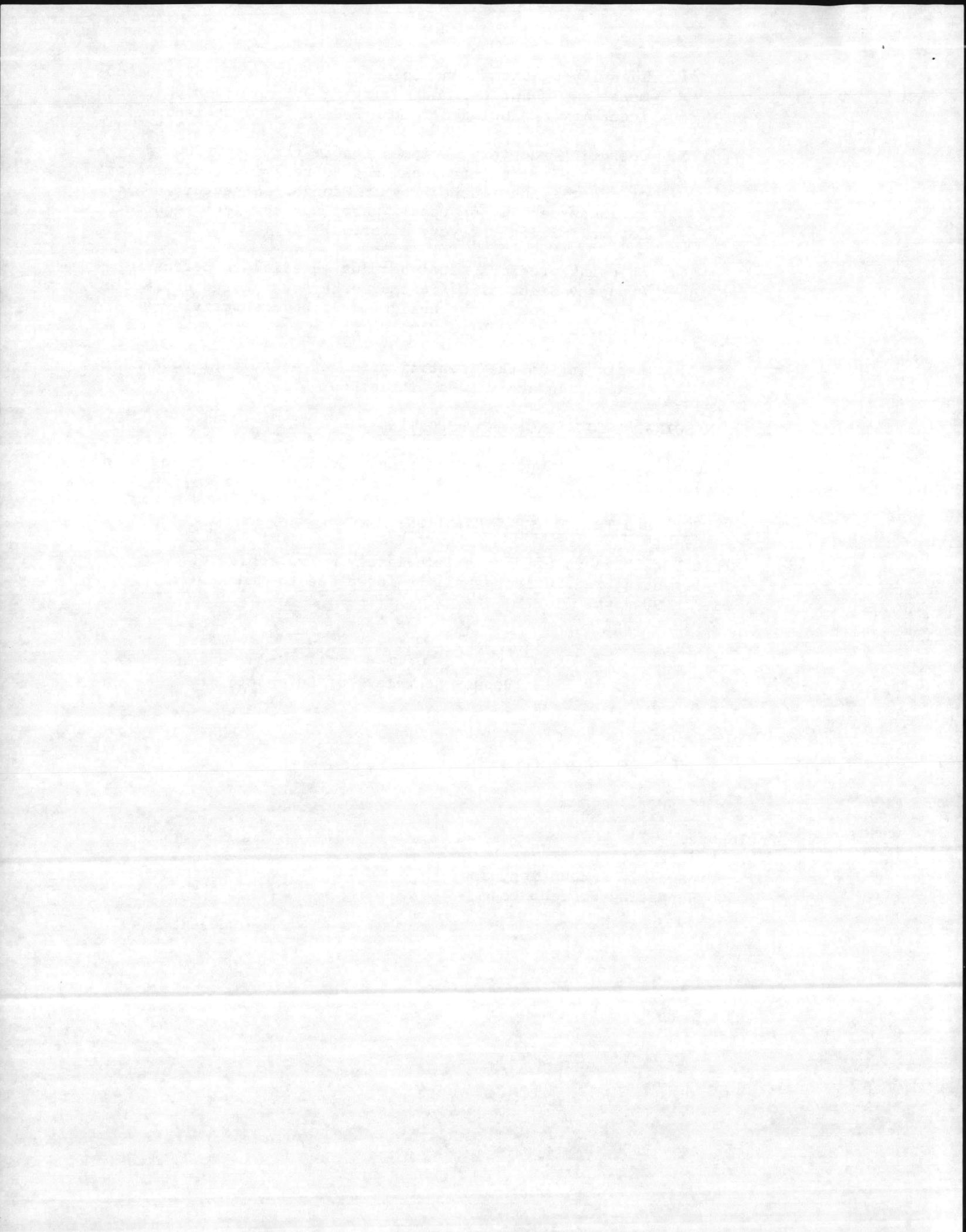
VI. EFFECTIVE DATE AND IMPLEMENTATION

This Directive is effective immediately. Two copies of implementing regulations shall be forwarded to the ASD(I&L) within 90 days.

  
Deputy Secretary of Defense

Enclosures - 2

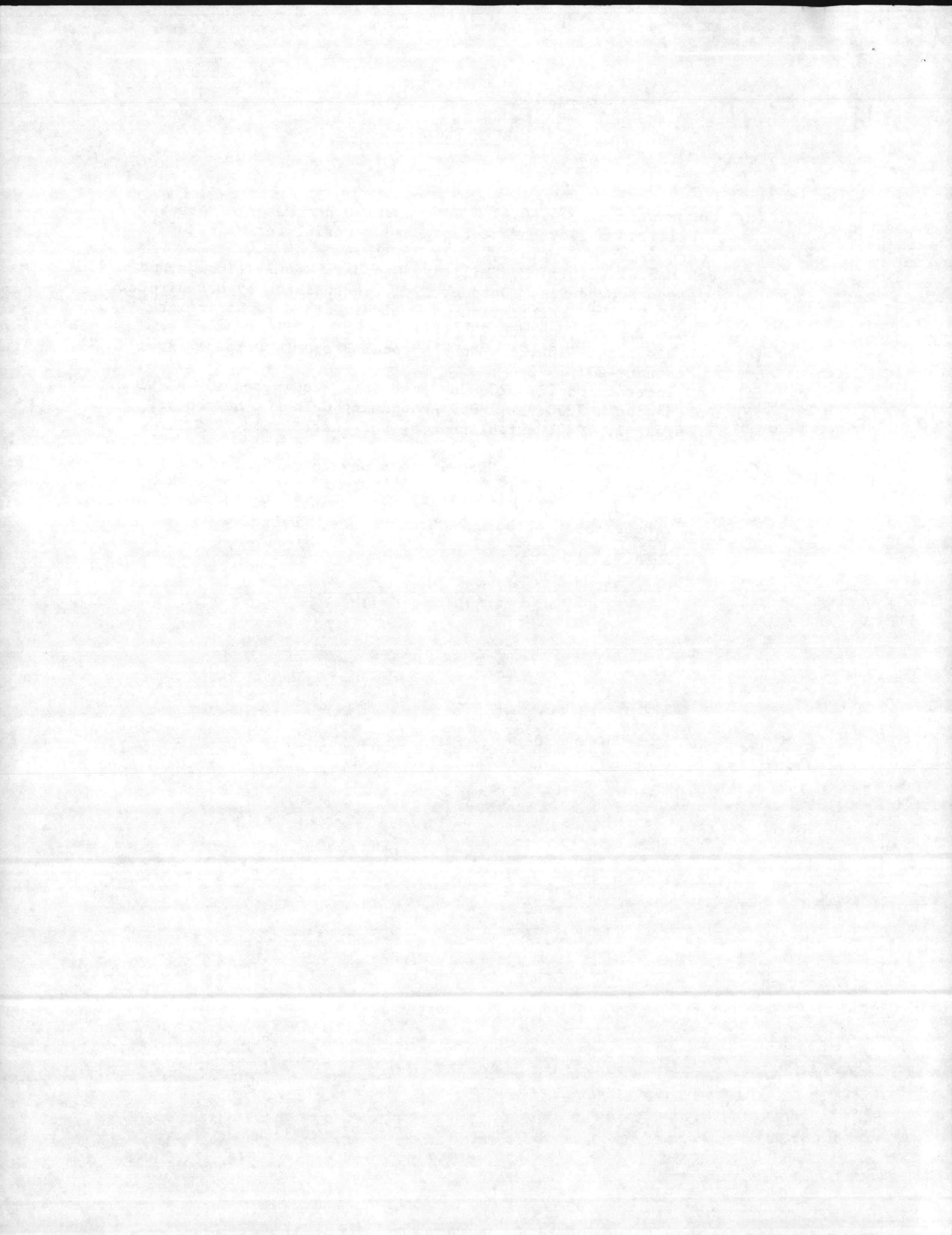
1. References
2. Financing, Accounting, and Reporting Procedures



Dec 1, 76

REFERENCES (Cont'd)

- (c) DoD Instruction 4140.41, "Government-Owned Materiel Assets Utilized as Government-Furnished Materiel for Major Acquisition Programs," July 26, 1974
- (d) DoD Manual 4140.17-M, "Military Standard Requisitioning and Issue Procedures," October 1971, established by DoD Directive 4000.25, "Administration of Military Standard Logistics Data Systems," March 23, 1971
- (e) DoD Directive 4160.21, "DoD Personal Property Disposal Program," February 23, 1972
- (f) DoD Instruction 7220.20, "Expense Data Requirements," April 11, 1968
- (g) DoD Handbook 7220.9-H, "DoD Accounting Guidance Handbook," August 1, 1972, established by DoD Instruction 7220.9, July 12, 1971
- (h) DoD Directive 7420.1, "Regulations Governing Stock Fund Operations," January 26, 1967
- (i) DoD Instruction 7420.11, "Chart of Accounts and Financial Reports for Department of Defense Stock Funds," February 26, 1974



Dec 1, 76

FINANCING, ACCOUNTING, AND REPORTING  
PROCEDURES FOR THE PRECIOUS METALS  
RECOVERY PROGRAM

**I. FINANCING**

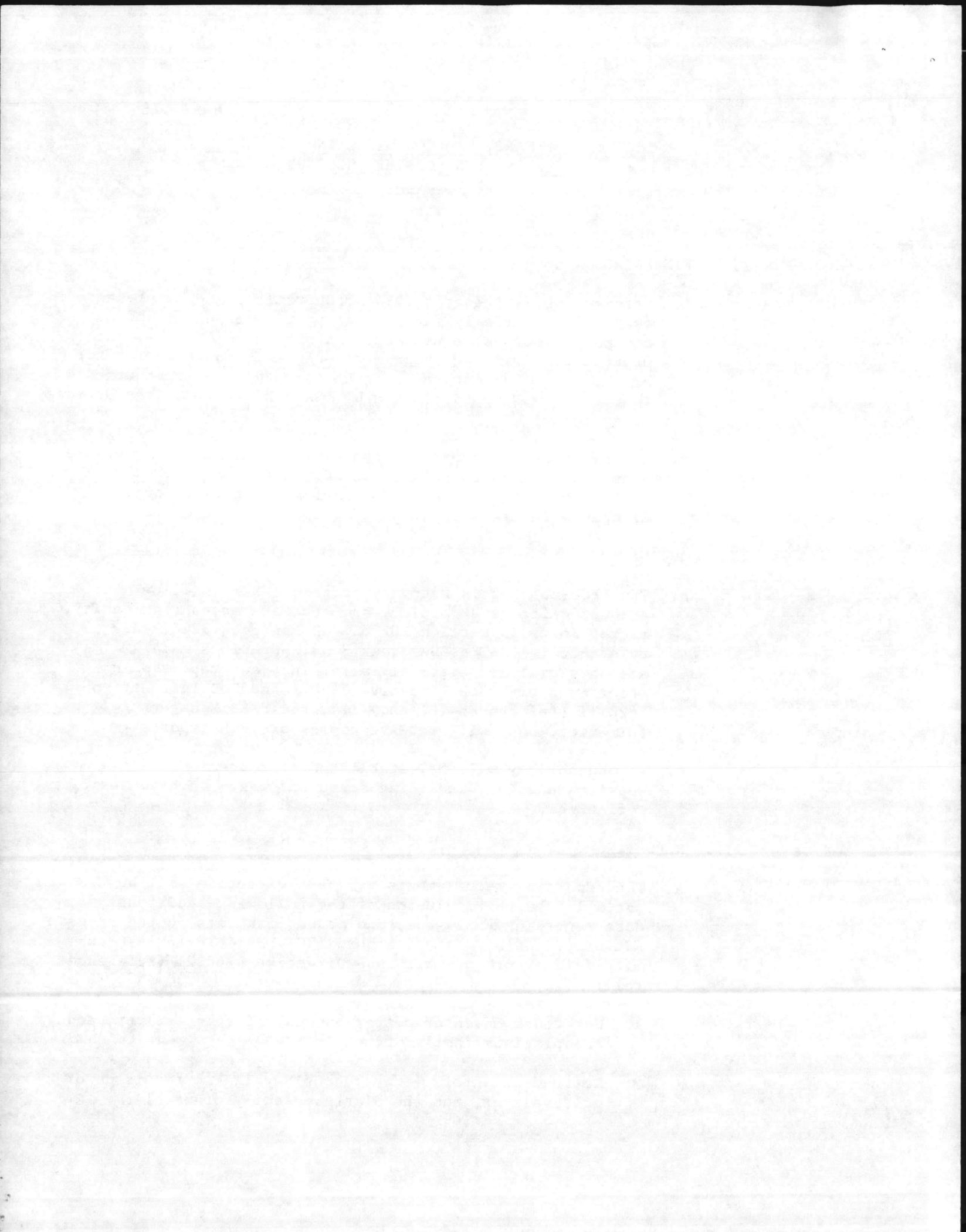
- A. Defense Supply Agency's (DSA's) Operations and Maintenance (O&M) will initially finance the program expenses and costs of special purpose equipment. As stated in IV.A.4., the program cost will be programmed, budgeted, and accounted for by the DSA. The accrued program costs will be reimbursed to the DSA O&M appropriation by DSA's Division of the Defense Stock Fund.
- B. The billings for program costs will include all appropriate elements of expense defined in DoD Instruction 220.20 (reference (f)), and costs of equipment acquisitions. Allocable indirect costs will be charged to the program.

**II. ACCOUNTING**

- A. The Precious Metals Recovery Program (PMRP) will be accounted for as a complete and separate accounting entity, as set forth in section 202 of DoD Handbook 7220.9-H, reference (g). The DSA Stock Fund's precious metals accounts will be separately maintained and reported in accordance with DoD Directive 7420.1 and DoD Instruction 7420.11 (references (h) and (i)); the PMRP Manager (Director, DSA) will receive copies of such reports.
- B. Accountability will be established over precious-metal-bearing material, including scrap and waste on hand awaiting refinement.

**III. REPORTING**

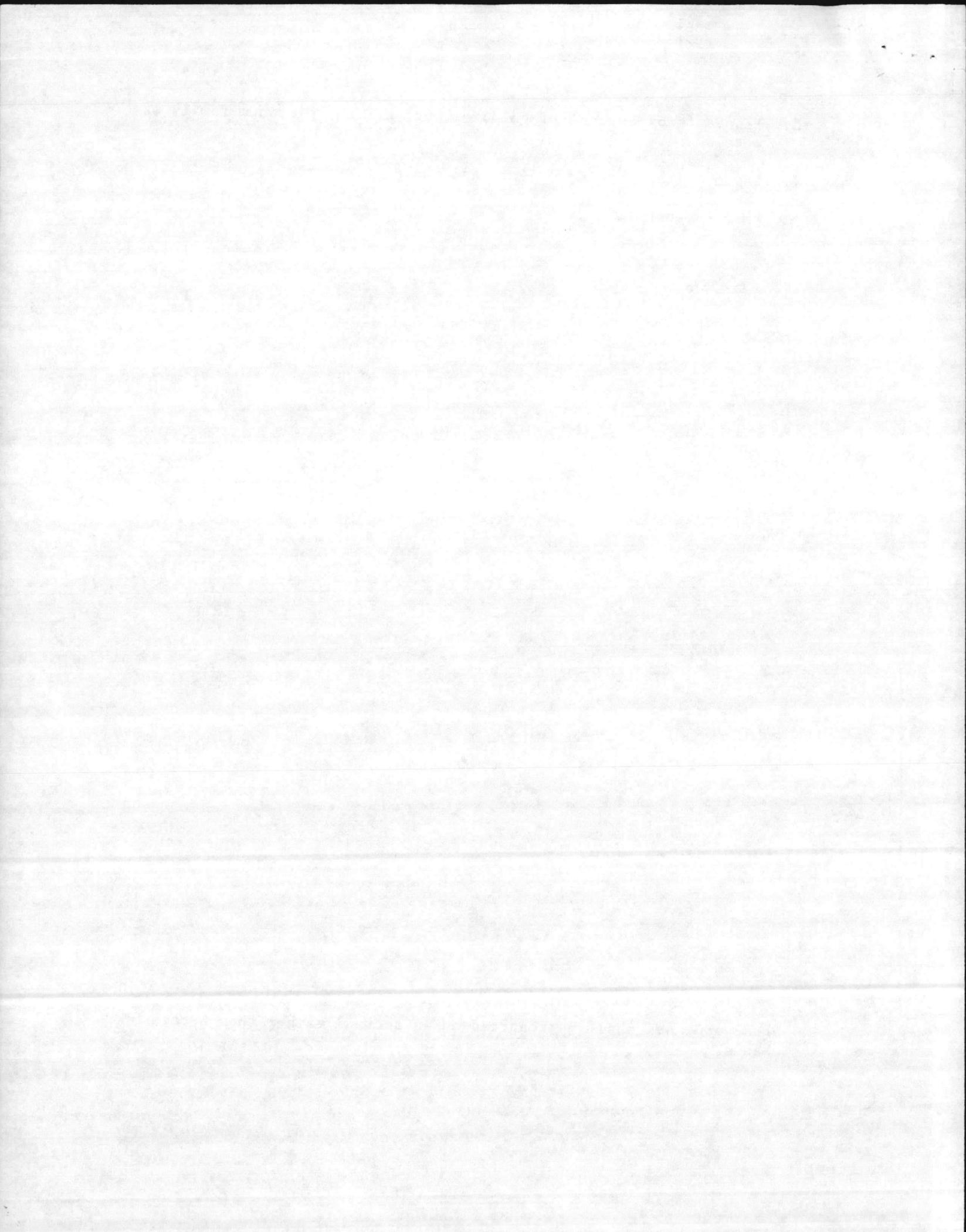
- A. The reporting requirements for this Directive will be satisfied by the inclusion of the following additional data regarding PMRP goals and accomplishments in the Program Administrator's Progress Report (RCS:DD-I&L(Q)(891)), submitted in accordance with DoD Directive 4160.21 (reference (e)):
1. Unrefined inventory (troy ounces) of gold, silver, and the platinum family of metals.
  2. Refined inventory (troy ounces) available for issue of gold, silver, and the platinum family of metals.



Dec 1, 76

3. Issues (troy ounces) of gold, silver, and the platinum family of metals.
4. Issue price of gold, silver, and the platinum family of metals.
5. PMRP expenses\*.

\*PMRP expenses shall be reported on an accrual rather than a cash basis.



**PRECIOUS METALS RECOVERY EQUIPMENT CUSTODIAL RECEIPT**

*(Prescribing Authority: IAW DoD 4160.21-M, Chapter XVII)*

DATE

*3-5-87*

**CUSTODIAN INSTRUCTIONS:** Complete ONLY Part A of form. PROMPT ACTION IS REQUIRED. The completed form must be mailed within fifteen (15) working days after you receive the item of equipment. Insure the use of the correct DoDAAC. Indicate whether condition of equipment is NEW, GOOD, FAIR or POOR. Mail Copy 1 to DPDS-RP, Copy 2 to your PMAR and retain copy 3 for your records. Document custody of one piece of equipment on this form. If additional copies of this form are required to assign/reassign custody, of precious metals equipment, contact your PMAR.

**PART A - CUSTODIAN DATA**

CUSTODIAN (Print Name)

*Ssgt. JTR RUARK*  
SIGNATURE OF CUSTODIAN

ACTIVITY MAILING ADDRESS

*TRAINING Audio Visual Support Ctr (TAVSC)  
2nd MARINE DIV.  
CAMP LEJEUNE, N.C. 28542*

TELEPHONE

*AV 424-1972/3733*

ACTIVITY DODAAC NUMBER

*M93177*

DATE OF INSTALLATION

MILITARY CUSTODIANS ONLY  
PCS/ETS DATE

THE FOLLOWING RECOVERY UNIT IS PHYSICALLY LOCATED AT THIS ACTIVITY

MANUFACTURER

*ROCONEX (Rotex)*

SERIAL NO.

*734843JF*

MODEL

*ULT II*

CONDITION

*FAIR*

LOCATION

*BLDg. 54*

REMARKS

*Custodial Receipt Form NOT ON FILE*

**PMAR INSTRUCTIONS:** Complete all information known prior to transmittal to custodial activity. Items 1 through 37 are mandatory.

**PART B - PMAR DATA**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
<input type="checkbox"/>													
PMAR CODE	ACTIVITY CODE			SUFFIX		STATE		DODAAC					

15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LOCATION OF EQUIPMENT WITHIN ACTIVITY																							

38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
<input type="checkbox"/>															
ANNUAL POTENTIAL					EQUIPMENT TYPE					MODEL					

54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70
<input type="checkbox"/>																
SERIAL NUMBER								INSTALLATION DATE				EQUIPMENT COST (\$)				

**PRECIOUS METALS RECOVERY EQUIPMENT CUSTODIAL RECEIPT**

(Prescribing Authority: IAW DoD 4160.21-M, Chapter XVII)

DATE **3-5-87**

**CUSTODIAN INSTRUCTIONS:** Complete ONLY Part A of form. PROMPT ACTION IS REQUIRED. The completed form must be mailed within fifteen (15) working days after you receive the item of equipment. Insure the use of the correct DoDAAC. Indicate whether condition of equipment is NEW, GOOD, FAIR or POOR. Mail Copy 1 to DPDS-RP, Copy 2 to your PMAR and retain copy 3 for your records. Document custody of one piece of equipment on this form. If additional copies of this form are required to assign/reassign custody, of precious metals equipment, contact your PMAR.

**PART A - CUSTODIAN DATA**

CUSTODIAN (Print Name) <b>Sgt. R. R. R. R. R.</b>		ACTIVITY MAILING ADDRESS <b>TRAINING Audio Visual Support Ctr (TAVSC) 2ND MARINE DIV. CAMP LEJEUNE, N.C. 28542</b>	
SIGNATURE OF CUSTODIAN <i>[Signature]</i>			
TELEPHONE <b>TAV 484-1972/3733</b>			
ACTIVITY DODAAC NUMBER <b>M93177</b>	DATE OF INSTALLATION	MILITARY CUSTODIANS ONLY PCS/ETS DATE	

**THE FOLLOWING RECOVERY UNIT IS PHYSICALLY LOCATED AT THIS ACTIVITY**

MANUFACTURER	SERIAL NO.	MODEL	CONDITION	LOCATION
<b>ROCONEX(Retex)</b>	<b>734843JF</b>	<b>ULT II</b>	<b>FAIR</b>	<b>Bldg. 54</b>

REMARKS  
*custodial receipt form not on file*

PMAR INSTRUCTIONS: Complete all information known prior to transmittal to custodial activity. Items 1 through 37 are mandatory.

**PART B-PMAR DATA**

1	2	3	4	5	6	7	8	9	10	11	12	13	14									
<input type="checkbox"/>																						
PMAR CODE	ACTIVITY CODE			SUFFIX		STATE		DODAAC														
15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
<input type="checkbox"/>																						

**LOCATION OF EQUIPMENT WITHIN ACTIVITY**

38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	
<input type="checkbox"/>																
ANNUAL POTENTIAL					EQUIPMENT TYPE					MODEL						
54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70
<input type="checkbox"/>																
SERIAL NUMBER							INSTALLATION DATE				EQUIPMENT COST (\$)					