

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR'S ORGANIZATIONAL, DIRECT SUPPORT
AND GENERAL SUPPORT MAINTENANCE MANUAL

PETROLEUM BASE LABORATORY ASSEMBLY
NSN 6640-00-303-4940

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REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, U.S. Army Troop Support Command, ATTN: AMSTR-MCTS, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished directly to you.

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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. SCOPE.

This manual is for your use in operating and maintaining Petroleum Base Laboratory Assembly, NSN 6640-00-303-4940. It provides instructions for laying out, assembling, operating, and maintaining the base laboratory and major components and for performing required tests and analysis of petroleum products. Information contained must be supplemented by reference to related publications (Appendix A) that describe authorized testing procedures.

1-2. MAINTENANCE FORMS AND RECORDS.

a. Equipment maintenance forms and procedures are contained in TM38-750, The Army Maintenance Management System (TAMMS).

b. Blank forms to be used in the preparation of records, reports and requisitions pertaining to the Base Laboratory are as follows:

- (1) DA Form 285 (Accident Report).
- (2) DA Form 285-1 (Accident Report-Continuation Sheet).
- (3) DA Form 285-2 (Accident Report-Coding and Key Punch Sheet).
- (4) DA Form 1051 (Record of Injury).
- (5) DA Form 1804 (Petroleum Sample Tag).
- (6) DA Form 2077 (Petroleum Products Laboratory Analysis Report).
- (7) DA Form 2407 (Maintenance Request).
- (8) DA Form 2407-1 (Maintenance Request-Continuation Sheet).
- (9) DD Form 6 (Report of Packaging and Handling Deficiencies).
- (10) DD Form 200 (Report of Survey).
- (11) DD Form 250 (Material Inspection and Receiving Report).
- (12) DD Form 250c (Material Inspection and Receiving Report-Continuation Sheet).
- (13) DD Form 250-1 (Tanker/Barge Material Inspection and Receiving Report).

- (14) DD Form 1425 (Specifications and Standards Requisition).
- (15) SF 361 (Discrepancy in Shipment Report).
- (16) SF 368 (Quality Deficiency Report).

1-3. HAND RECEIPT.

Hand receipts for Components of End Item (COEI), Basic Issue Items (BII), and Additional Authorization List (AAL) items are published in a Hand Receipt manual, TM5-6640-214-14-HR. This manual is published to aid in property accountability and is available through:

Commander
U.S. Army Adjutant General Publication Center
ATTN: ADGL-OD
2800 Eastern Blvd.
Baltimore, Md. 21220

1-4. ADMINISTRATIVE STORAGE.

a. Preparing for Limited Storage.

- (1) Disconnect service lines from gas, compressed air, electric, and drain lines, and disconnect all lines between cabinets.
- (2) Place terminal junctions and covers in proper cabinets.
- (3) Remove panel boxes and other controls, and replace in proper cabinets or units.
- (4) Disassemble all apparatus that is not permanently mounted on elevating platforms or within cabinets.
- (5) Store in drawers or compartments all equipment and apparatus that requires storing; fasten firmly.
- (6) Place flexible metal tubing in place on rear of pipe racks. Load pipe racks to storage or shipping position, and lock racks in place.
- (7) Drain all oil from equipment such as vacuum pumps, air compressors, etc.
- (8) Draw leveling devices up from floor by means of their leveling bolts.
- (9) Lower the elevating platforms of the cabinets, and lock in the lowered position; place the elevating platform covers in place and fasten.

(10) Place the cabinets on their wooden shipping platforms (figs. 2-1 and 2-2) and fasten in place. Place upper sections of shipping containers (figs. 2-1 and 2-2) in position on shipping platforms and lock in position by means of the fastening devices.

(11) Place all other items, large containers of chemicals, etc., on shipping platforms or within crates, and fasten in position; place covers, upper sections, etc., on the containers and fasten securely.

b. Preparing for Extended Storage. To ensure safe transit and to protect equipment against weather, follow the principles and instructions described in TM 38-250. Cabinet units packed in their specially constructed armor ply shipping containers need no further packing. Cabinets and containers are so constructed that no damage will result from shipping or storage. To assure that the shipping containers are relatively water and vapor tight, apply a strap of water resistant tape over the joints of the shipping cases and the supporting platforms prior to storage or shipment. For further information, refer to TM 740-90-1 (Administrative Storage).

1-5. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE.

a. General. Demolition should be carried out only upon orders of the commanding officer. Destruction should be as complete as available time, equipment, and personnel allow. If thorough demolition of all parts cannot be accomplished, destroy the most important parts. Because of the flammable and explosive nature of many of the chemicals, equipment, and samples contained in the base laboratory, adequate safety precautions must be taken to protect personnel involved in demolition.

b. Detailed Procedures.

(1) Smash all apparatus, equipment, glassware, and controls. Make certain precision instruments are demolished.

(2) Break and/or bend all copper tubing and smash valves.

(3) Cut all wiring, conduits, and service lines.

(4) Remove chemicals from drawers and cabinets; pour out chemicals and smash containers.

(5) Demolish drawers, cabinets, fume hood, vacuum pumps, air compressor, and refrigeration units, using heavy object.

(6) Demolish shipping containers and crates.

(7) Remove fire extinguishers and discharge contents outside of laboratory building.

(8) Immediately before leaving laboratory building, open gas valves on all gas cylinders.

(9) If available, pour gasoline, oil, or other flammable liquid over units of the laboratory, and ignite by incendiary grenades, rockets, gunfire, or other available means.

CAUTION

Do not use matches to ignite laboratory if gas cylinders were opened prior to leaving the building; escaping gases may make the building highly explosive. Keep all personnel at a safe distance when laboratory building is being demolished by fire and/or gunfire, because of explosive nature of many of the items within the building.

b. Additional Information. Additional information on procedures for destruction of equipment to prevent enemy use, refer to TM 750-244-3.

1-6. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR).

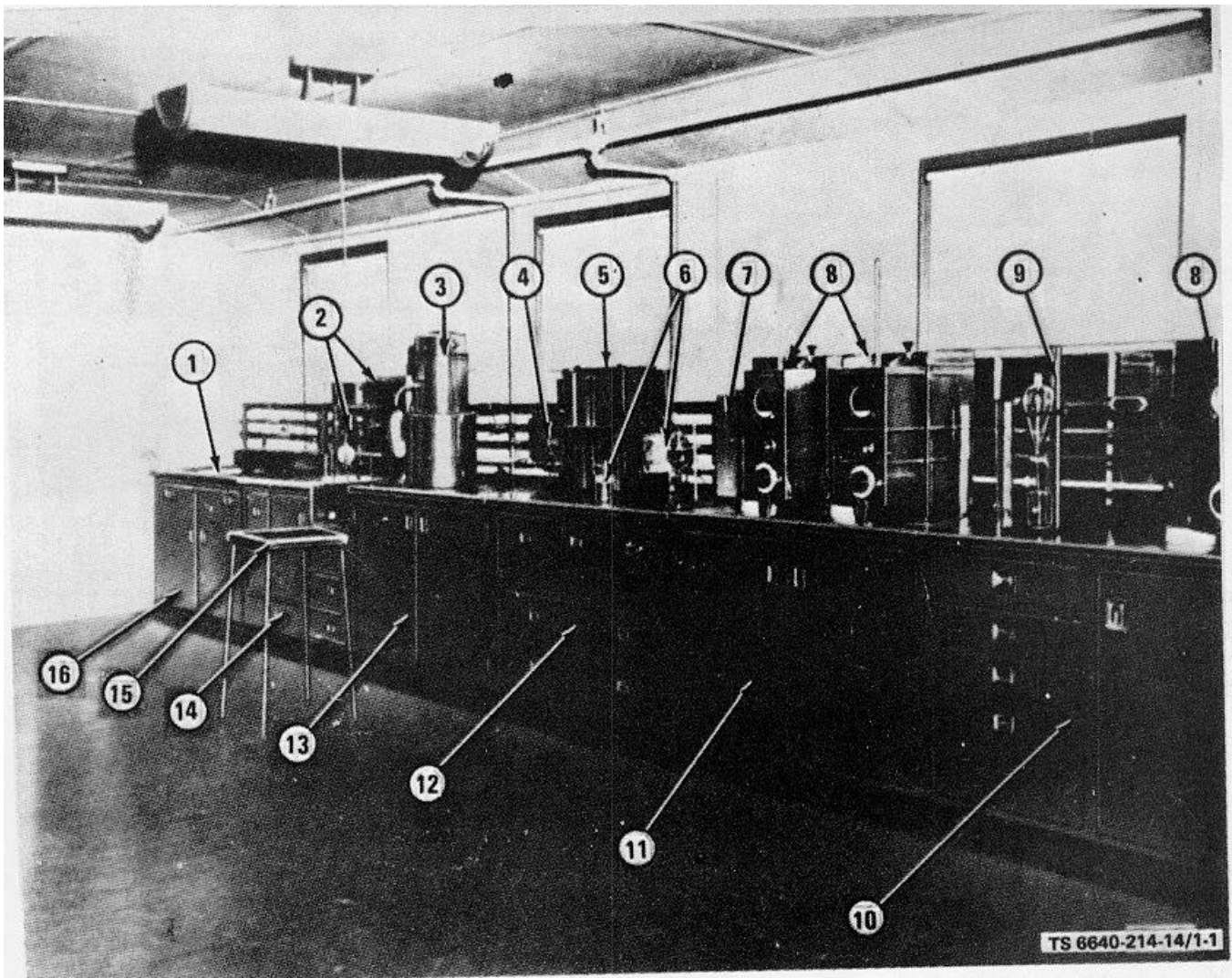
EIR's will be prepared on DA Form SF 368, Quality Deficiency Report. Instructions for preparing EIR's are provided in DA Pam 738-750, The Army Maintenance Management System (TAMMS). EIR's should be mailed directly to Commander, Headquarters, U.S. Army Troop Support Command, ATTN: AMSTR-QX, 4300 Goodfellow Blvd., St. Louis, MO. 63120-1798. A reply will be furnished directly to you.

Section II. DESCRIPTION AND DATA

1-7. GENERAL.

The petroleum base laboratory assembly (figs. 1-1 thru 1-5) is used at fixed installations to perform certain designated tests on petroleum products, such as gasoline, diesel fuel, kerosene, lubricating oil and grease. The laboratory assembly includes 26 cabinets and all of the laboratory apparatus and materials required to perform its assigned function. At the rear of the cabinets, integral service lines for electricity, water, propane gas, compressed air, and drainage are mounted. The working space necessary for conducting the required laboratory tests is provided by the tops of the cabinet units. The units may be combined in various arrangements to fully utilize available floor space and to permit a compact and efficient work area. After a suitable laboratory layout is selected, the cabinets are joined by coupling the service lines. Laboratory apparatus and materials are listed in Appendix C.

Change 1 1-4



Legend for figure 1-1:

- | | |
|--|---|
| 1. Sink | 10. Single distillation apparatus cabinet |
| 2. Oxidation stability apparatus | 11. Double distillation apparatus cabinet |
| 3. Water still | 12. Storage cabinet |
| 4. Automatic control for water still | 13. Water still cabinet |
| 5. Bookcase | 14. Oxidation stability cabinet |
| 6. Sulfur determination apparatus, bomb method | 15. Collapsible laboratory stool |
| 7. Surface type panel board | 16. Sink cabinet |
| 8. Distillation apparatus | |
| 9. Separatory funnel and beaker with support stand | |

Figure 1-1. Unit of Cabinets Assembled Along Left Wall, Forward Portion.