

TECHNICAL MANUAL

**UNIT, INTERMEDIATE DIRECT SUPPORT AND
INTERMEDIATE GENERAL SUPPORT MAINTENANCE MANUAL**

**DRILLING SYSTEM, WELL, ROTARY,
TRUCK MOUNTED, AIR TRANSPORTABLE,
600 FEET CAPACITY
MODEL LP-12
NSN 3820-01-246-4276**

This technical manual is an authentication of the manufacturer's commercial literature and does not conform with the format and content requirements normally associated with Army technical manuals. This technical manual does, however, contain all essential information required to operate and maintain the equipment.

Approved for public release; distribution is unlimited.

INTRODUCTION

1. SCOPE

This manual covers the 600 Feet Capacity Well Drilling System, Model LP-12, NSN 3820-01-246-4276. This manual consists of six volumes.

2. DRILLING SYSTEM

The Drilling System consists of three main components; a well drilling machine; a support vehicle (rig tender); and a well completion kit. Government furnished (GFE) incorporated as part of the system include a trailer mounted power unit and 3,000 gallon, collapsible, fabric water tank.

3. DRILLING MACHINE VOLUME 1

The drilling machine is a truck mounted rotary well drilling machine consisting of a 32 foot mast, three drum drawworks assembly, rotary table, mud pump and air compressor. The components of the drilling machine are powered by the truck engine.

4. SUPPORT VEHICLE VOLUME 2

The support vehicle is a truck mounted vehicle consisting of a 1,000 gallon water tank, hydraulically driven water pump, an electric fuel pump and fuel dispensing nozzle, a welder-generator assembly, and an electro-hydraulic crane. The support vehicle also provides a storage area for transport of drill pipe, collars, hand tools, operating and accessory equipment for the drilling machine, and the well completion equipment.

5. TRUCKS VOLUMES 3, 4 and 5

The drilling machine and support vehicle are mounted on truck chassis of the same model. The drilling machine truck has a special design low profile cab. The truck is a diesel engine powered, 6x6 vehicle with a transfer case to transfer engine power to truck mounted components.

6. WELL COMPLETION -VOLUME 6

The well completion kit consists of equipment necessary for completion of a 600-ft. water well.

7. OPERATION INSTRUCTIONS

Refer to TM5-3820-256-10 for Operation, Preventive Maintenance and Lubrication of the Well Drilling System.

8. REPAIR PARTS

For repair parts refer to TM5-3820-256-24P, Repair Parts and Special Tools List.

9. APPENDIXES VOLUME 6

Maintenance Allocation Chart is contained in Appendix A; Torque Requirements are contained in Appendix B.

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CHAPTER 1

GENERAL INFORMATION

1-1 DESCRIPTION.

1-1.1 Drilling System. The well drilling system consists of three main components; a drilling machine; a support vehicle; and a well completion equipment kit. The system is designed to be transportable by highway, rail, marine and air modes. Government furnished equipment (GFE) incorporated as part of the system include a trailer mounted power unit and 3,000 gallon, collapsible, fabric water tank.

1-1.2 Drilling Machine. The drilling machine is a truck mounted rotary well drilling machine consisting of a 32 ft. mast, three-drum drawworks assembly, rotary table, mud pump and air compressor. The components of the drilling machine are powered by the truck engine. Operation and maintenance instructions for the drilling machine are contained in this manual volume.

1-1.3 Support Vehicle. The support vehicle is a truck mounted vehicle consisting of a 1,000 gallon water tank, hydraulically driven water pump, an electric fuel pump and fuel dispensing nozzle, a welder-generator assembly, and an electro-hydraulic crane. The support vehicle also provides a storage area for transport of drill pipe, collars, hand tools, operating and accessory equipment for the drilling machine, and the well completion equipment. Operation and maintenance instructions are contained in Volume 2 of this manual.

1-1.4 Well Completion Equipment. The well completion kit consists of equipment necessary for completion operations of a 600-ft. well. Instructions for use of well completion equipment are contained in Volume 6 of this manual.

1-1.5 Trucks. The drilling machine and support vehicle are mounted on truck chassis of the same model. Truck operator instructions are contained in Volume 3 of this manual. Service and maintenance instructions are contained in Volumes 4 and 5 of this manual.

1-2 CAPABILITIES.

1-2.1 Drilling System Capabilities.

- a. Air transportable.
- b. Equipped for rotary drilling with mud or air and air percussion drilling.
- c. Equipped to drill wells up to 600 ft.
- d. Adaptable for drilling to depth of 1500 ft.
- e. Truck mounted for mobility.
- f. Three mode water transfer pumping system.

1-3 REPAIR PARTS.

1-3.1 Repair Parts. For repair parts refer to TM5-3820-256-24P, Repair Parts and Special