

Rotary Drill – Tractor Mounted

Auger, rotary type boring and subsurface exploration drilling machine installed onto a specially designed John Deere Model 5100M tractor, bought separately off a current state contract.

The following specifications are for the drilling machine and installation on a tractor carrier only. The tractor, its accessories, and shipping charges are included on a separate contract from other vendors.

Rotary drill, tractor mounted, new and of current model, equipped as advertised by the manufacturer, to meet or exceed the following minimum specifications:

Proposed Drill: Make: _____ Model: _____

Non-Restrictive Clause: Any use of brand name or equal within this specification is to be considered a reference for the purpose of describing the standard of quality, performance, and characteristics desired. It is not intended to limit or restrict competition.

The vendor must respond to each of the following statements. Specifications listed are **minimum** requirements that must be met for a bidder to qualify for an award. A “YES” response means the bidder guarantees that they meet or exceed the requirement. A “NO” response means the bidder cannot meet the requirement and will not be considered. The bidder must supply printed literature that shows compliance with each requirement of the Specifications and, if on inspection, an item is found not to comply, the unit will be rejected.

Descriptive literature shall be furnished to substantiate the details specified throughout this bid.

SPECIFICATIONS

Purpose: This equipment will be used for soil sampling, and subsurface exploration work. The drill shall be capable of performing auger borings in unconsolidated formations with conventional flight augers. The drill shall have the capability of productively using currently popular geo-exploration methods and techniques. The drill shall be capable of rotary drilling applications.

Comply Yes/No: _____

Rotary Drive: Hydraulic drive through multi-speed transmission, 5-speed minimum, driving a right-angle gearbox using tapered roller bearings in an oil bath. The spindle shall have a minimum of 5-speeds in forward and reverse. The spindle shall have a bore of 2-3/4-inches and terminate in a circular multi-bolt flange that will bolt up to a 1-5/8-inch hex safety drive coupling. Rotary head system pressure is set at 2500 PSI. Rotary drive system is fixed to feed frame and does not move off hole.

Comply Yes/No: _____

Vertical Drive: Hydraulic cylinder mounted rotary drive providing dual directional movement up and down. This hydraulic vertical drive shall have a minimum pullback force of 17,500 pounds at 70 FPM and a minimum ram force of 13,000 pounds at 90 FPM. The drive frame shall have a permanent vertical position with a minimum 65" of feed travel and shall have the ability to move side to side.

Comply Yes/No: _____

Power Unit: The drill system shall be mounted to a John Deere Model 5100M tractor, provided by the state, and bought off an existing state contract. The drill will be powered through the tractor's rear mounted power take off putting out 85 PTO HP at 2500 RPM.

Comply Yes/No: _____

Hydraulic System: Hydraulic components of the drill system shall be powered by a heavy-duty tandem gear pump. Primary pump shall be used exclusively for driving the rotary head. Secondary pump shall drive vertical feed, water pump and other auxiliary functions. Return oil shall pass through oil cooler and a replaceable element filter before returning to a cool flow hydraulic oil tank. Hydraulic pump shall be mounted to a John Deere 5100M rear facing PTO shaft.

Comply Yes/No: _____

Driller's Control Panel: All controls and gauges needed for the various drilling operations shall be placed in such a manner as to be easily accessible and convenient for the drill operator while always permitting a view of the drilling operation. The driller's control panel shall be mounted on the left rear of the drill. Instrumentation and controls shall include manual control valves with adjustable spring type relief for both primary and auxiliary drilling functions. Auxiliary non-drilling functions may be electric over hydraulic, but all drilling operations shall be controlled hydraulically. Control panel shall be arranged in logical manner for easy operation and identification with all controls labeled. The control panel shall include all gauges and controls for all drilling functions as well as power sources. A manual reset button shall be included for use after the safety system has been engaged. A metal locking cover plate shall be included on the control panel for safety and security purposes when drill is not in use.

Comply Yes/No: _____

Safety Shut-Down System: Emergency shut-down system shall when activated automatically stop the spinning drill spindle by a means of starving the rotating spindle drive of hydraulic fluid, while at the same time cutting power to the drill. An emergency shutdown button shall be included at the drillers control panel, on the right, rear of the machine at the helper's station and on the front of the drill carrier.

Comply Yes/No: _____

Sliding Bases: Sliding bases shall be furnished for moving the drill sideways so that the spindle can be positioned to facilitate alignment of augers and drill rods and to provide clearance from the hole for handling augers, casing and other down-hole tools. The sideways slide base shall have at least 18-inches of travel and shall be hydraulically operated. The sliding bases shall have a replaceable wear plate between the metal slide surfaces.

Comply Yes/No: _____

Rotation Guard: A cage-type guard shall surround the drill string at the bottom of the rotary head. Cage shall swing open to driller's side for easy access of tool handling. A safety mechanism shall be included which will make the drills rotational circuit inoperable when the guard is open.

Comply Yes/No: _____

Color: The drill unit shall be manufacturer's standard black paint

Comply Yes/No: _____

Tooling: The drill shall be supplied with the following tools and accessory items:

- Twelve (12) 4-1/2"-diameter x 5'-long HEX-COR® auger bits
- Twelve (12) 1-5/8" field replaceable hex shank and U-Pin
- One (1) U-Pin for solid stem augers with 1-5/8" hex shank
- One (1) 4-1/2" x 5T style head with 4-bits and 1-5/8" hex shank
- One (1) 5T style replacement bits with carbide inserts, long shank type and retaining nail

- One (1) Auger holder “fork” x single handle type fitting solid stem augers with 1-5/8” hex connections

Comply Yes/No: _____

ADDITIONAL REQUIREMENTS

Service: The unit shall be delivered fully assembled and ready to operate. Factory-trained dealer representative is to inspect the unit upon delivery and provide receiving MDOT equipment manager with information on operational, service, and maintenance requirements.

Factory-trained dealer representative shall provide training up to 8 hours as needed for up to 5 employees. Training shall be scheduled ahead of delivery between equipment manager and factory-trained dealer representative for training to commence immediately following completion of delivery/set-up.

Bidder shall maintain a representative inventory of replacement parts and service facilities as well as all necessary diagnostic tools/equipment/software and software licenses needed for diagnosis, repair, service, and maintenance.

Acknowledge Yes/No: _____

Warranty: Clearly stated terms and conditions of all manufacturer warranties shall be included with the bid package. All materials, specialty equipment, or accessories that prove defective in normal operation within the warranty period shall be replaced or repaired by the manufacturer free of all cost to MDOT, including all material, labor, and transportation costs. Warranty replacement and/or repairs shall be furnished promptly by the successful bidder within a time not to exceed thirty (30) calendar days. **The bidder shall provide written assurance with the bid package regarding warranty repairs.**

The delivering dealer will have sole warranty responsibility (**all components**) for the first ninety (90) calendar days after acceptance of equipment.

The manufacturer shall provide, with the bid package, a list of warranty service locations within the State of Mississippi for all components of the unit (body, chassis, electrical, etc.) which may need warranty repair beyond the first ninety (90) calendar days.

Acknowledge Yes/No: _____

Workmanship: Workmanship throughout shall conform to the highest standard of commercially accepted practice for the class of work and shall result in a neat and finished appearance. The design which the manufacturer proposes must be of substantial and durable construction in all respects.

All parts shall be new. Used, reconditioned, or obsolete parts will not be accepted.

Acknowledge Yes/No: _____

Parts Availability: Dealer name and contact information located closest to the point of delivery:

Dealer Name: _____

Telephone: _____

Street Address: _____

City, State, ZIP: _____

Acknowledge Yes/No: _____

Tests and Testing: The complete unit and all working and moving parts and operating devices shall be thoroughly tested and put in operating condition by the manufacturer.

Prior to acceptance by MDOT, the manufacturer shall service and adjust the unit for operation.

Acknowledge Yes/No: _____

Literature:

Technical manuals: Operator's manual, service/maintenance manual, and parts book are to be made available in both hard copy and electronic (PDF file format on USB flash drive) versions. One set of technical manuals shall be provided with each unit upon delivery. Additional manuals may be ordered later.

Technical service bulletins: Successful bidder shall provide TSBs (technical service bulletins) for all units delivered to MDOT as they are published, regardless of the date of delivery. TSBs may be furnished in paper or electronic format and shall be updated regularly.

The following additional information shall be provided by the vendor at time of delivery (electronically if possible):

- Manufacturer's recommended service/preventive maintenance intervals
- Recommended fluids, lubricants, and their SAE equivalents

Two (2) copies of descriptive literature shall be furnished to substantiate the details specified in the bid.

Acknowledge Yes/No: _____

Certification: The manufacturer(s) shall furnish certification that the unit meets or surpasses current U.S. Department of Labor Occupational Safety and Health Administration (OSHA) Regulations, U.S. Department of Transportation Federal Motor Vehicle Safety Standards (FMVSS), and any other applicable Federal regulations.

Acknowledge Yes/No: _____

Certificate of Origin (if applicable): Mississippi Department of Transportation
Attention: Asset Management Division, 9301
P.O. Box 1850
Jackson, MS 39215