

NOISE FROM CONSTRUCTION EQUIPMENT AND
OPERATIONS, BUILDING EQUIPMENT,
AND HOME APPLIANCES

DECEMBER 31, 1971

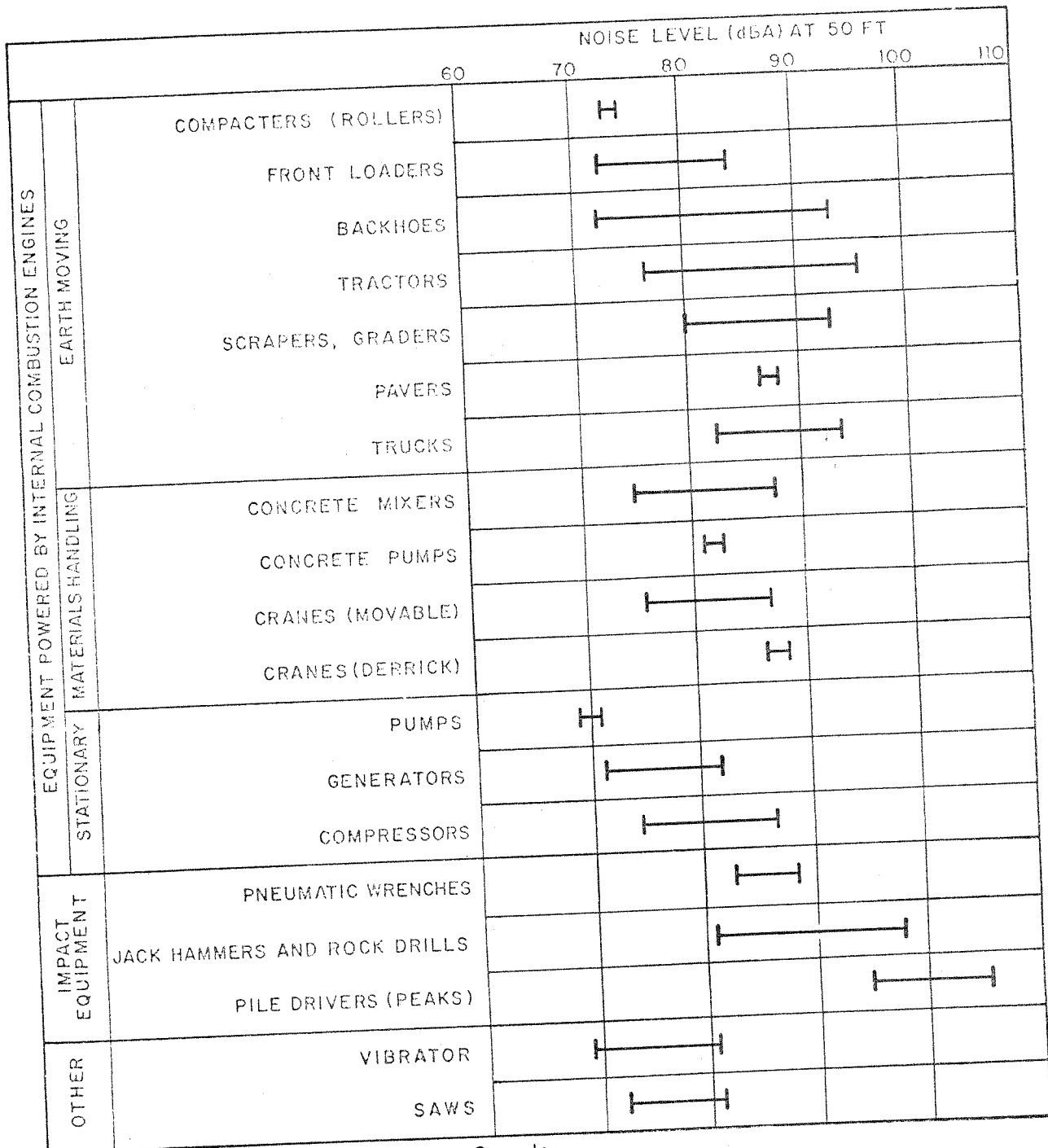
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under
CONTRACT 68-04-0047

for the

U.S. Environmental Protection Agency
Office of Noise Abatement and Control
Washington, D.C. 20460

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Note: Based on Limited Available Data Samples

FIG. 1. CONSTRUCTION EQUIPMENT NOISE RANGES.

building equipment (compactors, scrapers, graders, pavers, etc.). Internal combustion engines are used for propulsion (either on wheels or tracks) and for powering working mechanisms (buckets, arms, trenchers, etc.). Engine power varies from about 50 hp to over 600 hp. Engine noise typically predominates, with exhaust noise usually being most significant and with inlet noise and structural noise being of secondary importance. Other sources of noise in this equipment include the mechanical and hydraulic transmission and actuation systems, and cooling fans (often very significant). Typical operating cycles may involve one or two minutes of full-power operation, followed by three or four minutes at lower power.

Noise levels at 50 ft from earthmoving equipment range from about 73 to 96 dB(A). The greatest and most direct potential for noise abatement here lies in quieting the engine by use of improved mufflers.

Engine-powered materials-handling equipment such as cranes, derricks, concrete mixers, and concrete pumps, is used in a more-or-less fixed location; mobility of this equipment over the ground is not part of its major work cycle. Although noise from the working process (such as the clanking of aggregate in the concrete mixing bin) often is the most "identifiable" noise component, the dominant source of noise generally is the prime mover. Noise levels at 50 ft range from about 75 to 90 dB(A). The greatest potential abatement for noise again lies in engine quieting, with treatment of power transmission and working mechanisms being of secondary importance.

Stationary equipment, such as pumps, electric power generators and air compressors, generally runs continuously at relatively constant power and speed. Noise levels at 50 ft range