

Cost Effective Driven Piles

Air Hammer

Diesel Hammer

Hydraulic Hammer

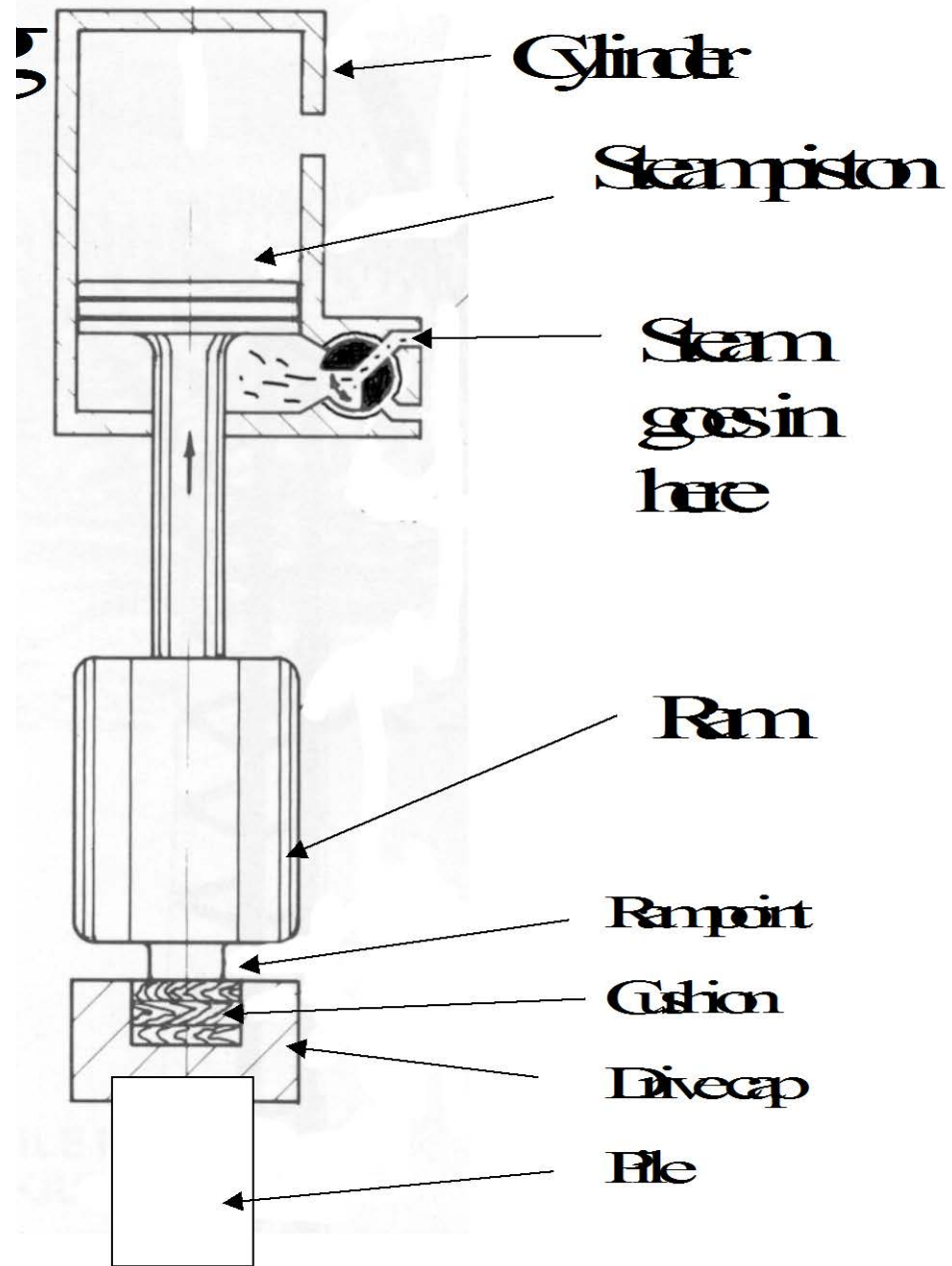
Air Hammer

Air is very compressible.

Infinitely variable stroke is not possible.



Air Hammer Operation

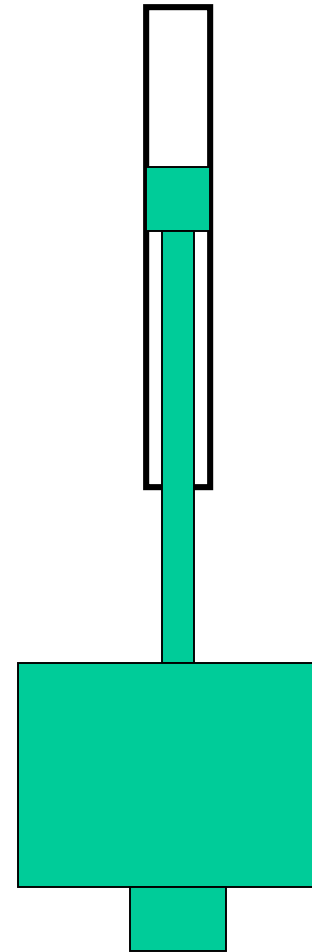
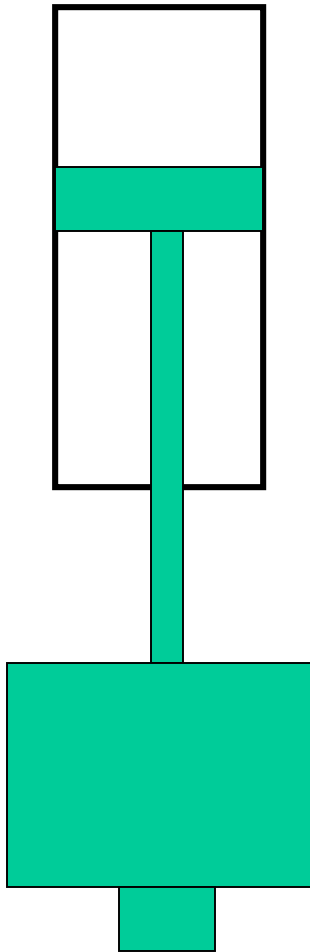


Hydraulic Hammers



Hydraulic oil is not compressible.
Directional changes can be instant.
Infinitely variable stroke is standard.

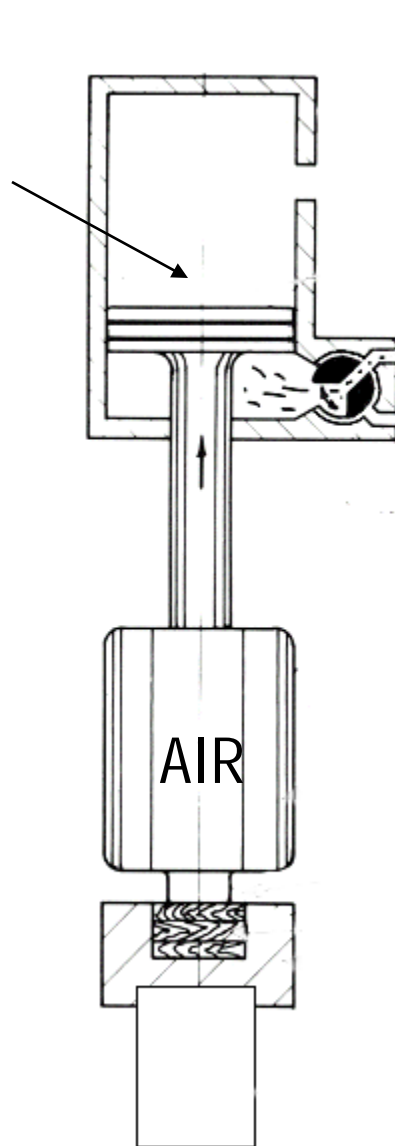
Air cylinder – Hydraulic cylinder



Air versus Hydraulic- Volume

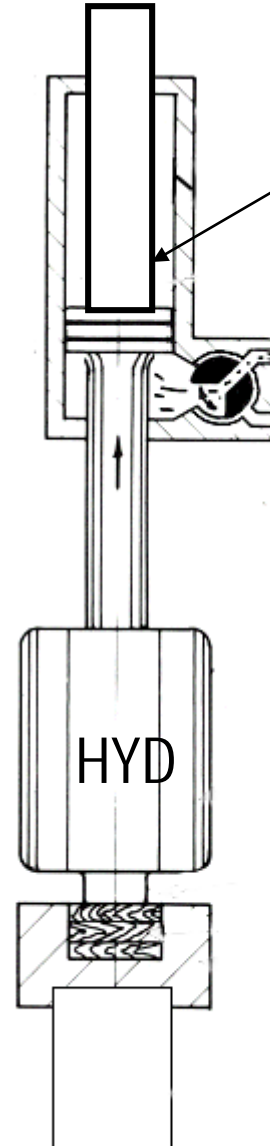
Lots of Air
and lower
pressure.

120 psi

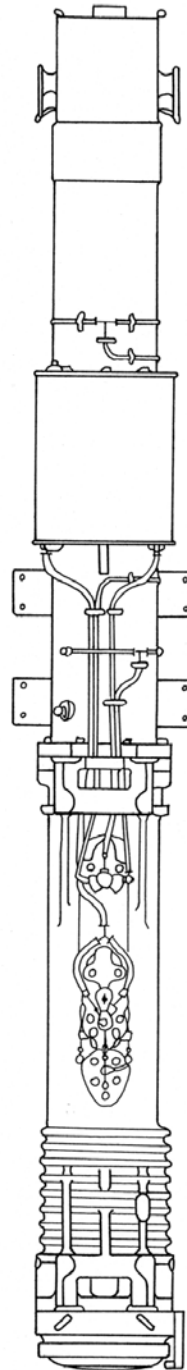


Not much
hydraulic oil
but higher
pressures.

Up to 5000 psi.



Diesel Hammers



Diesel Hammers

Good Points

Light and powerful

Longer strokes

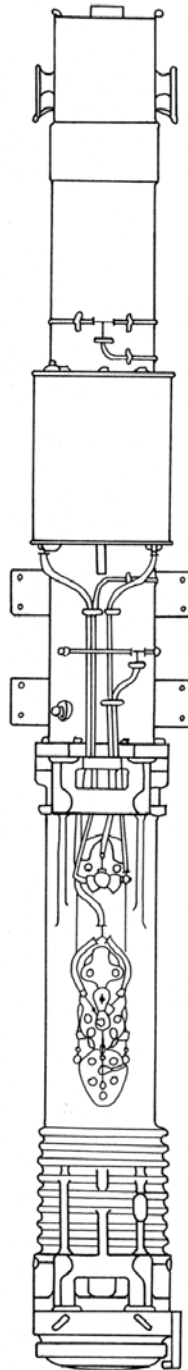
Warns pile before striking it

Drives steel piles better in
end bearing situations

Higher peak force

No hoses

No external power source



Bad Points

Stroke adjustment limited

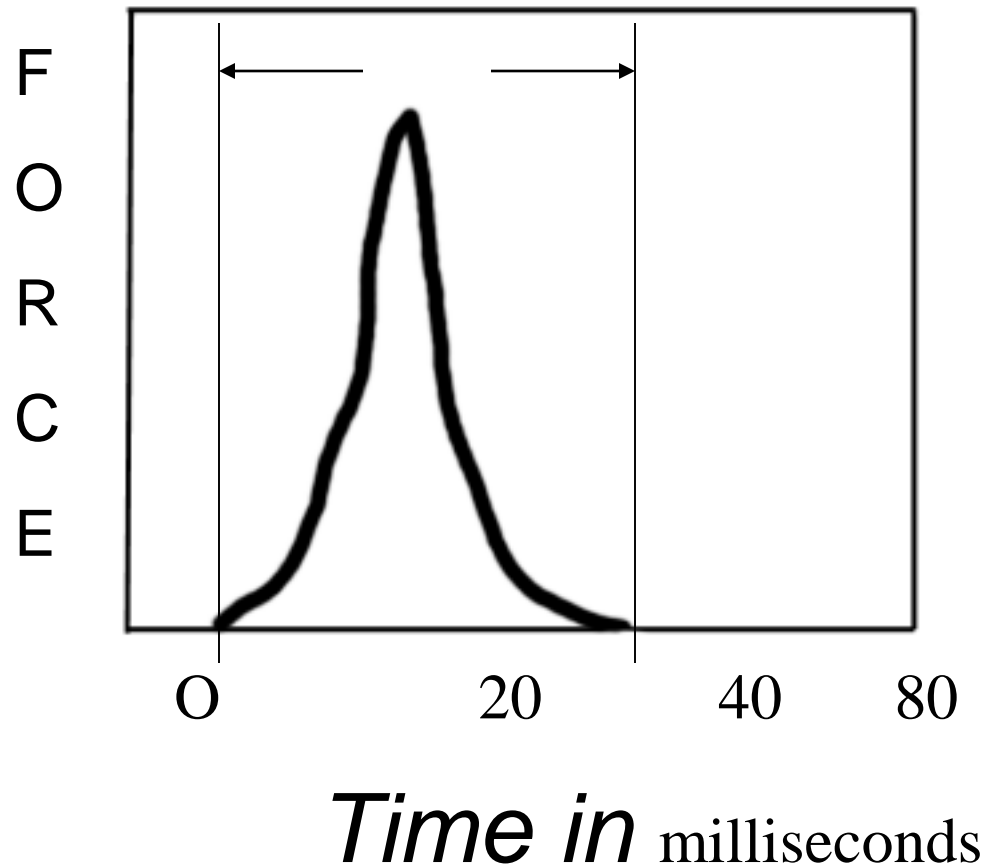
Starting problems in soft soil

Smoke is visible

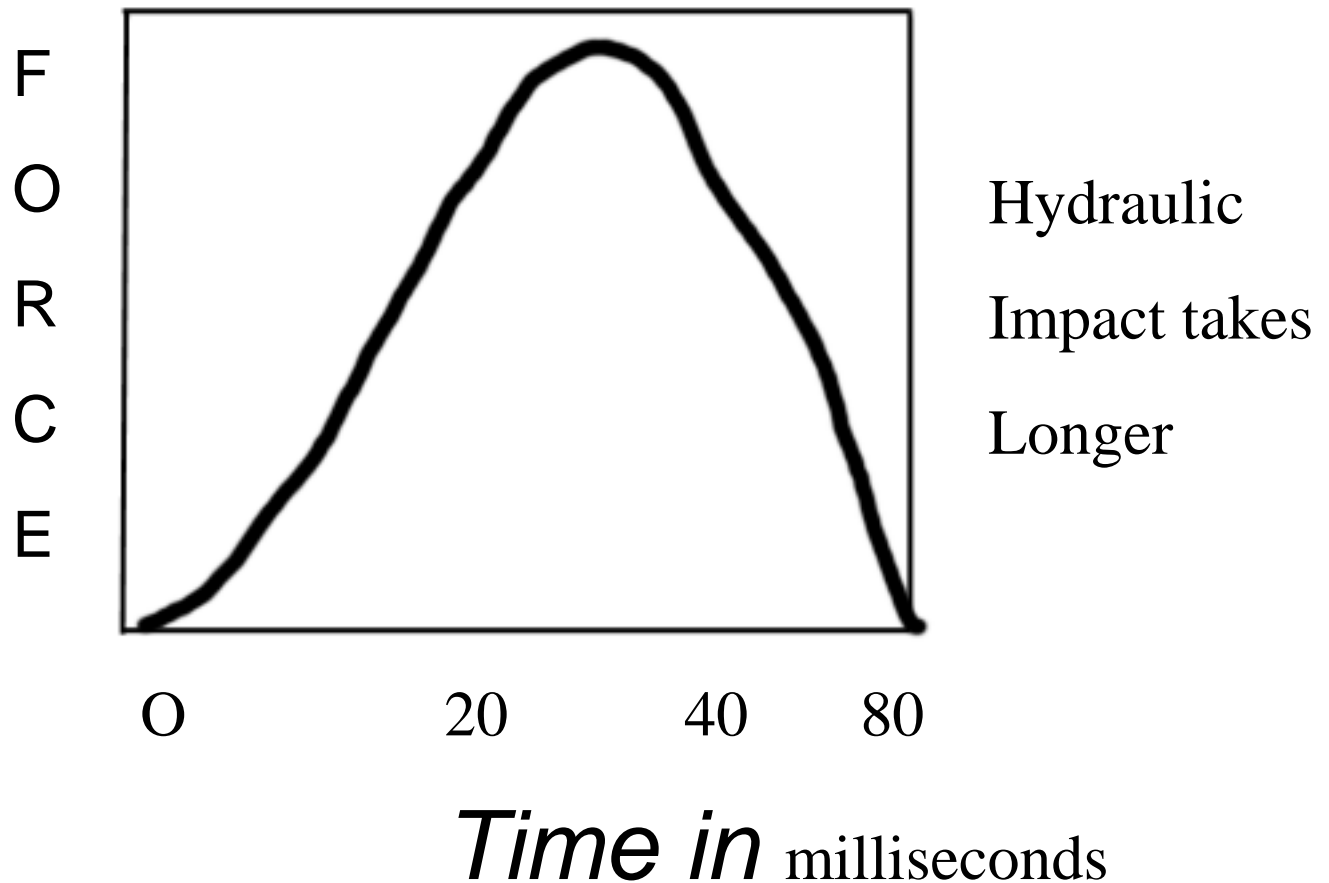
Spits unburned fuel and oil

Looks noisy

Peak Force- Hydraulic versus Diesel

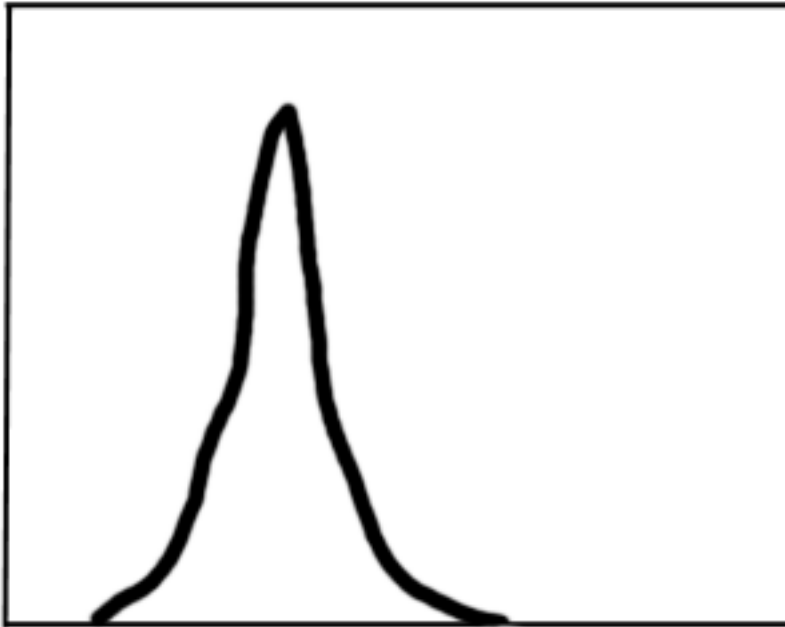


Peak Force- Hydraulic versus Diesel



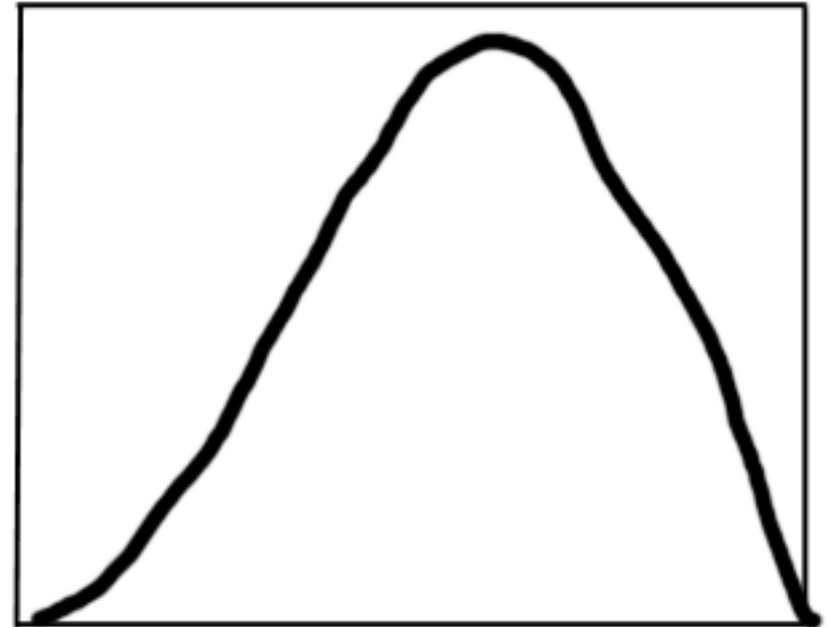
Peak Force-

Diesel



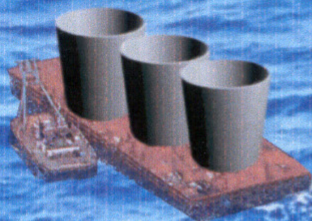
20 milliseconds

Hydraulic

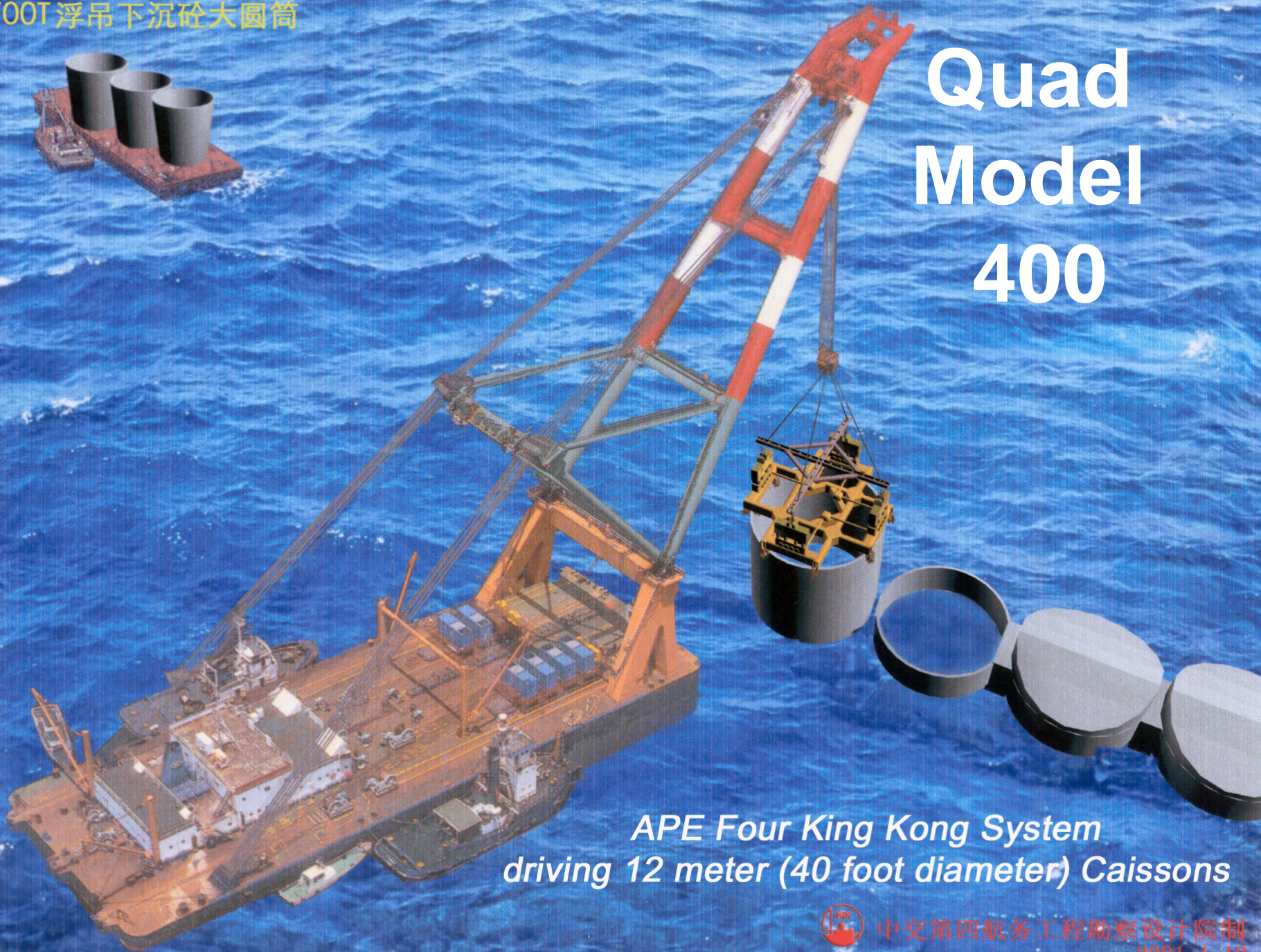


80 milliseconds

700T 浮吊下沉砗大圓筒



Quad Model 400

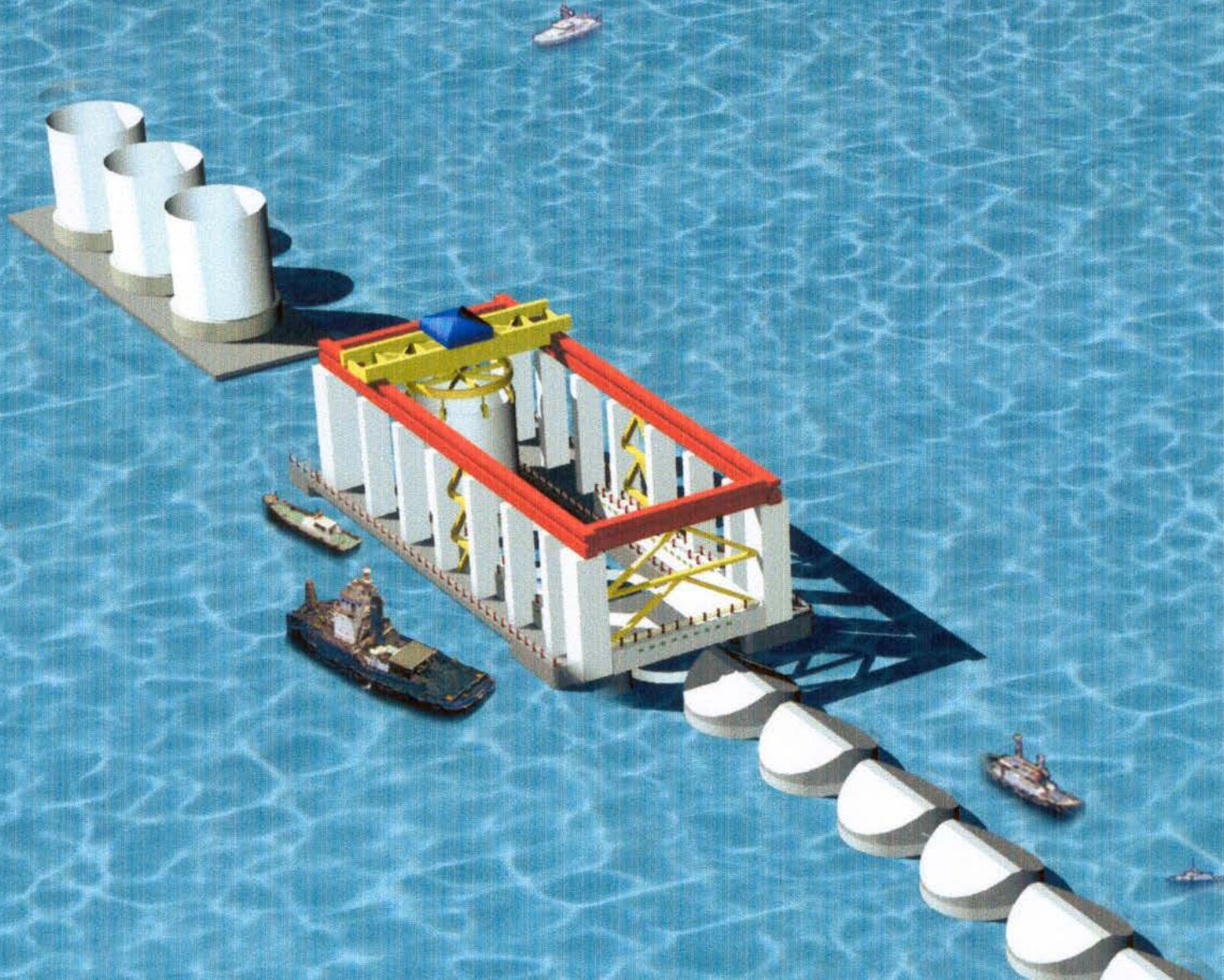


*APE Four King Kong System
driving 12 meter (40 foot diameter) Caissons*

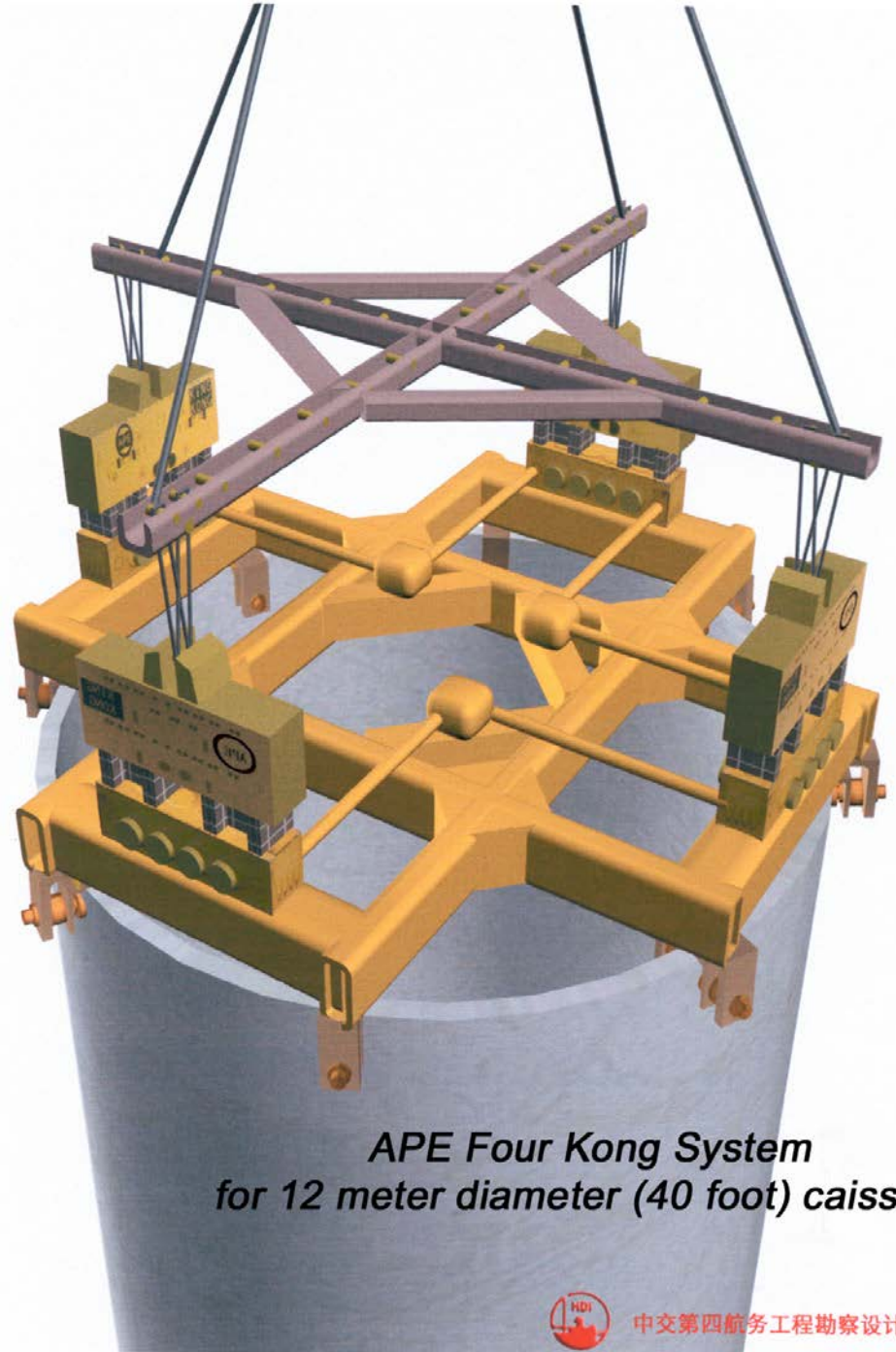


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APE Four King Kong System Pile template and Crane



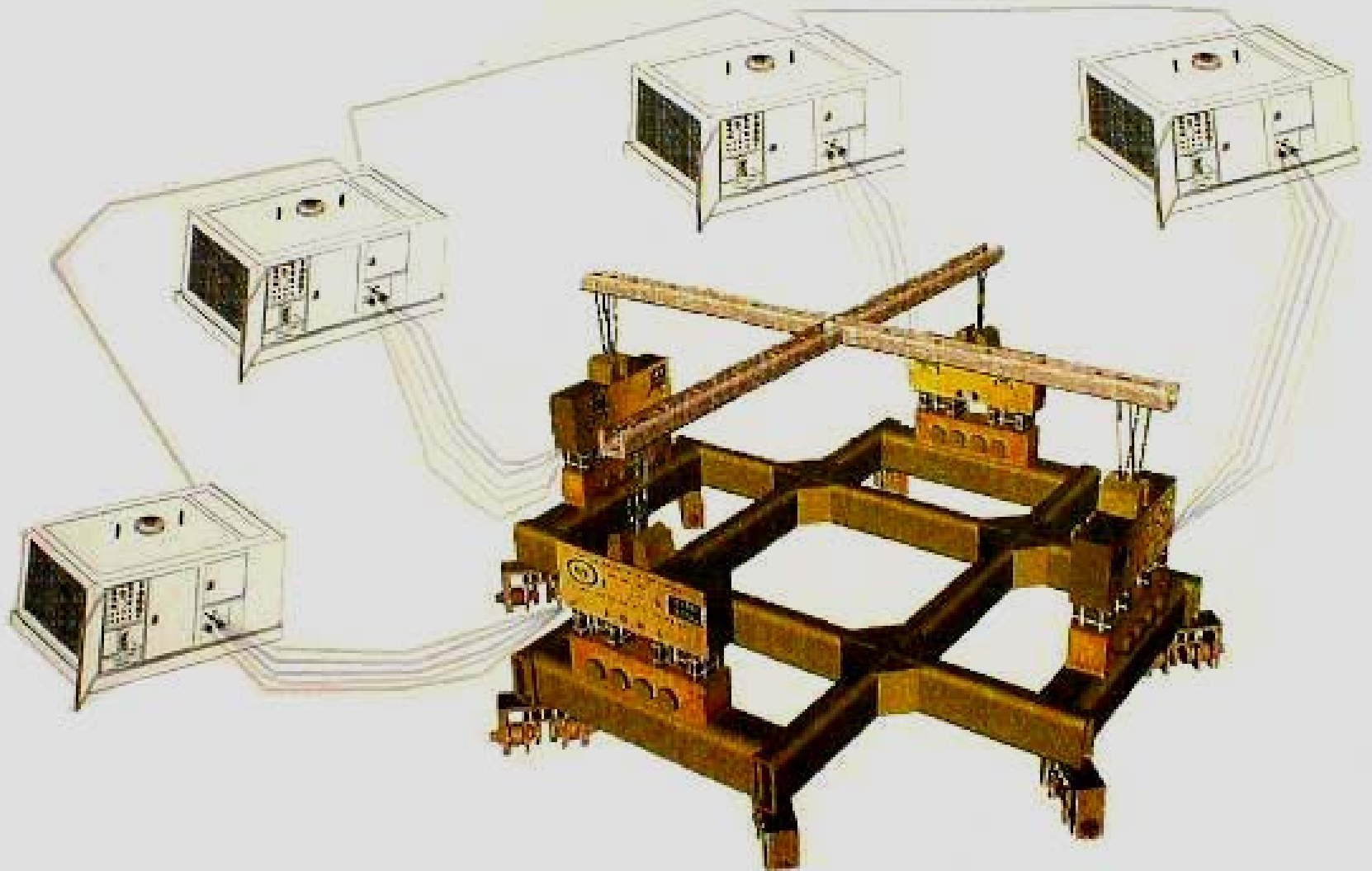
40 feet in
diameter by
60 feet
long.
Caisson
weight is
one million
pounds.



*APE Four Kong System
for 12 meter diameter (40 foot) caissons*



Four 1000 HP Power units



Four APE Model 400 Vibros mounted on a giant caisson beam



大圆筒振动下沉现场示意图



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APE Four Kong System

