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# FLOATING JACK-UP PLATFORM “KROT”



*Technical specification*



## JACK-UP «KROT»



*Construction of Bridge Crossing to Russky Island  
across East Bosfor strait, Vladivostok, 2008*

Jack-up platform “Krot” (Register Class K ⚡ R3) is designed for drilling of engineering-geological boreholes on the shelf to the depth of 100 meters at the water depth from 2.5 to 18 meters.

The drilling unit URB-2A-2 performs drilling by rotary method with washing, drilling D is from 190 to 76 mm, driven by 2 electric generators 75kW each. Additional equipment for any borehole investigations, such as logging, CPT etc., may be mounted. In-situ testing of soils for determination of physical and mechanical soil and rock properties is also available.

There is a cook room and 8-person cabin for the crew and personnel onboard. Minimum set of rescue facilities onboard: 2 rescue crafts, 11 life-jackets, 11 wet suits, 4 life-savers.

Transit to the area of operations is performed by towing by the vessels of “Atlas” type, transportation to the drilling location is done by the tug of “Zarya” type. Floating jack-up platform “Krot” is equipped with a four-anchor stabilization system.

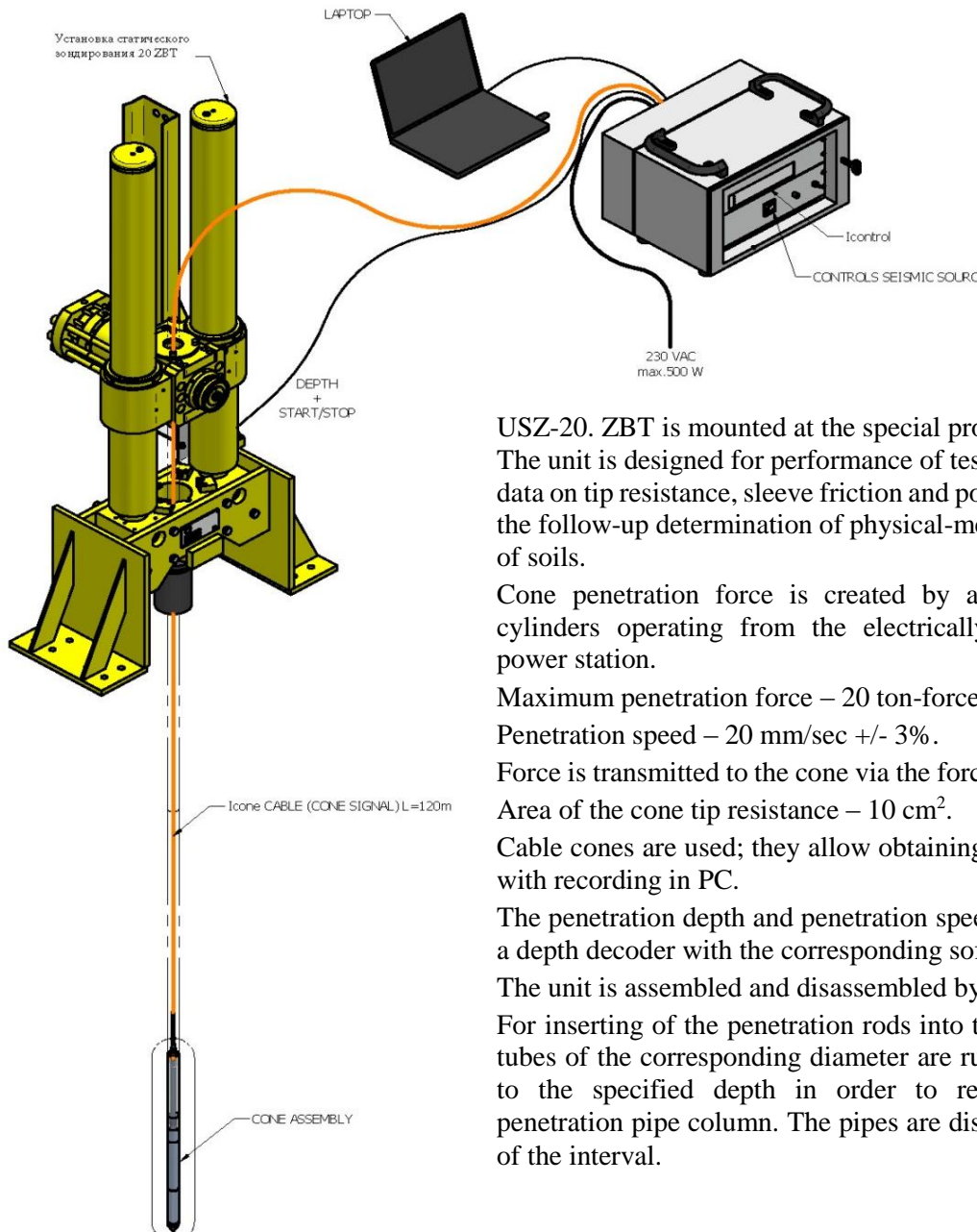
The area of operation is ports, bays, harbors, shelf of the Far East seas of Russia (Sakhalin, Primorie, Khabarovsk region).



<b>Register data</b>	
Vessel name	Krot
IMO ID-number	8763397
Registration number	845992
Shipowner	Pacific Engineering Company Ltd.
Port of registry	Korsakov, Russia
Flag	Russia
Year of manufacture	1984
Place of manufacture	Matsui, Japan
Type	Jack-up platform
Employment	Drilling of engineering-geological boreholes
Call sign	UFBW
Register class	KM✪R3
Ship-classification society	Russian Maritime Register of Shipping
<b>Specifications</b>	
Length, width, height	15.0 m x 15.0 m x 2.3 m
Draught	1.6 m
Displacement	Fully loaded – 344 t; empty – 147 t.
Capacity	Gross 153 r.t., net 125 r.t.
Diameter of the leg pad	2.4 m
Leg diameter	900 mm
Electrical equipment	2 x Generator 75kW DGR 75 M1
Maximum water depth for drilling	18 m

Cruising area	R3 – nearshore navigation at the distance of 10 miles from the shelter during summer navigation period
Weather restrictions	Wave height - 6 m., wind speed – 20.7 m/sec
Accommodation capacity	8 persons
Rescue equipment	Life rafts PSN-10MK - 2, life jackets - 11, hydrothermo-suits – 10, life rings – 4.
<b>Deck machinery</b>	
Electrohydraulic crane	Carrying capacity 0.9 t x 1 pc.
Hydraulic winch	Carrying capacity 3 t x 2 pcs.
Anchor (type, quantity, weight) - bow - stern	Hall's anchor, 2 x900 kg. Hall's anchor, 2 x900 kg.
Anchor ropes (length, calibre)	4 x 200 m, diameter 22 mm
<b>Communication and navigation equipment</b>	
Receiver-indicator of the navigation system	SPR-1400
VHF radio	STR-580D
Boomerang satellite radio buoy	SEP-406
Radar responder	Musson-502
VHF two-way communication radio stations	STV-160, IC-GM 1500
<b>Drilling and geotechnical equipment</b>	
<b>Drilling rig</b>	<b>URB-2A-2</b>
Type	Hydraulic
Main drilling method	Straight rotary drilling
Feeding speed: - downhole force - upward force	2.6 t 4.0 t
Drilling depth	100 m with the tube diameter of 60.3 mm
Borehole diameter: - original - final	190/135 mm 76 mm
Hydro station drive	Electric
Power capacity	55 kW
Rotation speed	1500 rpm
Mast	Welded
Height of crown-block axle	8.37 m
Mast winch	Hydraulic lift with a tackle block
Drill tube/stand length	Diameter 50 mm / 4.8 m
Rotating mechanism	Floating spindle
Rotary speed, direct drive	0-325 rpm
Maximum rotary moment	200 kgf·m
Lifting device	Hydraulic lift with a tackle block
Tackle system equipment	Special

Hook lifting speed	0-1.25 m/sec
Feeding type	Hydraulic with a tackle system
Feeding cycle	5.2 m
Drilling mud pump	2 x NB 12-63-40
Drive power	2 x 12kW.
Maximum flow (total)	12.2 h.p.
Maximum pressure	50 kgf/cm <sup>2</sup>
<b>CPT Unit</b>	<b>USZ-20ZBT</b> (it is installed at the borehole mouth if required)



Установка статического зондирования 20 ZBT

LAPTOP

Icontrol

CONTROL SEISMIC SOURCE

230 VAC max. 500 W

DEPTH + START/STOP

Icane CABLE (CONE SIGNAL) L=120m

CONE ASSEMBLY

USZ-20. ZBT is mounted at the special proper location. The unit is designed for performance of tests in order to obtain data on tip resistance, sleeve friction and pore pressure used for the follow-up determination of physical-mechanical properties of soils.

Cone penetration force is created by a pair of hydraulic cylinders operating from the electrically driven hydraulic power station.

Maximum penetration force – 20 ton-force.

Penetration speed – 20 mm/sec +/- 3%.

Force is transmitted to the cone via the force penetration tubes.

Area of the cone tip resistance – 10 cm<sup>2</sup>.

Cable cones are used; they allow obtaining test results on-line with recording in PC.

The penetration depth and penetration speed are monitored by a depth decoder with the corresponding software.

The unit is assembled and disassembled by a drilling shift.

For inserting of the penetration rods into the borehole special tubes of the corresponding diameter are run into the borehole to the specified depth in order to reinforce the whole penetration pipe column. The pipes are dismantled after study of the interval.

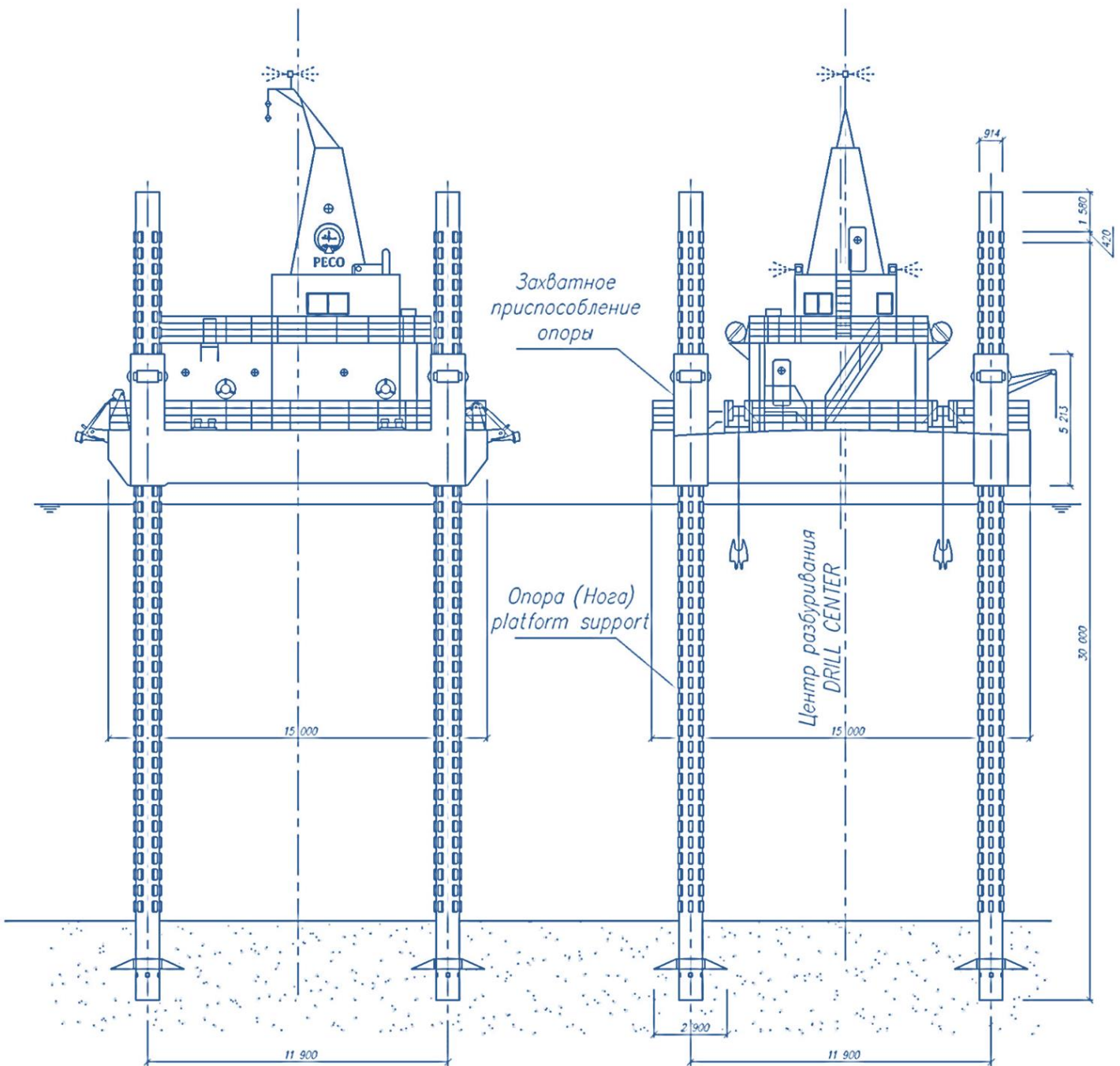




*JU «Krot» in Chikhacheva bay, De-Kastry, 2019*



*Drilling unit URB-2A-2 on JU «Krot»*


**MAIN PLAN**