

Ref.№: O2/17-01/2022; Date: 17 January 2022.

### **Commercial offer**

Complex of Equipment for the extraction of Hard-to-Recover Oil Reserves

We invite customers and financial partners to use **Block-modular equipment for generating supercritical water** with a temperature of up to 500°C and a pressure at the mouth of an oil well up to 40 MPa, which warms up oil-bearing formations with a depth of up to 7000 meters, **allowing efficient extraction of hard-to-recover crude oil reserves**.

The equipment that has no analogues in the world manufactured using **the patented technology for generating supercritical water**, transported on 3 semi-trailers, can arrive at an existing or developed oil well on its own, deploy within a day, start supplying of heat carrier to a depth not accessible for other equipment. The equipment allows for a short period of additional extraction of several times more hydrocarbon resources from wells than they were extracted during the entire period of previous operation.

#### **Economic indicators:**

- 1 ton of supercritical water, ensures 1-15 tons of super-produced crude oil;
- Up to 240 tons per day the volume of production of supercritical water and its injection into the well;
- Cost of injected 1 ton of supercritical water: 50\$;
- Excess profit from using the equipment: from \$ 50,000 per day.

#### **Physical indicators:**

- Oil production depth: up to 7000 meters;
- Heating temperature: T to 500°C;
- Physical pressure: P up to 40 MPa;
- Physical pressure at the bottom of the well: P up to 61 MPa;
- Increase in the oil recovery coefficient CIN up to 50% and more;
- Exclusion of flaring of associated petroleum gas;
- Modification of heavy oil into light oil due to exposure to high temperatures;
- Reduction of sulfur content in oil;
- Significant increase in the profitability of oil production;
- Environmentally friendly technology.

**For Oil Producing Companies:** the equipment will double the total volume of oil produced from each well, significantly reducing its cost.

**For Oil Service Companies:** the equipment will allow them to enter the existing fields and receive super-produced oil for themselves, or payment from the owners for each ton of heat carrier injected into the well.

**For Investors:** with a record payback period of 6-8 months, you will be able to quickly recoup the cost of buying equipment, and start making a significant profit on the invested capital.

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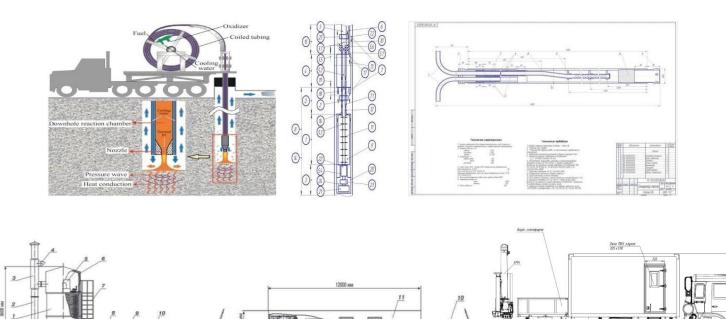
More than 70% of all remaining world oil reserves are classified as hard-to-recover. The production of TRIZ without the use of methods of increasing oil recovery is economically unprofitable. The most effective and common methods of extraction of hard-to-recover oil are thermal methods of exposure to the productive reservoir with superheated steam. However, taking into account the fact that more than half of the hard-to-recover oil reserves are located at a depth of more than 1 km, the use of thermal methods in the form of superheated steam injection into the reservoir to a depth of more than 1 kilometer does not give the desired effect and becomes economically impractical.

The generator of supercritical water with a temperature of up to 500°C, pumped into the well by a **special system of flexible continuous pipes**, without loss of temperature, allows you to effectively affect oil – bearing formations, and **extract heavy**, **high-viscosity**, **paraffin oil** lying at depths of more than 1 kilometer, and also provides the extraction of kerogens - solid, immature oil.

Taking into account the ability of supercritical water to **oxidize organic matter into simple and environmentally friendly substances** – into CO2, water and thermal energy, in parallel with oil production the equipment allows to **dispose of oil sludge and asphaltene sediments** in the soil, implementing **closed-cycle technology**.

The technology of using supercritical water has shown its high efficiency, and has a **high export potential**. The equipment is suitable **for customers who have developed or depleted oil wells** on their territory, as well as for customers who want to **increase the volume of extracted oil** from existing wells or new fields.

**The equipment was launched in 2018**, and since then it has been successfully operating in industrial mode. **The additional oil production from each well averaged 2 780 – 3 400 tons.** Today, the technology has been significantly improved - the cost price has been reduced, reliability and efficiency of work have been increased.



17980 M

#### DESIGN OF A DOWNHOLE SUPERCRITICAL WATER STEAM GENERATOR



#### We are ready to offer you:

- 1. Production of equipment to order;
- 2. Provision of oilfield services.

We invite customers and investors to discuss options for the production and use of a Supercritical Water generator for hard-to-recover oil extraction at your fields. **To get started, please contact us at the specified contacts, and inform us in what conditions you plan to use this Equipment.** 

With respect, Directorate of ProValue Industry

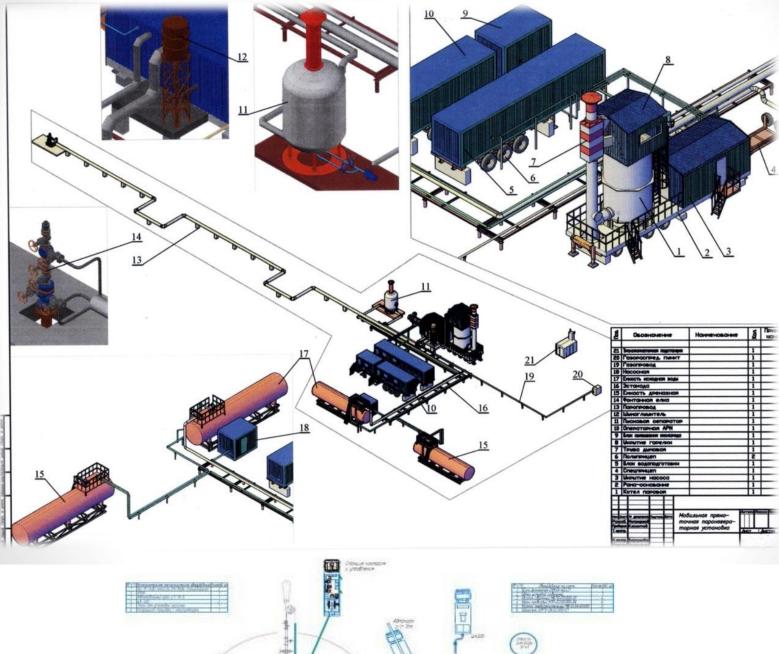
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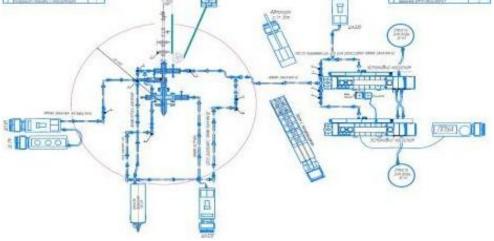


International Platform ProValue Industry

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#### THE LAYOUT OF THE FIELD





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#### **GENERAL VIEW OF THE FIELD**





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#### PLUNGER PUMP FOR COLD WATER SUPPLY

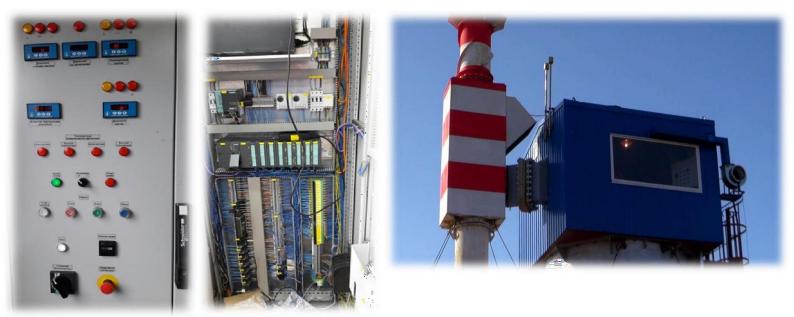
#### WORKING AGENT DISTRIBUTION MODULE FOR WELLS





**MANAGEMENT SYSTEM** 

**BURNER ROOM** 



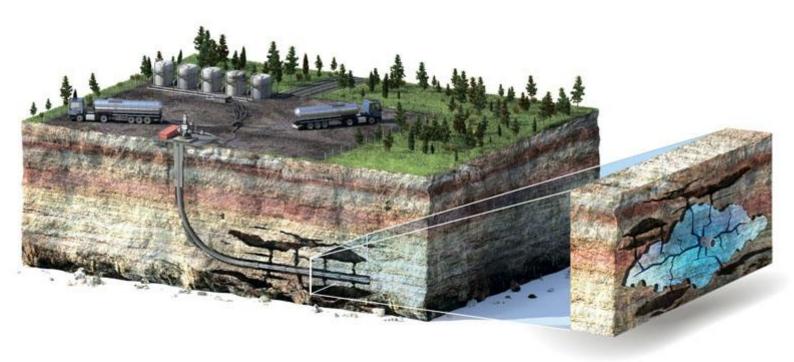
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## We invite you to cooperate!



# **Contacts**

If you have any questions, you can contact us:

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