Coiled tubing

Topics

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General Information

Koltubing is a special installation designed for technological operations during the overhaul and underground repairs of wells, as well as for drilling lateral, sloping and horizontal openings in oil and gas wells using a flexible column of pipes.

There are three types of Coiled tubing installations:

- easy class
- middle class
- heavy class

Easy class

Designed for hoisting and technological operations with the use of airborne drillings for overhaul, repair and intensification of oil and gas wells at shallow and medium depths without jamming them at a pressure at the sealing mouth of up to 70 MPa.

Middle class

Designed for hoisting and technological operations with the use of airborne drillings for overhaul, repair and intensification of oil and gas wells at medium and large depths.

Heavy class

Designed for carrying out tripping and technological operations with the use of oil and gas equipment for overhaul, repair and stimulation of oil and gas wells at medium and large depths, as well as for drilling operations on sidetracks and horizontal wells and hydraulic fracturing.

Coiled Tubing Development History

- *Coiled tubing* — one of the promising and developing areas of specialized equipment for the gas and oil industry, based on the use of flexible continuous pipes.

The technology was invented in the 1950s, it became widely used only in the late 1980s. It is cheaper and more environmentally friendly than classic columns

Coiled tubing is a 2-10-fold increase in labor productivity and a reduction in the cost of work on a very large range of operations.

Average working time:

- with coiled tubing - 48 hours
- conventional methods - 490 hours (10-11 times more).

Bottom-hole treatment time:

- using coiled tubing - 90-100 hours,
- conventional methods - 240 hours.

Technological operations

- elimination of hydrate-paraffin and sand plugs;
- cleaning the well from foreign objects;
- fishing work;
- a piece of seized tubing;
- well development;
- treatment of the bottom-hole zone;
- flushing the bottom of the well;
- waterproofing work;
- carrying out acid treatments;
- additional perforation;
- thawing of hydrated-ice plugs;
- drilling on a depression;
- drilling cement bridges and other types of work.

The purpose of the implementation of coiled tubing technology

- Reduced production costs of oil
- Full additional development of all deposits
- It is broader, better, and cheaper to mine raw materials using these technologies.

Cost-effective coiled tubing

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- less time for drilling (no need to connect pipes);
- reduced operating time and costs;
- less transportation

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- high cost of equipment

For example, the cost of drilling one horizontal well in Alaska while drilling:

- conventional installations is approximately 2200 thousand dollars

- installation with a column of continuous flexible pipes - about 500 thousand dollars.

Conclusion

Coiled tubing is one of the leading technologies in the future. Thanks to it, it is possible to reduce the costs and time for the development of the field, complete development of the field, as well as better quality of the extracted raw materials.

Thank you for listening