

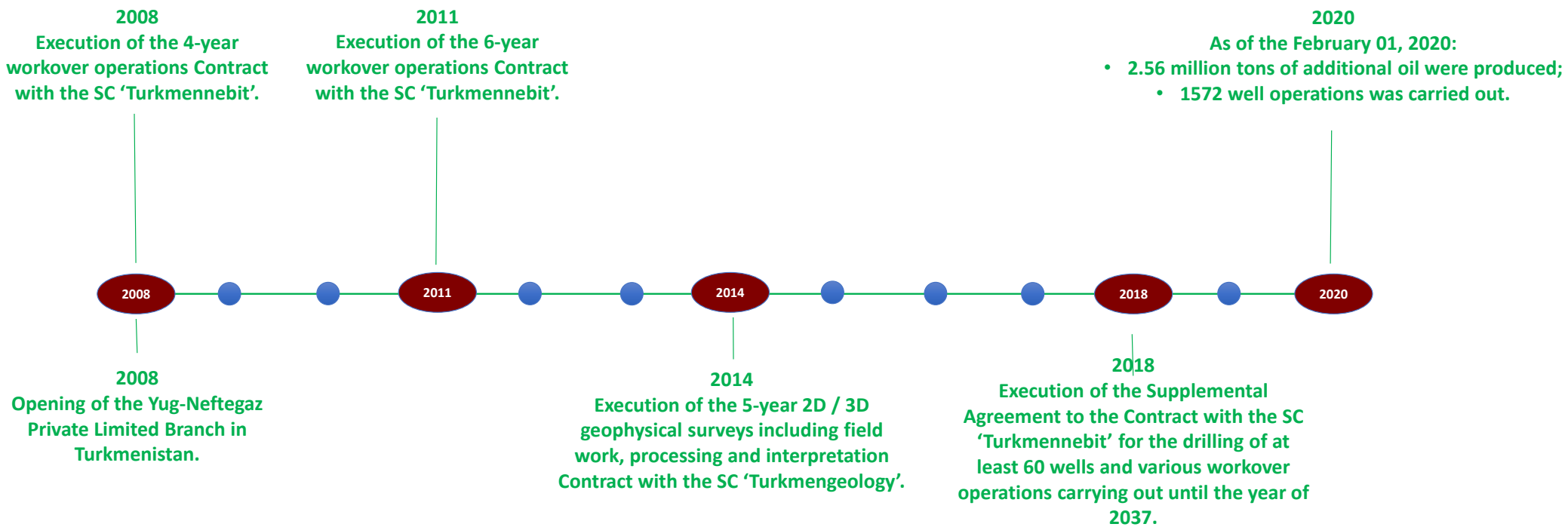


PRODUCTION OPTIMISATION FROM MATURE OIL FIELDS: GATHERED EXPERIENCE and NEW PROJECTS & OPPORTUNITIES

Session 4

Speaker: Igor Burkynskyy – CEO of Yug-Neftegaz (Singapore)

OUR HISTORY OF WORK AND MILESTONES IN TURKMENISTAN

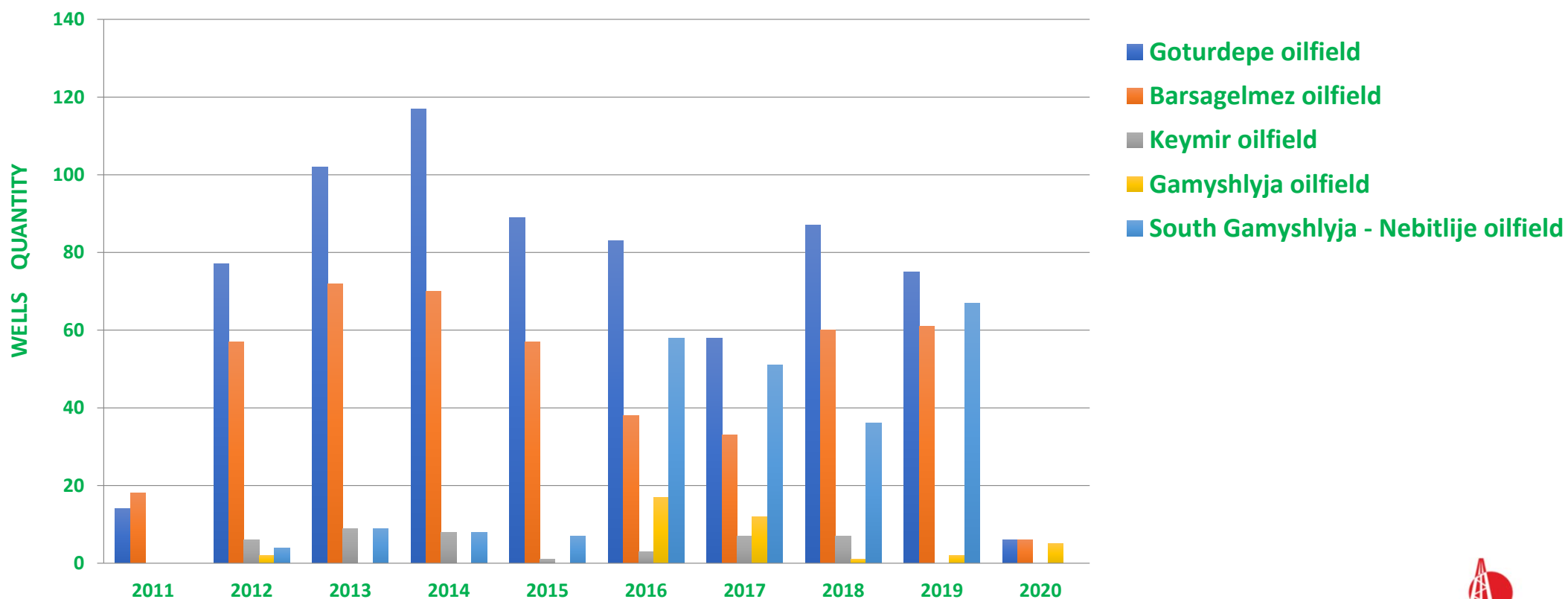


WORKOVER AND WELL SERVICING

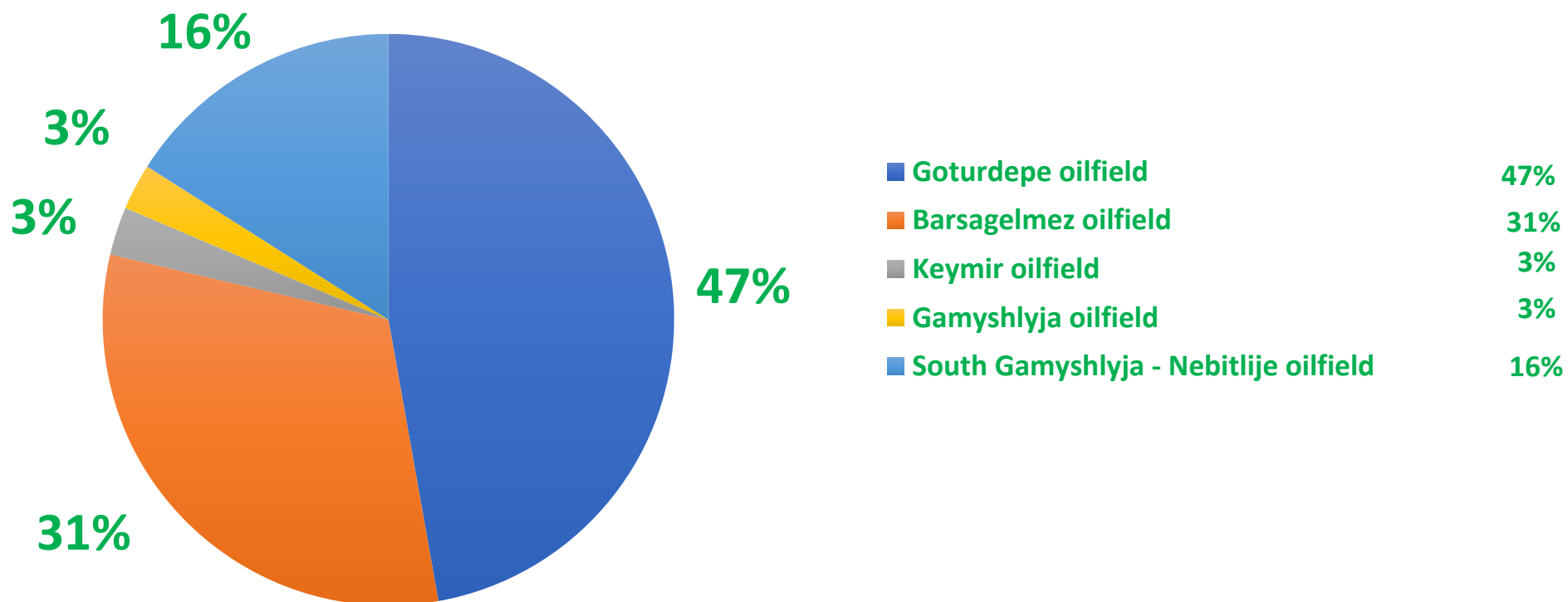
- Water shut-off
- Production stimulation
- Workover under abnormal operating conditions
- Fishing
- Sidetracking and well deepening
- Coiled tubing services
- Sand plugs clean out
- Sand jet perforation
- Hydraulic fracturing



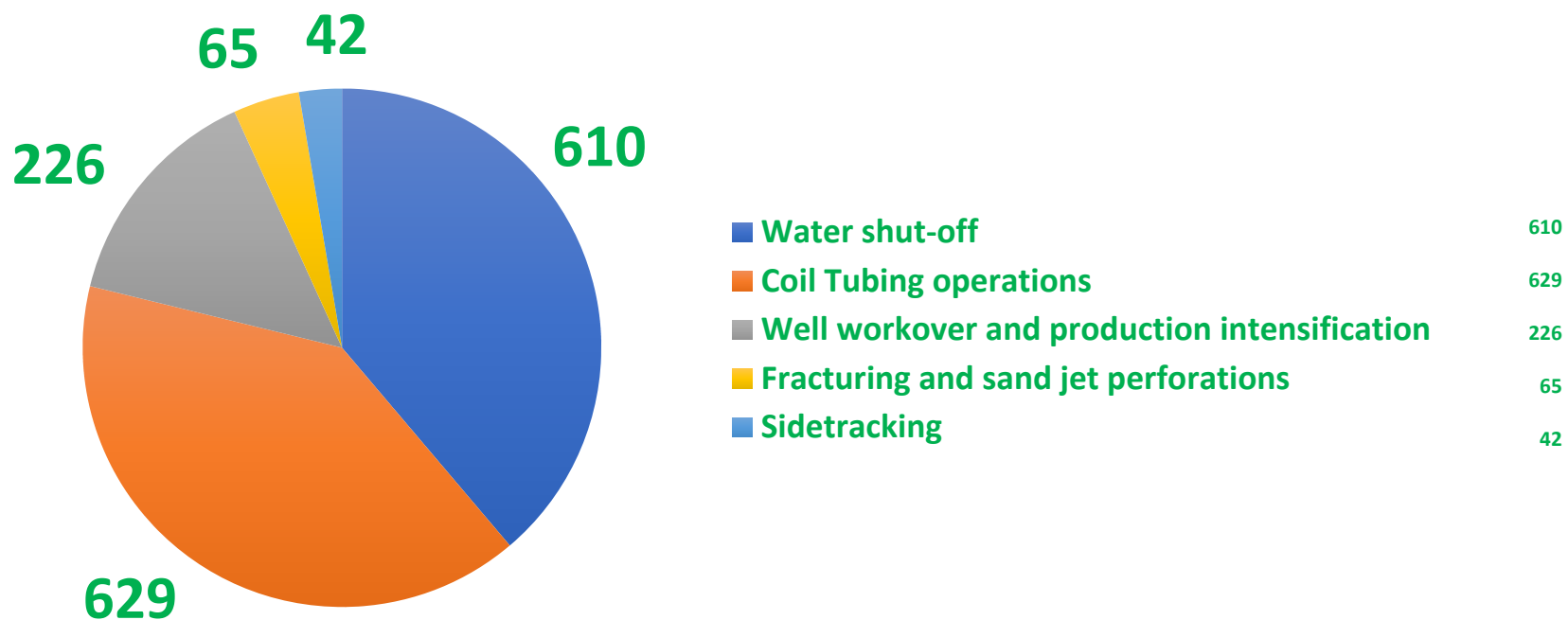
WORKOVER OPERATIONS BREAKDOWN BY YEAR AND OILFIELD (2011 ÷ 2020)



WORKOVER OPERATIONS BREAKDOWN BY OILFIELD (2011 ÷ 2020)

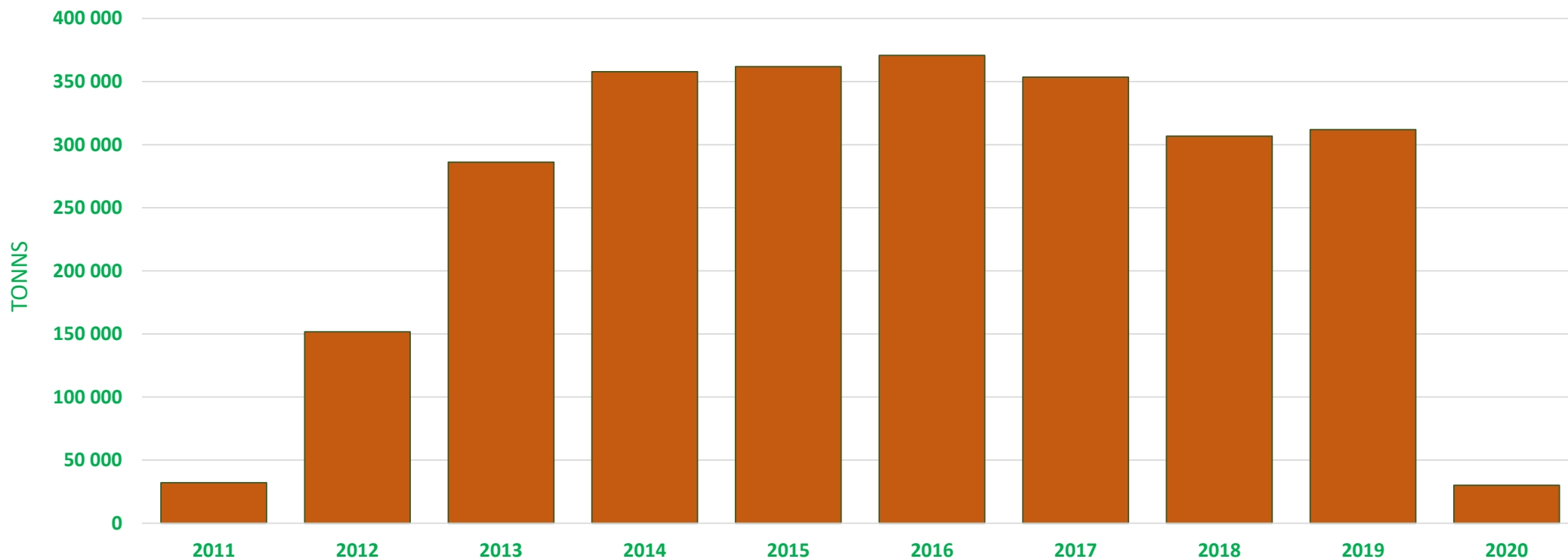


WORKOVER OPERATIONS BREAKDOWN BY TYPE OF WORK (2011 ÷ 2020)



AS OF THE FEBRUARY 01, 2020 **1572** WELL OPERATIONS WERE CARRIED OUT

VOLUME OF ADDITIONAL OIL PRODUCED IN THE PERIOD OF 2011 ÷ 2020



AS OF THE FEBRUARY 01, 2020 **2.56 MILLION TONNS** OF ADDITIONAL OIL HAVE BEEN PRODUCED

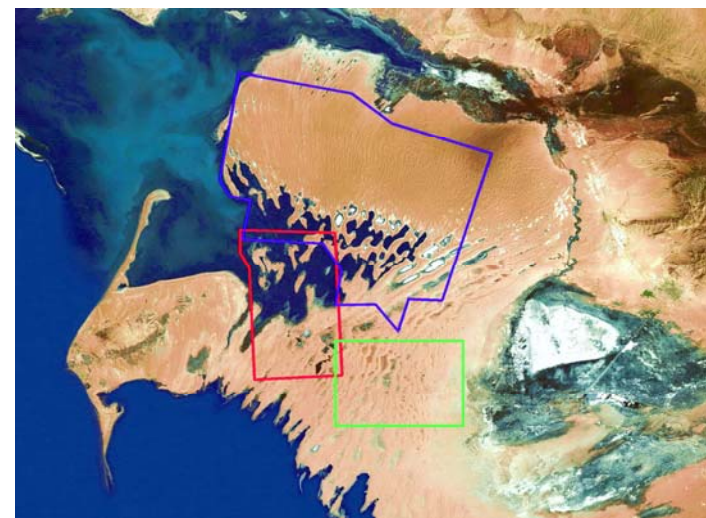
GEOPHYSICAL SURVEYS IN TURKMENISTAN

- Field works: Off-shore and transition zones
- Seismic data processing
- Seismic data interpretation

Additional seismic surveys with modern equipment and software using on new areas and sites are an important element for the reserves at mature oil fields increasing. The Company has conducted seismic surveys to a depth of 7 km on the Goturdepe and Barsagelmez oilfields. As a result of the surveys new promising objects for drilling were identified and the reserve base is significantly increased, which is going significantly to increase production at these oilfields.



STAGES OF FIELD SEISMIC WORKS CARRYING OUT IN TURKMENISTAN



To date, the Company has completed 100% of the field work, processing and interpretation of the 3D seismic data within the North Goturdepe oilfield and the shallow waters of Caspian Sea and its adjacent area, including sections of Central and Western Goturdepe, as well as 2D surveys seismic data including off-shore and shallow waters of the Caspian Sea within the Gulf of Darja and the southern slope of the Kelkor Depression. 3D survey results on the Barsagelmez oil & gas field were presented in November 2019.

- 2015 ÷ 2016: Goturdepe 3D – 420 km²
- 2016 ÷ 2017: Darja 2D – 874 lin km
- 2017 – Barsagelmez 3D – 345 km²

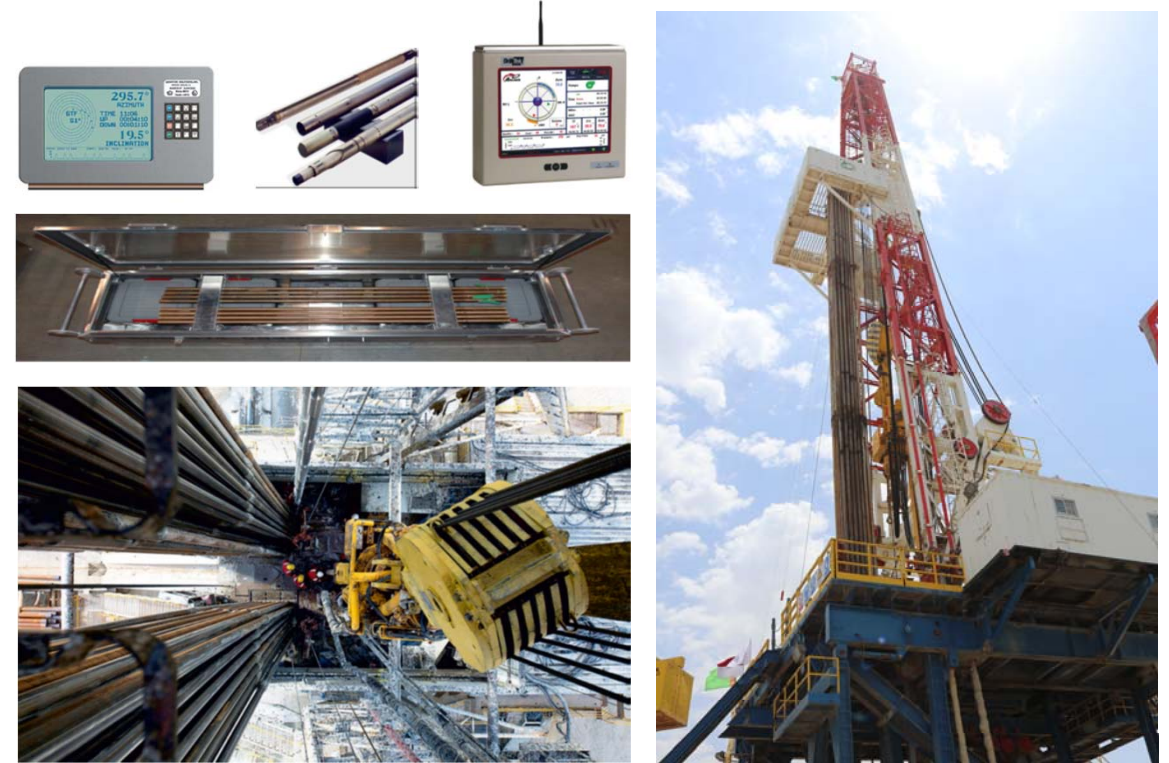
DRILLING WORKS

Today, according to the results of the seismic surveys and the results of the seismic data interpretation at the Goturdepe oilfield, the Company has already started drilling of four (4) vertical wells with a depth of 5000 meters in the North Goturdepe area.

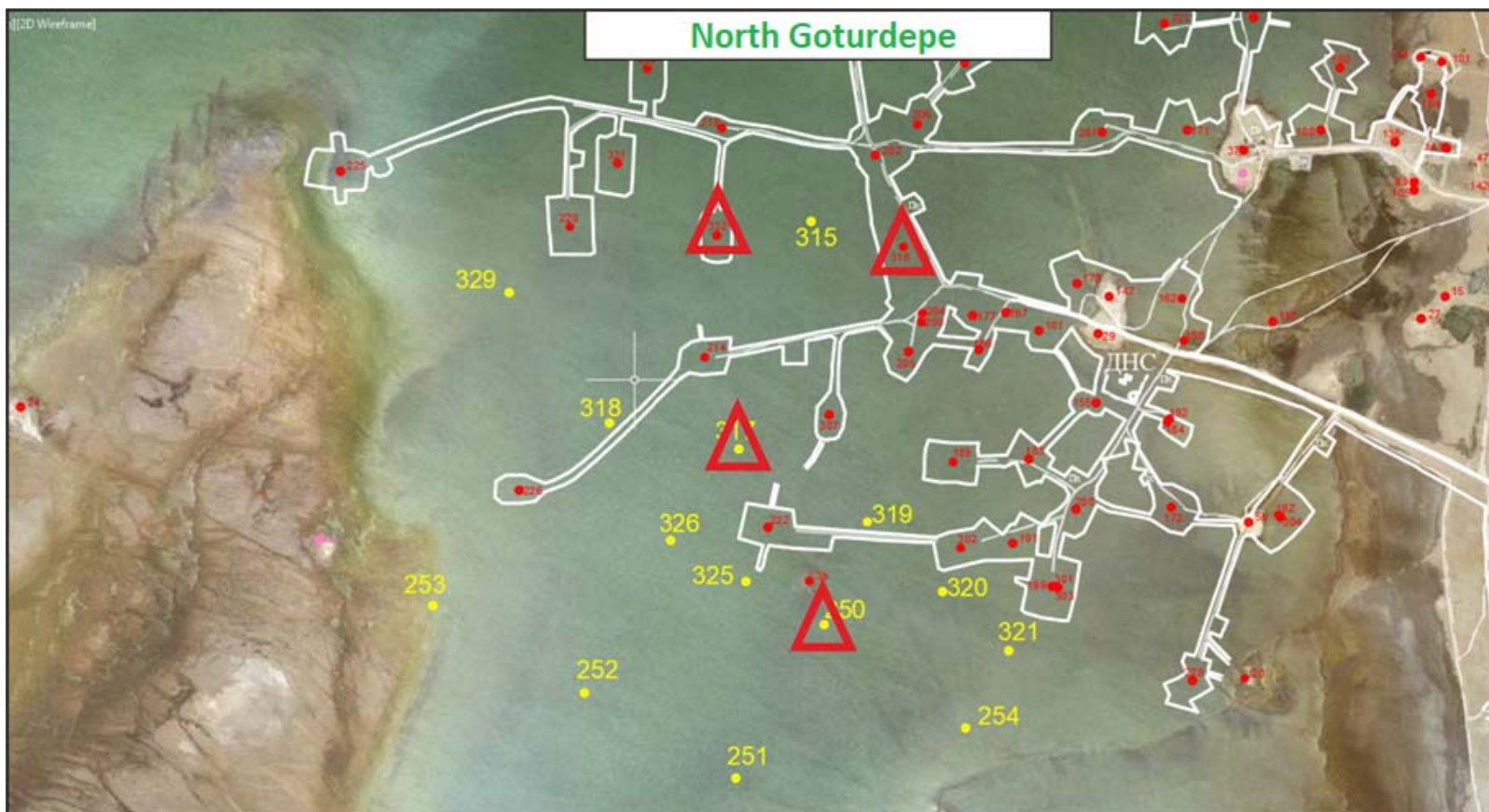
In the future, around 60 wells are planned to be drilled at this area, which will also significantly increase the production of new oil at the oilfield that has been in operation for more than 50 years.

The following well type are planning to be drilled:

- Vertical wells
- Deviated wells
- Horizontal wells



DRILLING WORKS



PROPOSITIONS

Taking into account the importance for the oil and gas industry of Turkmenistan to implement the most effective set of works and approaches to optimize mature oilfields, **we consider it appropriate** to:

I. Continue work on applying of modern oil & gas technologies and methods for enhancing oil recovery using the latest equipment and technologies.

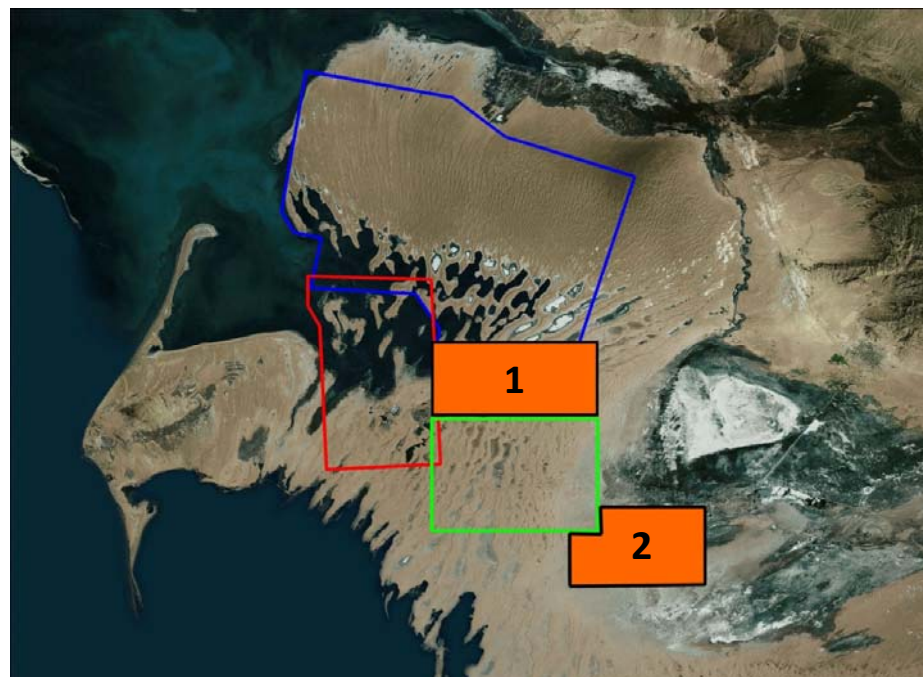
II. Focus on:

- a) drilling of new vertical, directional and horizontal wells;
- b) increasing quantity of sidetracking works using telemetry systems on the existing wells;
- c) expanding the range and increasing the scope of various well workover operations;
- d) continuing persistent efforts and works to restore abandoned and inactive (idle) wells;
- e) increasing quantity and scope of work of water shut-off operations and remedial cementing;
- f) hydraulic fracturing and jet perforating.

PROPOSITIONS

III. Carrying out of additional seismic surveys to a depth of seven (7) or more kilometers using modern equipment and software, in order to identify new promising areas for drilling and increase the resource base.

In particular, a full range of seismic surveys carrying out: **(1)** 250 km² of 3D seismic surveys in the area of the Eastern Goturdepe oilfield and **(2)** 250 lin km of 2D seismic surveys at South Burun, then based on the analysis of the data obtained, adjust existing or develop new production plans for new wells drilling.





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