

PROJECT TITLE: Oil. Russia, Eastern Siberia. 2019. Remote Sensing and Field Survey.

Location: Irkutsk region, Russia.

Lead time: 4 months (2019).

Type of minerals: oil

Survey area: 9 km²

Objective: Identify and map hydrocarbon anomalies by remote sensing and field surveys of the license area (or near it) where the customer plans to drill a new well. Compare the results with the producing wells data drilled within the surveyed area.

Surveys

Both remote sensing and field surveys were performed per the customers scope of work.

Results

The integrated use of aerospace methods to explore oil and gas-bearing areas and the patented technology for remote identification of anomalies associated with HC accumulations, enabled **to quickly perform** preliminary appraisal of the area of interest (AOI).

Special processing of digital and analog satellite images taken in the infrared, ultraviolet and visible frequency spectra, as well as the results of radar surveys of the AOI, **revealed tectonic faults** crossing the surveyed area from the north-west to the south-east, **and anomalies associated with potential hydrocarbon accumulations** located in the south-western and north-eastern parts of the license area.

Based on the data obtained from the remote sensing stage of work, no HC anomaly was identified **at the site where the new well was to be spud. The boundaries of the identified anomalies AN-1 and AN-2 are located at a distance of at least 1 km and 0.8 km away from the site, respectively, and are outside of the surveyed area.**

Field survey stage carried out in the AOI with the portable geophysical equipment made it possible to precisely map the boundaries of HC anomalies AN-1 and AN-2 and obtain the following characteristics of the HC occurrence with high degree of accuracy:

- depth of occurrence of HC saturated formation,
- gas pressure in the gas caps of oil reservoirs,
- types of reservoir rock (sandstones with limestone imbedding) and porosity assessment.

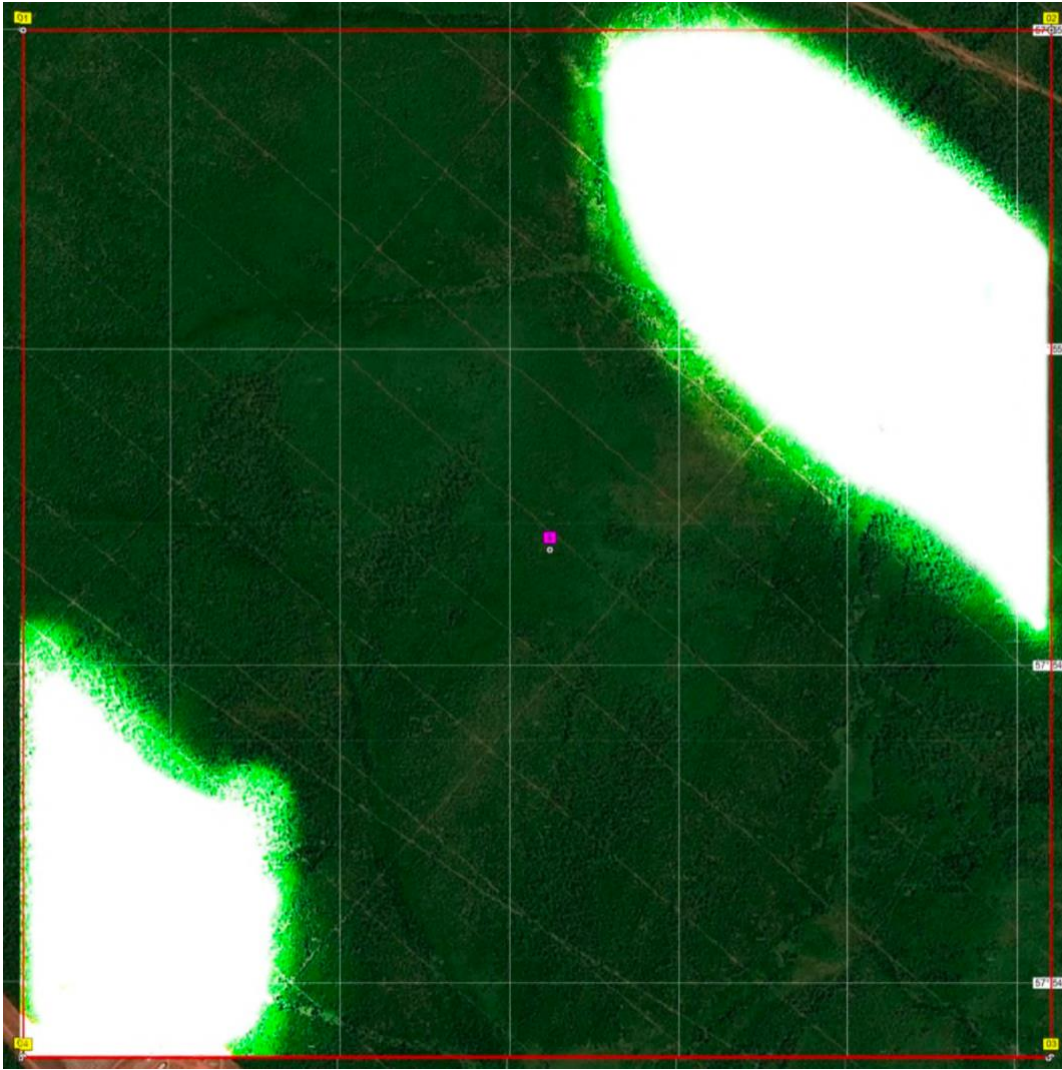
Thus, **BEFORE THE COMPLETION OF DRILLING** of the new well, the customer received valuable information on the location of anomalies associated with HC accumulations, which significantly reduce drilling costs and increase COS.

When comparing the survey results with the data on already drilled wells, both wells with confirmed low productivity and wells with commercial inflow were determined with 100% accuracy.

Project status

The project was frozen due to the deterioration of the global economic situation. Currently negotiations are underway to resume work on new sites.

Customer's acceptance certificate can be provided upon request.



Visualized boundaries of HC anomalies at remote sensing survey stage



Precise boundaries of HC anomalies at field survey stage