



## Innovative Geophysics RSS/NMR in questions and answers

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### 1. What is RSS/NMR ? “RSS-NMR SEVSU-Poisk” © Copyright SEVSU-Poisk Group

RSS/NMR technology is an innovative approach for the identification and remote and terrestrial studies of hydrocarbon deposits, minerals, gems (searched by bedrock) and sources of recoverable fresh water at depth.

Remote sensing of areas and reservoirs is provided by RSS ( Resonance Spectral Survey ) using resonance spectral processing of analog spatial images. No permissions or approvals are required as images from open access spaces are used.

NMR (Nuclear Magnetic Resonance ) or NMR (Nuclear Magnetic Resonance), provides a point-by-point study of deposits from the ground using the magnetic resonance method.

More information about this method can be found in the article [www.geosci-instrum-method-data-syst.net/5/551/2016/](http://www.geosci-instrum-method-data-syst.net/5/551/2016/) . NMR requires approval and permission to carry out a shipment in the Customer's territory.

### 2. Why is RSS/NMR technology innovative?

Our technology is innovative in the geophysics market, as it implements a fundamentally new physical approach to the identification and exploration of hydrocarbon, mineral and fresh underground water deposits, and provides the Client with completely different survey efficiency.

We prerecorded the spectra of the substances we are looking for, then we use them with the resonance effect to identify them in the soil. In this sense, RSS/NMR technology is a direct method of studies, when the presence of the desired substances in the study area is carried out directly and only then further explored. This is its main difference with indirect methods (2D/3D), where there is an interpretation of several indirect data obtained in the survey area.

### 3. What is the effectiveness of the proposed technology?

Three keys to the effectiveness of geophysical methods are the most important when deciding on a new exploration campaign:

#### 3.1 Effectiveness or “R” of RESULT

This is the degree of achievement of the planned results, that is, the ratio of successfully drilled wells to the total number of wells drilled using this technology. The “R” effectiveness of RSS/NMR work exceeds 90%, that is, the number of errors in the surveys is less than 10%. The effectiveness of the work carried out with 3D seismic is approximately 30%, that is, approximately 70% of the work carried out leads to the drilling of "dry" wells. Comparing the percentage of possible errors of 70%, we see that RSS/NMR technology reduces the risks of drilling "dry" wells by approximately an order of magnitude of 10%.





### 3.2 Efficiency of “T” TIME jobs

That is, the time after which the Client will receive the results of the requested geophysical work. As a rule, the duration of work with RSS/NMR technology does not exceed 60 days, which is also an order of magnitude better than the time of "seismic" projects ranging from 6 months minimum to 4 years (OBN).

### 3.3 Cost of works “C” of COST

This factor is also very important for the Client. We are going to compare these efficiency factors of the RSS/NMR technology with the results of the work carried out with 3D seismic. The execution costs of this innovative technology drastically reduce the cost of exploration. Additionally, the larger the study area, the greater the savings. Therefore, the application of RSS/NMR technology allows not only to save development costs on "dry" wells, but also to radically increase the profitability of companies due to accelerated discovery of deposits and greater success in their operations.

### 4. Is RSS/NMR technology friendly to the Environment and not dangerous for people?

At all stages of working with RSS/NMR technology, it is absolutely safe for people and the environment. Unlike a traditional seismic project that has the following activities in the field:

- Personnel in the field with their own logistics to work
- Opening of main runways
- Trenching
- Drilling wells with explosives
- Heliport, fuel tanks
- Waste management
- Restoration

### 5. Clarification of the administrative part and permission for an RSS/NMR campaign

A traditional seismic campaign has strong administrative management, because you must have permits, an Environmental Impact Study (EIA) and comply with procedures and standards before entering the work area. Sometimes it is not possible to enter because it is a park or natural reserve, and when the geography and relief do not allow it, the political, social or public security situation (guerrilla, drug trafficking) are limiting. These office jobs are very intense and require a large force of personnel at the beginning and during the management of the project.

### 6. Can RSS/NMR technology be applied on the high seas?

Yes of course. There is no fundamental difference in carrying out any type of work on land and at sea. Water is in this case a very easy layer to pass through.

### 7. Why isn't our technology used by the world's leading companies?

The conventional approach to identifying promising “anomalous” structures in geophysics is 3D seismic. This is a well-established method of deposit searching, which has been widely used for many decades.

For large established companies, the use of our service would mean a radical change in the structure of the companies (reduction of plant personnel) and reduction of expenses in exploration. From this point of view, we are innovative because RSS/NMR is like the internet, WhatsApp, Cable TV, IRM, electric car, RSS/NMR is a new concept and will take time.





**8. What must be specified in the Terms of Reference to quote an scan with RSS/NMR technology?**

The Client must provide the coordinates of the contour points of the exploration area in WGS84 geographic coordinates, the target of the search (e.g. hydrocarbons) and the depth interval of the exploration.

**9. Because RSS/NMR is new and innovative and will change the vision of oil activities worldwide?**

Unlike a 2D, 3D or MT Seismic campaign, RSS/NMR is discreet because there are no personnel in the field. We work on Stage 1 from our technological laboratory.

In the case of the hydrocarbon sector, it is used as an instrument for expansion (Green Field) or redevelopment of old fields (Brown Field), RSS/NMR is a tool also used to evaluate the potential of an oil field in the event of purchase. /sale.

For a state hydrocarbon agency, it is the instrument to control the activities of companies that have obtained a license through a tender. It is also the way to do a complete exploration and sell the E&P licenses at a higher price or establish Joint Ventures that state companies favor, or the opposite for a private E&P company, which allows the blocks put up for tender to be explored in advance.

