



Vulgarization of the RSS-NMR

The advantage of NMR-RSS over seismic is so obvious not only to our scientists but also to a number of foreign scientists.

A Lot of Clients ask us: why does your report have 30-50 pages of text, while the seismic acquisition report has 300-400 pages of text? Because we show direct information, and the seismic text contains color pictures. Seismic is useless in hilly terrain and the service giant Schlumberger has already abandoned seismic acquisition as low efficiency:

www.slb.com/news/press_releases/2018/2018_0119_q4_earnings.aspx

www.reuters.com/article/oil-seismic-schlumberger/schlumbergers-exit-from-seismic-a-problem-for-oil-firms-seismic-firm-idUSL8N1QI5LO

"What is the difference between the existing remote methods in various companies and our remote method (Stage1 Diagnostics)"? Let you ask yourself this question.

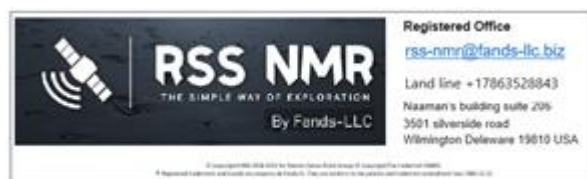
For be concise , your main question will be "What is the difference between the existing remote methods in various companies and our remote method (Stage1 Diagnostics)"?

For comparison, let's take the seismic technology used by all oil exploration companies. Seismic machines generate a high-powered signal that is directed underground. Firstly, this powerful signal does not carry any information, and secondly, it dissipates in all directions and therefore must be very powerful in order to reach the deep. When it reaches the boundary of the two media underground, it is reflected and picked up by receivers on the surface. (Faceless signal does not penetrate inside the substance, it is an anomaly). And then a long interpretation of the data is necessary. We talked to many interpreters who have different opinions about the same object. That is, some kind of anomaly is revealed. Which may be a deposit or not. Only drilling can confirm the presence of the deposit. Statistics say that only 3 or 4 wells hit the target. The efficiency of seismic is not higher than 30-35%. The main property of seismic is reflection.

How RSS-NMR technology works? The transmitter sends a narrowly focused signal that is specific to the substance (oil, gas), i.e. the signal includes information about the oil or gas. The signal Re-emits when it reaches the oil or gas and on the surface we perceive the information about the oil or gas with certainty. (The informative signal penetrates inside the searched substance and immediately reveals this deposit (oil, gas, minerals, etc.)

This is called the resonance of the desired material. We do not need interpretation, it is a direct discovery of the deposit. The accuracy is 90-95%.

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Going Mobile | The evolution of the cellphone

<p>1982 Mobira Senator Finnish company Mobira Oy, a precursor to Nokia, introduced its first car phone, the Mobira Senator NMT-450. It weighed about 22 pounds.</p>	<p>1984 Motorola DynaTac 8000x The first cellphone to be offered commercially hit the market priced at \$3,995 (\$9,237 in 2012 dollars) and weighed just under 2 pounds.</p>	<p>1987 Mobira Cityman One of the world's first handheld phones, the Cityman weighed 28 ounces with the battery.</p>	<p>1989 Motorola MicroTac Initially manufactured as an analog cellphone, the MicroTac was an early example of a flip phone, in which the mouthpiece folded over the keypad.</p>	<p>1992 Nokia 1011 The first digital handheld phone, the Nokia 1011 would become the company's best-selling phone ever.</p>	<p>1993 BellSouth/IBM Simon Personal Communicator First phone with a touch screen and smartphone features (pager, calculator, address book, send/receive faxes, games and email). Cost about \$900.</p>	<p>2000 Ericsson R360 The first device marketed as a smartphone.</p>	<p>2002 BlackBerry 5810 Made by Research In Motion, the 5810 was a cellphone with organizer functions and a keyboard for thumbs; a wired headset was mandatory.</p>	<p>2004 Motorola Razz Was part phone, part fashion accessory. In the Razz's first four years, Motorola sold more than 110 million units.</p>	<p>2007 Apple iPhone Hundreds of people lined up outside Apple stores to buy the first iPhone, priced at \$499 (4GB) and \$599 (8GB).</p>
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Source: WSJ research; Photos: Nokia (C), Motorola (D), BlackBerry, Ericsson, Associated Press. The Wall Street Journal

1D 2D archaic 2D 3D Nodes et RSS-NMR

Evolution of mobile phone and seismic technology

ifp **Imagerie sismique et monitoring**

Sismique conventionnelle et sismique haute résolution

sismique conventionnelle

sismique haute résolution

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We have two stages.

The first stage is the **RSS Remote Sensing Method**, we get the resonance of data from satellite imagery in the nuclear research reactor in Sevsu Poisk group. The accuracy is 90%, which is three times higher compared to seismic.

Stage 2 is NMR survey on the ground. The accuracy of the survey is 95%.

Analog satellite images of the surveyed area are processed in a research nuclear reactor and require the highest qualification of personnel and precision accuracy. Our NMR technology includes two discoveries received by the Nobel Prize; these are NMR and Kirlian effect.

publication linkedin <https://www.linkedin.com/pulse/use-rss-nmr-green-fields-refurbish-brown-oil-gas-part-friedman-/>

RESULTS SENT TO YOUR COMPANY

The RSS-NMR technology provides absolute data: (number horizons, thickness, depths horizons and gas pressure) of hydrocarbon reservoirs bedding to a depth of 5-7 km. directly without interpretation and without exploration risks. The RSS-NMR(GeoDirect) technology detects the exact coordinate's drill sites with a budget of ten times lower in comparison with conventional exploration methods (2D/3D). If the client has identified the drilling point after interpreting the 2D/3D data, it is better to give us that drilling point for further examination. He will get the following:

- § Determination of the presence of hydrocarbons in the survey point to in a given depth interval,
- § Identification of the type of hydrocarbons (oil, natural gas),
- § A map of the terrain with contours of the identified deposit and fault within a radius of 1 to 3 km around the drilling point,
- § Determine the zones of maximum response of signals on the contours of identified deposit,
- § Determining the number of useful horizons,
- § Determining depth of occurrence of each horizon,
- § The gas pressure in the horizons,
- § Flooding of horizon and the thickness of the water layer,
- § Building deep column at the drilling point,
- § Identify the presence of hydrocarbons in the vicinity of the control point in the absence of hydrocarbons at a given point.

The survey period is 75-90 days





If a client needs to examine his license unit, then he will get the following:

- § Ground contours of oil, gas and oil & gas reservoirs.
- § Limits for extension of traps,
- § The number of horizons in each reservoir,
- § The depth of horizons,



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- § The presence of a gas cap over the oil horizon,
- § Indicative of gas pressure in the gas cap (reservoir pressure),
- § The presence of water under the oil horizon,
- § Vertical scan data column,
- § Vertical sections of hydrocarbon reservoirs,
- § Roof structural maps for individual layers,
- § Calculated volume of layers, filled with gas and oil,
- § Preliminary calculation of forecasted oil and gas resources in all deposits,
- § Mapping the maximum signal response in each reservoir
- § Identification of the optimum drilling points.

The survey period is 90 days or 3 months

You probably underwent a medical examination in the clinic through MRI tomography, when it is possible to see through the human body? So, we are "seeing" oil/gas and other minerals to a depth of 5-7 km from the surface. We work onshore and offshore (in this case Sea water is just a horizon more. We work in shale gas but we need some samples of the shale mineral for do exploration.

ifp Evolution des technologies en Exploration-Production

1883 1900's 1914 1924 1930's 1930	Theorie de l'artificial Forage Rotary Seismographe Log de puits 1 ^{er} puits en "mer" Sismique ponctuelle	1 ^{er} qualités des roches et des fluides Extension au domaine maritime (> 10m) Imagerie 1D Subsurface	1 ^{ère} période 1880-1930 Explo. à partir des affleurements et des indices de surface
1930's-1940's 1950's	Géophysique Biostratigraphie Sismique et de logging	Généralisation de la 1D Corrélations et datations géologiques précises Amélioration des outils	2 ^{ème} période 1930-1950's Exploration encore « hasardeuse » des bassins
1960's	Ordinateur digital (1963) Rift continental (1969) Diagraphie moderne	2D image de subsurface Meilleure connaissance structurale Propriétés des roches et fluides de subsurface	3 ^{ème} période 1950's-1970's Exploration « semi-calibrée »
1970's 1977	3D migration (1970) Forage directionnel Rock Eval Analyse stratigraphique	Sismique numérique calibrée Concepts "roche mère et formation des HC" approfondis Amélioration de la prédiction	4 ^{ème} période 1970's-1980's Exploration « calibrée »
1985 1986	Sismique 3D Systèmes pétrolier	Meilleure précision des objectifs à forer Meilleure définition des zones à potentiel	5 ^{ème} période 1980's-1990's " Exploration-Production optimisée "
1990's	Simulation 2D et 3D des bassins et des réservoirs Attributs sismiques Sismique 4D et monitoring <small>Source - IFP (FW, 2005)</small>	Prédiction des mouvements et de la localisation des fluides Prédiction des fluides et extensions de réservoirs	6 ^{ème} période 1990's Exploration-Production « rationalisée »

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