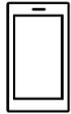


About me

Yan Yusupov, PhD

Reservoir Geomechanics
Engineer



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Yan_Yusupov@bk.ru



Education infographic

2011 - 2015

Bachelor's degree in petroleum engineering

Saint Petersburg State University, Russia

2015 - 2017

Master's degree in petroleum geology

Lomonosov Moscow State University, Russia

2017 - 2020

Postgraduate in petroleum geology

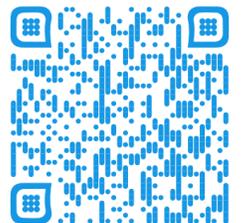
Lomonosov Moscow State University, Russia

2020 - 2024

PhD in petroleum geology

Lomonosov Moscow State University, Russia

For advanced information click [here](#) or use QR code



Work Experience

08/2014 – 01/2015

Geologist

ROSNEFT – Nyagan

- Selected wells for geological and technical operations
- Supervised well servicing and hydraulic fracturing procedures
- Increased production at the field by 20% Finding stories worth to tell

04/2018 – 10/2019

Lead Geomechanist

INNOPRAKTIKA – Moscow

- Created a new geomechanical model of a field in Western Siberia, on the basis of which out-of zone injection refuted
- Optimized fracture designs and enhance hydrocarbon recovery while minimizing potential geomechanical risks

01/2018 – 09/2021

CEO

Nedra Expert – Moscow

- 1D/3D/4D GMM, including impaction of reservoir depletion and compaction on wellbore stability, surface subsidence, and overall reservoir performance, etc.
- Preparing technical reports, presentations, and documentation to communicate findings and recommendations effectively to stakeholders
- Organized 10+ trainings in seismic, geomechanics, petrophysics and sedimentology

Work Experience



12/2015 - Present

From Geomechanist to Deputy CEO

Lithosphere – Moscow

- Conduction detailed geomechanical analyses to evaluate rock properties, stress regimes, and deformation behavior of subsurface formations in different geological settings
- Offer expert advice and support to cross-functional teams on geomechanical considerations in various projects
- Assess geomechanical risks associated with subsurface activities and provide recommendations for risk mitigation strategies
- Successful support 25+ horizontal wells in Western Siberia
- Lead the design, development, and implementation of software tools and applications for geomechanical modeling in LithoStudio software
- Conduct rigorous testing and validation of the LithoStudio tools to ensure the reliability, accuracy, and robustness of the simulations
- Successful completion 50+ projects for 1D/3D/4D Geomechanical Modeling
- 25+ Positive Customers' reviews of Shell, Gazprom, SEIC, Rosneft etc.

Skills

1D/3D/4D Geomechanical Modeling



Core researching



Preparing reports and documents



Software Development



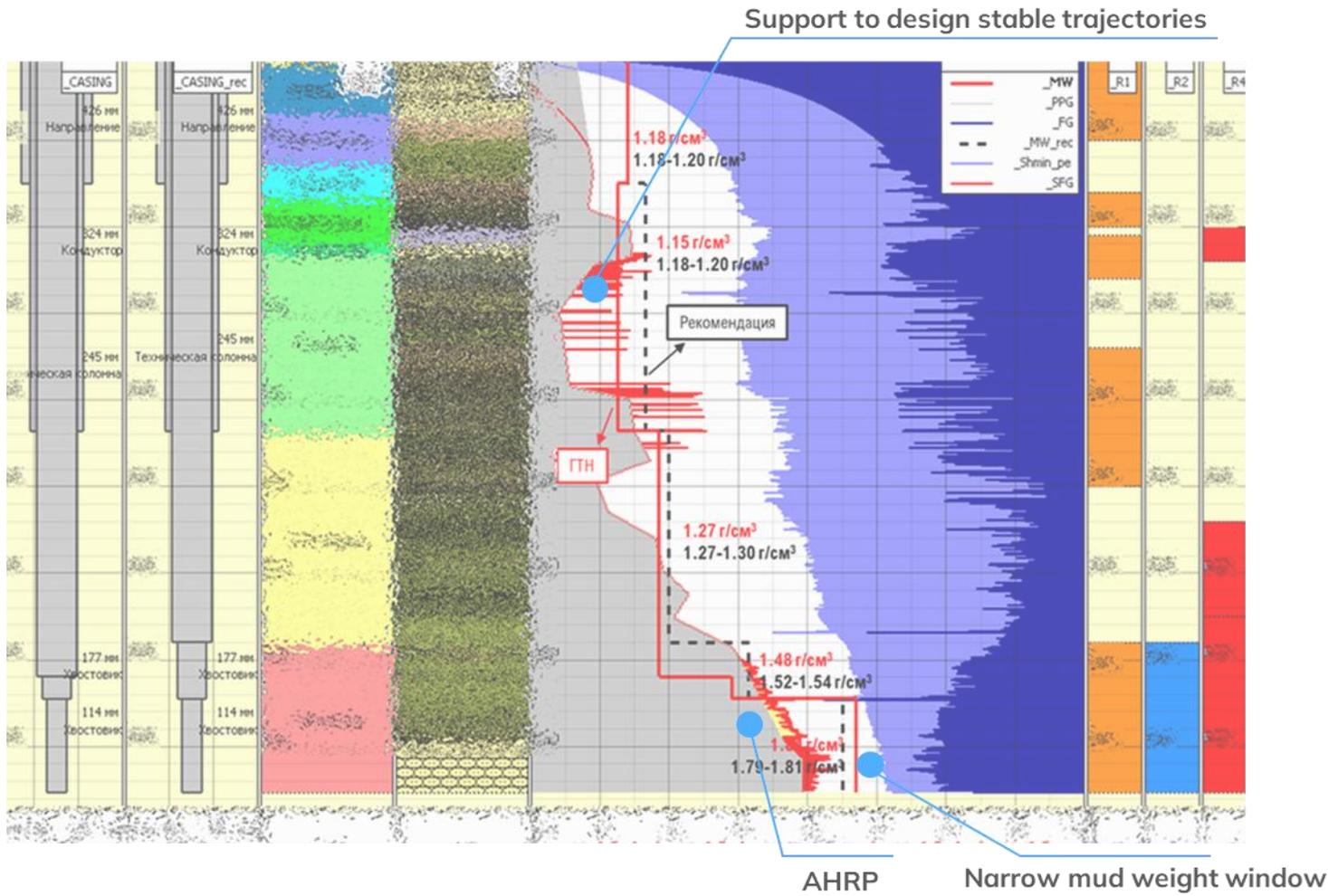
Problem-Solving and Analytical Skills



Interaction with Customer



Example of case: 1D GMM for Onshore Field

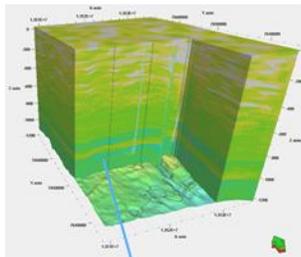
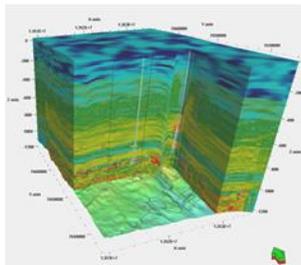
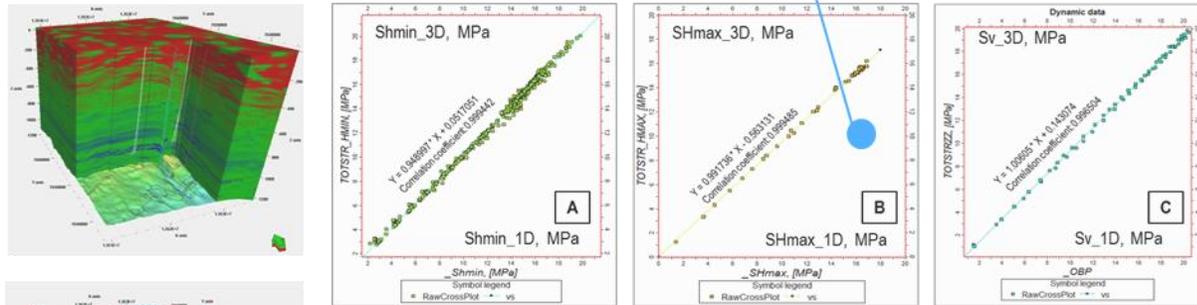


EFFICIENCY

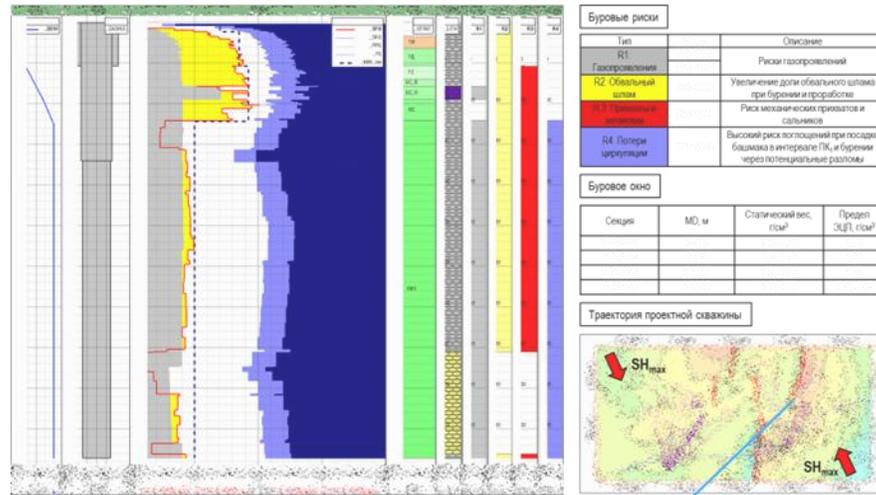
- ✓ AHRP zones were predicted
- ✓ Real-time drilling Geomechanics allowed to drill exploration wells without problems
- ✓ Losses risks in reservoirs from PP / Sh_{\min} decreasing were prevented

Example of case: 3D/4D GMM for Onshore Field

Blind tests



Seismic trends



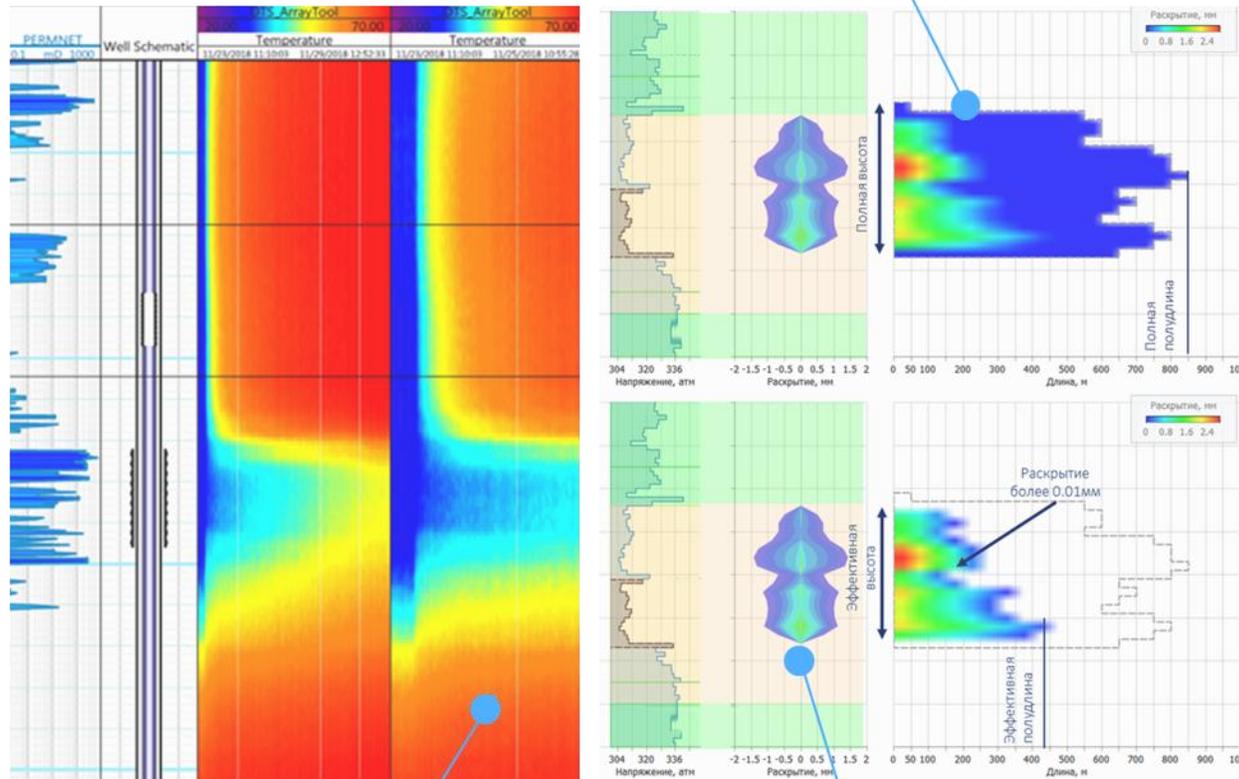
Borehole stability of project wells

EFFICIENCY

- ✓ Drilled 20 long horizontal wells per Cenomanian sediments without significant problems
- ✓ Conditions for efficient drilling of shale overburden layers have been specified

Example of case: 1D GMM for Offshore Field (joint with Physgeo)

1D GMM as base of fracture modeling



Distributive temperature sensor (DTS)

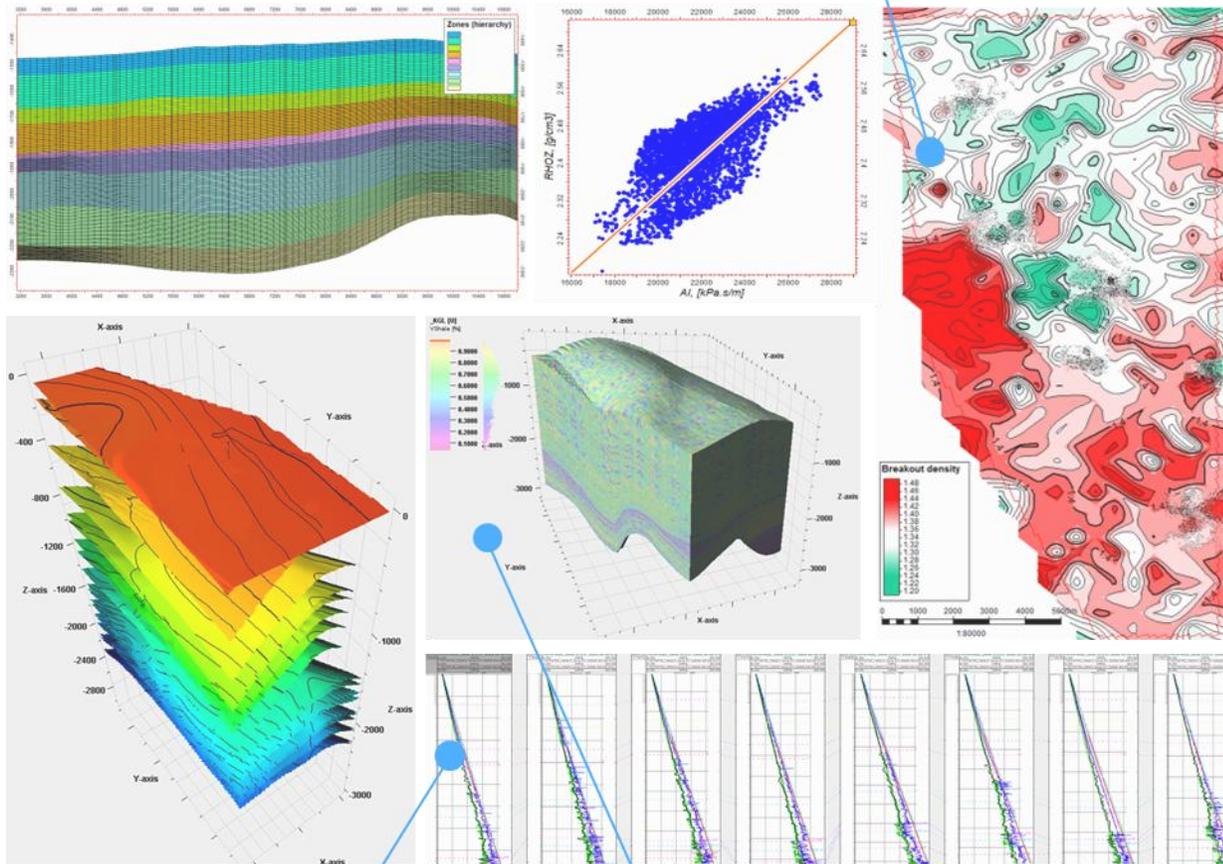
Width and height of fracture

EFFICIENCY

- ✓ Out-of-zone injection wasn't find out
- ✓ Maximum operational injection pressures were estimated
- ✓ Friction effects are insignificant

Example of case: 3D GMM for Offshore Field

Borehole stability of project wells



Blind tests

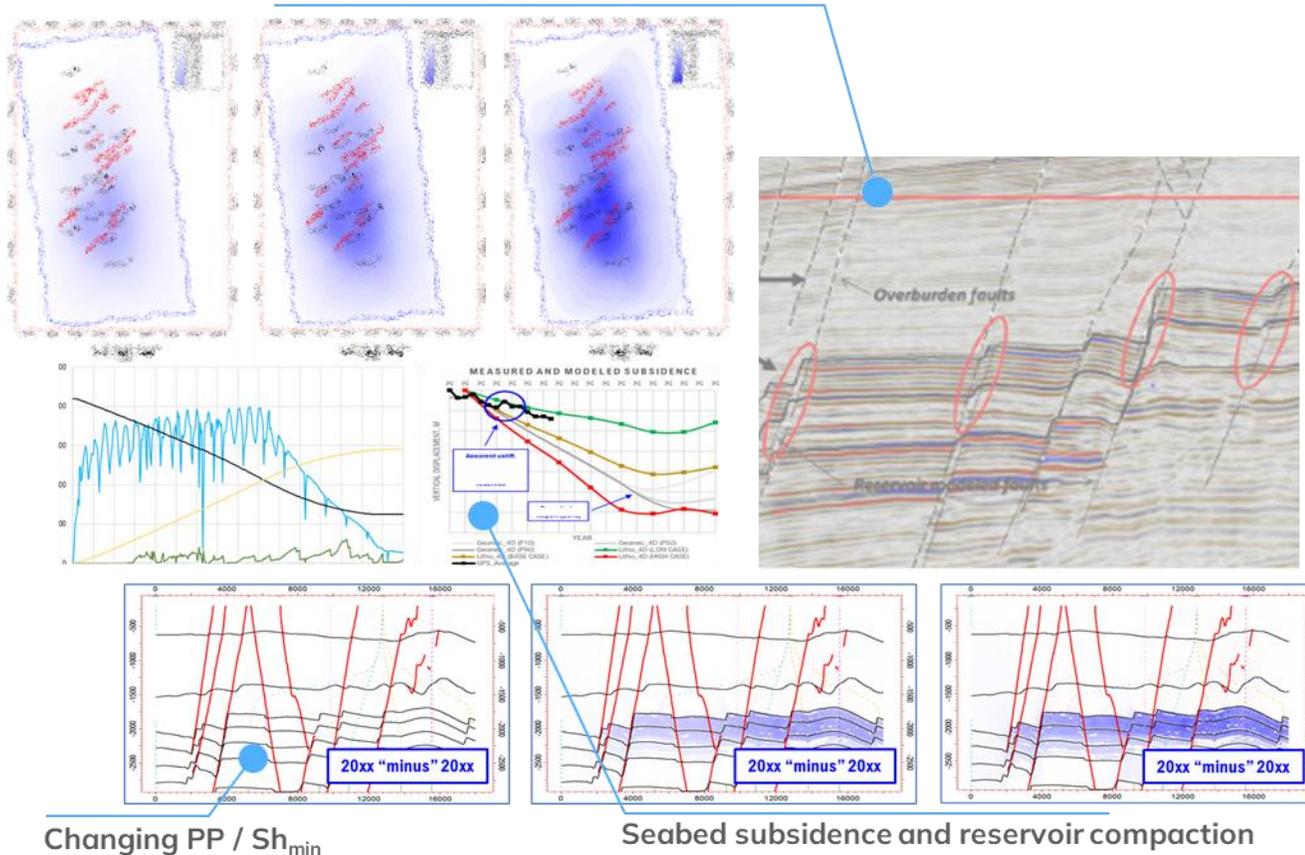
Seismic inversion trends

EFFICIENCY

- ✓ Shale zones instability was predicted
- ✓ The sticks and losses while drilling were prevented
- ✓ The cost of new wells decreased at 20%

Example of case: 4D GMM for Offshore Field

Fault reactivation

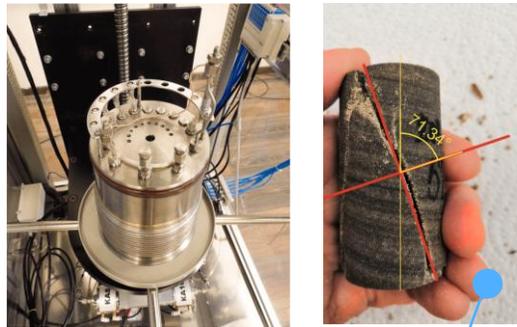


EFFICIENCY

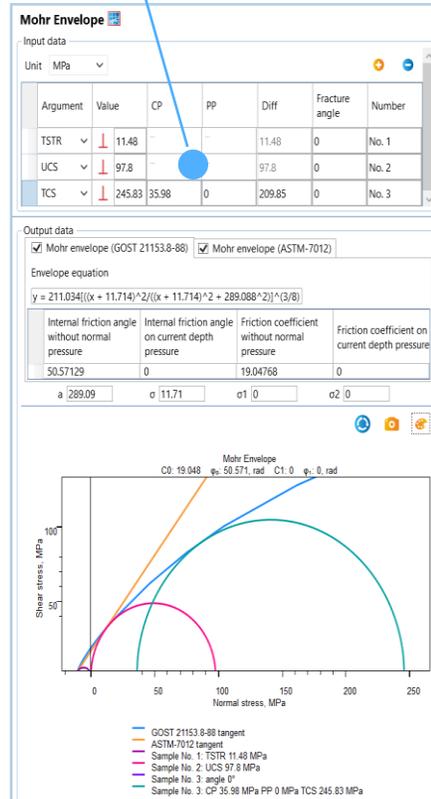
- ✓ The risks of reactivation of faults are identified. Improved upper ECD to prevent lost circulation while drilling
- ✓ Estimated platform subsidence for the entire life of the field
- ✓ Prevented losses risks in the reservoir due to PP/Sh_{min} reduction

Example of case: Core researching

Mohr-Coulomb envelopes



PT-triaxial tests



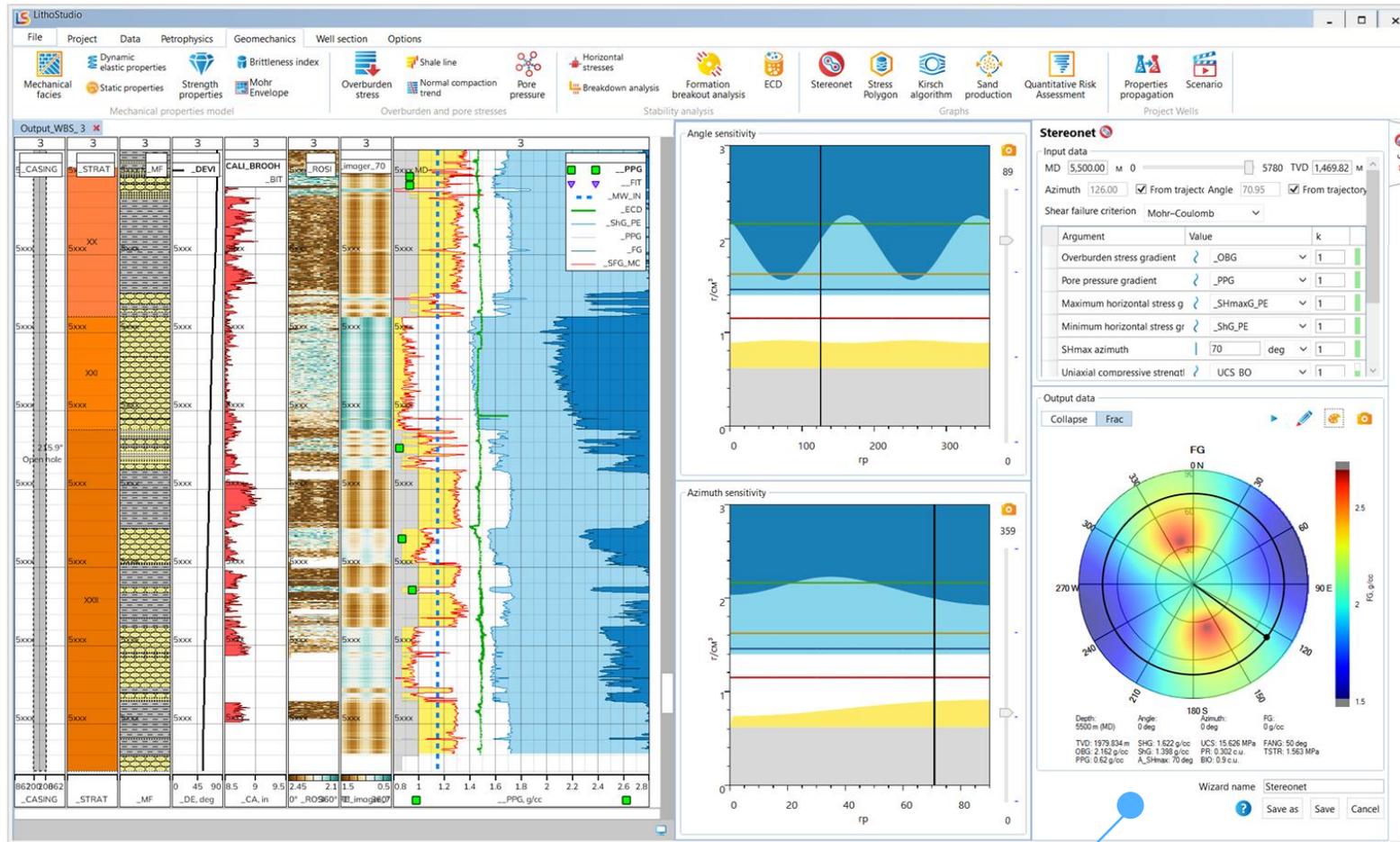
EFFICIENCY



Core parameters used to calibrate 1D GMM

Example of case: Development of LithoStudio Simulator

EFFICIENCY



Drilling risks reduction due to a reliable evaluation of the safe mud weight window, including wellbore instability intervals, AHRP, mud loss, etc.



Drilling problems prediction as an oil and gas showing, blow out, sticking, collapsing, sand production, overpull, landing of drilling bit, etc.



Well design optimization and correction of casing shoes depth landing



Optimal direction and angle of drilling determination



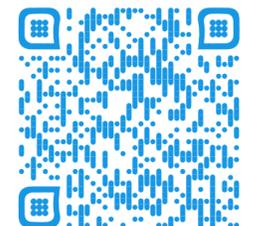
Optimization of hydraulic fracturing design



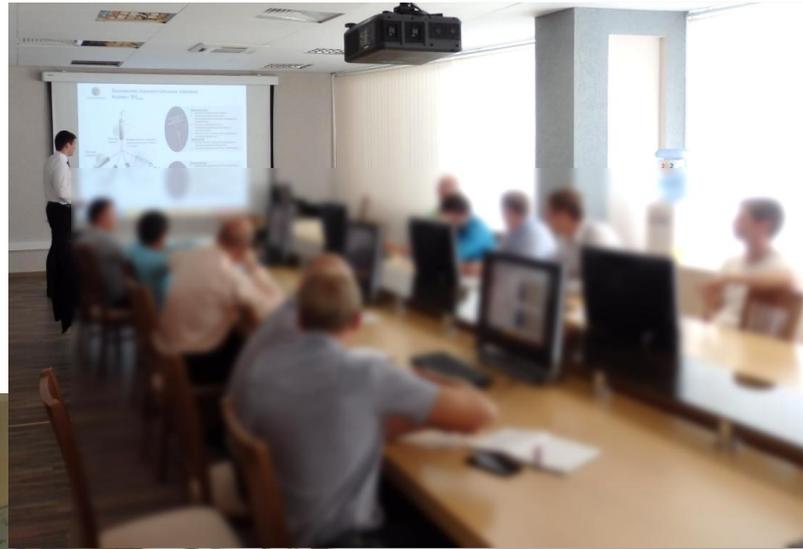
Real-time drilling support to increase rate of penetration, minimize downtime and inefficient construction costs

I am developer of this software
<https://lithostudio.ru/en>

For advanced information about this Project click [here](#) or use QR code



Geomechanical Trainings for Companies



Experience in Trainings

- ✓ **2024 – Lukoil** (*contact for confirmation – Pavel Klykov – email by request*)
- ✓ **2024 – Sakhalin Energy Investment Company** (*contact for confirmation – Anton Beresnev – email by request*)
- ✓ **2018 – Belarusneft** (*contact for confirmation – Roman Gutman – email by request*)
- ✓ **2017 – Lukoil** (*contact for confirmation – Pavel Klykov – email by request*)
- ✓ **2017, 2021 – Rosneft and MSU** (*contact for confirmation – Ruslan Khamidullin – email by request*)
- ✓ **2017, 2018, 2019 – Lomonosov MSU** (*contact for confirmation – Georgy Kalmykov – email by request*)
- ✓ **2016 – Tatneft** (*contact for confirmation – Ildar Girphanov – email by request*)

Geomechanical Trainings for Companies

No	COMPANY (CUSTOMER)	COUNTRY	STUDY DESCRIPTION	YEAR	AMOUNT OF DAYS	AMOUNT OF STUDENTS	ROLE IN THE STUDY
1	Lukoil	Russia	Geomechanical Training for 1D GMM in Geomechanics Software	2024	5	10	Course Teacher, Project Manager
2	Sakhalin Energy Investment Company	Russia	Geomechanical Training for 1D GMM and Sand Prediction in Geomechanics Software	2024	5	8	Course Teacher, Project Manager
3	Belorusneft	Belarus	Geomechanical Training for 1D GMM in Geomechanics Software	2018	5	10	Course Teacher, Project Manager
4	Rosneft and Lomonosov Moscow State University	Russia	Geomechanical Training for 1D GMM in Geomechanics Software	2017, 2021	3	70	Course Teacher, Project Manager
5	Lomonosov Moscow State University	Russia	Course "Reservoir Geomechanics" for Master Students (lections and training in software)	2017, 2018, 2019	14	16	Course Teacher, Project Manager
6	Tatneft	Russia	Geomechanical Training for 1D GMM in Geomechanics Software	2016	5	8	Course Teacher, Project Manager
7	Lukoil	Russia	Geomechanical Training for 1D GMM in Geomechanics Software	2017	5	3	Course Teacher, Project Manager

Full List of Projects: Geomechanics

№	COMPANY (CUSTOMER)	COUNTRY	STUDY TITLE	STUDY DESCRIPTION	DATE	ROLE IN THE STUDY
1	Halliburton	Russia	1D GMM of East-Coastal area, Sakhalin	1D GMM for drilling purposes	2015	Geomechanics Engineer
2	Gazprom	Russia	3D GMM of Piltun-Astokh and Lunskoye fields, Sakhalin	1D, 3D GMM for drilling purposes, subsidence and sand prediction	2016	Geomechanics Engineer
3	Halliburton	Russia	3D GMM of A. Titov's field, Timano-Pechora	1D, 3D GMM for drilling purposes	2016	Geomechanics Engineer
4	Gazprom	Russia	1D GMM of Ayashskiy area, Sakhalin	1D GMM for drilling purposes	2016	Geomechanics Engineer
5	Halliburton	Russia	1D GMM of Terelskoye field, Western Siberia	1D GMM for drilling purposes	2016	Geomechanics Engineer
6	Halliburton	Russia	1D GMM of Odoptu Sea field, Sakhalin	1D GMM for drilling purposes	2016	Geomechanics Engineer
7	Belorusneft	Ecuador	1D GMM of Armadillio field, Ecuador	1D GMM for drilling purposes	2017	Geomechanics Engineer, Project Manager
8	Belorusneft	Belarus	Core researching of Rechitskoye field, Belarus	Core researching for 1D GMM calibration	2017	Research Engineer, Project Manager
9	Canbaikal	Russia	1D GMM of Untigeiskoye field, Western Siberia	1D GMM for drilling purposes	2017	Geomechanics Engineer, Project Manager
10	Irkutsk Oil Company	Russia	3D GMM of Danilovskoye field, Eastern Siberia	1D, 3D GMM for production enhancement	2017	Geomechanics Engineer, Project Manager
11	VNIINEFT	Russia	Core researching of Chumpal field, Caucasus	Core researching for 1D GMM calibration	2018	Research Engineer, Project Manager
12	Rosneft	Russia	Core researching of Kamennoe field, Western Siberia	Core researching for 1D GMM calibration	2018	Research Engineer, Project Manager
13	Rosneft	Russia	1D GMM of Kamennoe field, Western Siberia	1D GMM for drilling purposes	2018	Geomechanics Expert
14	Gazprom	Russia	1D GMM of Yamburgskoye field, Western Siberia	1D GMM for drilling purposes	2019	Geomechanics Engineer, Project Manager
15	Salymneft	Russia	Core researching of Salymskiy area	Core researching for 1D GMM calibration	2020	Research Engineer, Project Manager
16	Russneft	Russia	1D GMM of Shapshinkoye field, Western Siberia	1D GMM for production enhancement	2020	Geomechanics Engineer, Project Manager
17	Zhenis Operating	Kazakhstan	1D GMM of area in Caspian Sea, Kazakhstan	1D GMM for drilling purposes	2021	Geomechanics Engineer, Project Manager
18	Ural Oil and Gas	Kazakhstan	1D GMM of Rozkovskoye field, Kazakhstan	1D GMM for production enhancement	2021	Geomechanics Engineer, Project Manager
19	Geonaft	Cuba	Core researching of Boka-de-Haruko field	Core researching for 1D GMM calibration	2021	Research Engineer, Project Manager
20	Rusgasalliance	Russia	4D GMM of Semakovskoe field, Western Siberia	1D, 3D, 4D GMM for drilling and sand prediction	2022	Geomechanics Engineer, Project Manager
21	Gazprom	Russia	1D GMM of Tambeiskoye field, Western Siberia	1D GMM for drilling purposes	2022	Geomechanics Engineer, Project Manager
22	Sakhalin Energy	Russia	4D GMM of Piltun-Astokh and Lunskoye fields, Sakhalin	1D, 3D, 4D GMM for drilling purposes, subsidence and sand prediction	2022-2024	Geomechanics Engineer, Project Manager
23	Tatneft	Russia	1D GMM of Tukaevsky area	1D GMM for CO ₂ utilization	2023	Geomechanics Engineer, Project Manager
24	Rosneft and GKZ	Russia	3D GMM of Kharampurskoe area	Expertise of 1D, 3D GMM for CO ₂ utilization	2023	Geomechanics Expert

Full List of Projects: Another Projects and Trainings

№	COMPANY (CUSTOMER)	COUNTRY	STUDY TITLE	STUDY DESCRIPTION	DATE	ROLE IN THE STUDY
1	Russneft	Russia	Seismic Data Interpretation and Lithofacial Model of Zapadno-Mogutlorskiy field	Seismic Data Interpretation and Lithofacial modeling for oil structure searching	2016	Geologist, Project Manager
2	Russneft	Russia	Seismic Data Processing and Interpretation of Pikoviy and Zapadno-Uzunskiy field	Seismic Data Processing and Interpretation for resources estimation and oil structure searching	2017	Geologist, Project Manager
3	Canbaikal	Russia	Seismic Data Processing and Interpretation of Zapadno-Malobalykskoye field	Seismic Data Processing and Interpretation for resources estimation and oil structure searching	2018	Geologist, Project Manager
4	REPSOL	Russia	Regional Geological Model of Prikaspiy area	Geological Modeling for resources estimation	2019	Project Manager
5	Salymneft	Russia	Geological Modeling of Maloshapshinskoye Field	Geological Modeling for oil structure searching	2021	Geologist, Project Manager
6	Salymneft	Russia	Oil Reserves Estimation of Maloshapshinskoye Field	Geological Modeling for reserves estimation	2022	Geologist, Project Manager
7	KazakhOil	Kazakhstan	Reservoir Models Update for Alibekmola and Kozhasay fields	Reservoir Modeling for field exploitation purposes	2022	Project Manager

Publications

Применение геомеханической модели для прогноза устойчивости скважин и оптимизации параметров
Красн



ВЕСТН. МОСК. УН-ТА. СЕР. 4. ГЕОЛОГИЯ. 2020. № 6

УДК 550.83.048

Я.И. Юсупов¹, Г.А. Калмыков²

ПЕТРОФИЗИЧЕСКАЯ ПОДГОТОВКА ДАННЫХ ГИС ДЛЯ ГЕОМЕХАНИЧЕСКОГО МОДЕЛИРОВАНИЯ НА ПРИМЕРЕ МЕСТОРОЖДЕНИЯ КРАСНОЛЕНИНСКОГО

Применение метода $\Delta \log R$ для оценки органического углерода и прогноз коэффициента аномальности пласта давления на примере месторождения

Комплексный геомеханический подход для выбора интервалов проведения ГРП на примере баженовской свиты в пределах Красноленинского свода

М.А. МАРКИН,
магистр, советник
maxmarkin87@gmail.com

А.К. ГУЛА,
младший научный сотрудник

Я.И. ЮСУПОВ,
бакалавр, специалист
ООО «Литосфера»

Отложения баженовской свиты распространены на всей территории Западно-Сибирского нефтегазоносного бассейна на глубине 2200-2500 м, мощность до 30 м [1].

Мы рассмотрим различные подходы к оценке и выбору интервалов проведения ГРП на примере баженовской свиты Красноленинского свода. В отличие от традиционного коллектора, значения открытой пористости баженовской свиты редко превышают первые единицы, проницаемость ничтожно мала. Учитывая значительную радиоактивность, большинство методов ГИС совместно со стандартными петрофизическими методами неэффективны при выделении продуктивных интервалов, задача выделения эффективных толщин с целью проведения ГРП должна решаться, и может быть выполнена в том

1.2024 Геофизика

DOI 10.34926/geo.2024.15.91.007
УДК 550.82, 662.276, 519.688

ПРИМЕНЕНИЕ ГЕОМЕХАНИЧЕСКОГО МОДЕЛИРОВАНИЯ ДЛЯ ОПТИМИЗАЦИИ ТРАЕКТОРИИ СКВАЖИН ПРИ РАЗРАБОТКЕ ТУТЛЕЙМСКО-АБАЛАКСКОГО КОМПЛЕКСА КРАСНОЛЕНИНСКОГО СВОДА

Я.И. Юсупов¹, Я.А. Заглядин¹, А.И. Солдатова¹, Г.А. Калмыков²

¹ ООО «Литосфера», 115054, Россия, г. Москва, Озерковская наб., д. 50, стр. 1; e-mail: yusupov@lithosfera.ru
² МГУ им. М.В. Ломоносова, 119991, Россия

Аннотация. В статье рассмотрены две концепции флюидной свиты непосредственно над кровлей флюидной свиты для избежания зонатальных и наклонных скважин в интервалах 10 геомеханической модели по опорным скважинам значения градиентов давлений порового, горного и подовшенной части флюидной свиты в зависимости от стереографических проекций. Рассмотрено поведение ствола скважины в зависимости от зонатальных скважин, тутлеймско-абалакский.

APPLICATION OF GEOMECHANICAL MODELING FOR OPTIMIZATION OF WELL TRAJECTORIES IN THE TUTLEIM-ABALAK COMPLEX OF THE KRSNOLENNINSKY ARCH
Y.I. Yusupov¹, Ya.A. Zaglyadin¹, A.I. Soldatova¹, G.A. Kalmykov²
¹ Lithosphere LLC, 50, bld. 1, Ozerkovskaya nab., Moscow, Russia, 115054; e-mail: yusupov@lithosfera.ru
² Moscow State University, 1, Leninskiye gory,

1.2024 Геофизика

DOI 10.34926/geo.2024.74.36.006
УДК 550.82: 662.276

ЛИТОМЕХАНИЧЕСКАЯ ТИПИЗАЦИЯ КАК ОСНОВА ВЫДЕЛЕНИЯ ПЕРСПЕКТИВНЫХ ЗОН ДЛЯ БУРЕНИЯ ГОРИЗОНТАЛЬНЫХ СКВАЖИН И ПРОВЕДЕНИЯ ГИДРОРАЗРЫВА ПЛАСТА НА ПРИМЕРЕ ОДНОГО ИЗ МЕСТОРОЖДЕНИЙ КРАСНОЛЕНИНСКОГО СВОДА

Я.И. Юсупов¹, Я.А. Заглядин¹, А.И. Солдатова¹, Г.А. Калмыков²

¹ ООО «Литосфера», 115054, Россия, г. Москва, Озерковская наб., д. 50, стр. 1; e-mail: yusupov@lithosfera.ru
² МГУ им. М.В. Ломоносова, 119991, Россия, г. Москва, Ленинские горы, д. 1; e-mail: g.kalmykov@oilmsu.ru

Аннотация. В результате работы выполнена литомеханическая типизация пород тутлеймско-абалакского комплекса в пределах одной из площадей Красноленинского свода Западной Сибири с целью прогноза перспективных интервалов и зон для бурения горизонтальных скважин и технической стимуляции нетрадиционного пласта-коллектора. Литомеханические типы пород выделены на основе изучения их минерально-компонентного состава, петрофизических и упругих свойств по керновым данным, а также по данным геофизических исследований скважин (ГИС). Кроме того, для пород тутлеймско-абалакского комплекса установлена связь между толщиной хрупких интервалов и начальными дебитами скважин, позволяющая выделять перспективные зоны для бурения горизонтальных скважин с проведением гидроразрыва пласта (ГРП).

Ключевые слова. Литомеханический тип, геомеханическая модель, тутлеймско-абалакский комплекс, хрупкость, Красноленинский свод.

LITHOMECHANICAL TYPIFICATION AS A BASIS FOR IDENTIFYING PROMISING ZONES FOR DRILLING HORIZONTAL WELLS AND HYDRAULIC FRACTURING USING THE EXAMPLE OF ONE OF THE FIELDS OF THE KRASNOLENNINSKY ARCH

Y.I. Yusupov¹, Ya.A. Zaglyadin¹, A.I. Soldatova¹, G.A. Kalmykov²

¹ Lithosphere LLC, 50, bld. 1, Ozerkovskaya naberezhnaya, Moscow, Russia, 115054; e-mail: yusupov@lithosfera.ru
² Moscow State University, 1, Leninskiye gory, Moscow, Russia, 119991; e-mail: g.kalmykov@oilmsu.ru



6 articles and more
10 publications in
area of Reservoir
Geomechanics



HALLIBURTON

For advanced information about these Reviews click here or use QR code



Why should you hire me?



More 10 years' work experience



Able to guide and support technology development in response to business needs.



Ability to determine customer needs, educate customers on solutions and manage customer expectations.



Responsibility for outcomes. Encouraging for new ideas. Adapting to changes.

Cover Letter

Dear reviewer,

I, Yan Yusupov, PhD, have 10 years of broad experience in Oil and Gas, covering geomechanics, petrophysics, geology, geochemistry, well planning, well testing, well integrity management, business planning. Experienced in predrill and while drilling geomechanics. Experienced in unconventional reservoirs (Bazhenov, Domanik) and CO2 utilization. Experienced in geomechanics software development (LithoStudio). Ability delivering complex projects. Managing a multidisciplinary team. Experience coach with good records of coaches. Team player with strong focus on LEAN and optimizations. A lot of optimization ideas and deliveries in process simplifications and efficiency. Sakhalin-2 Project experience (6 years), Semakovskoe Project (3 years), CO2 utilization Project (1 year) and another projects. Knowledge in West Syberia, East Syberia, Volgo-Ural, Prikaspiy and Sakhalin geology, type of formations. Knowledge in Customers, their availabilities, and technologies applied in the region, logistics, etc.

My recent achievements:

- ✓ 2020-2024 - Managed geomechanical services including 1D, 3D, and 4D geomechanical modeling, mud weight window prediction, fault reactivation, compaction, and out of zone injection for the Sakhalin-2 project. As a result, shale zone instability was predicted, fault losses during drilling were prevented, and the cost of new wells was reduced by 20%. Risks of fault reactivation were identified. Upper ECD was improved, preventing circulation losses during drilling. Estimated platform subsidence over the entire oil field period; prevented risk of losses in the reservoir by reducing PP/Shmin.
- ✓ 2023 - Expert in the geomechanical part of the CO2 utilization complex project for a major Russian oil company.
- ✓ 2023 - Managed geological services for the Tatneft Domanik project. As a result, developed selection criteria for Domanik rocks and balancing as unconventional reservoirs.
- ✓ 2022 - Provided hydraulic fracture modeling services for injection wells in collaboration with Physgeo. No out-of-area injections were found, maximum operational injection pressures were estimated, and frictional effects appeared to be minor.
- ✓ 2018-2021 - I founded my own company, Nedra Expert LLC, and held over 10 training sessions in seismology, geomechanics, rock physics, and sedimentology.
- ✓ 2015-2023 - Developed LithoStudio software and sold over 20 licenses. Software main tasks: 1) 1D modeling for evaluation of safe mud weight windows, 2) prediction of wellbore instability, 3) prediction of oil and gas shows, blowouts, collapses, sand production, overpulls, and drilling bit landings, 4) well design optimization and casing shoe depth landings correction and casing; 5) Determination of optimal drilling direction and angle; and 6) real-time drilling support to increase penetration rates and minimize downtime and inefficient construction costs.
- ✓ 2020-2022 - Constructed a 4D geomechanical model used in the construction of the Semakovskoye oil field (RGA, Gazprom) well. Maintained and updated geomechanical model during drilling. The project used key technologies of directional drilling, fluids, bits, and well casing technology in close cooperation with geosteering drillers. As a result, 20 long horizontal wells per Cenomanian were drilled without major problems. The conditions for efficient drilling of the shale overburden formation were identified.
- ✓ 2020-2022 - Managed geomechanical services for Zhenis (Kazakhstan). As a result, passed 1D GMM expertise and successfully drilled a well.
- ✓ 2019-2020 - Proposed 1D GMM for AHRP zone prediction in Western Siberia. Real-time geomechanics results show that the exploration well was drilled without problems; prevented risk of reservoir loss due to PP/Shmin reduction.
- ✓ 2018-2022 - Geomechanical core study expanded to 1000 cores. Core parameters used to calibrate 1D GMM.
- ✓ 2018-2019 - New geomechanical model of the field in Western Siberia was created and out-of-zone injection was refuted based on it.
- ✓ 2017-2019 - Estimated sweet spot zones in the Bazhenov Formation (Em-Yogovskoye field, West Siberia) based on 3D geomechanical model.

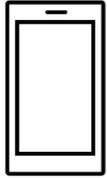
My CV is attached for reference.

I would very much appreciate your feedback / discussion on this opportunity further.

Looking forward to your consideration

Yan Yusupov

Contacts



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