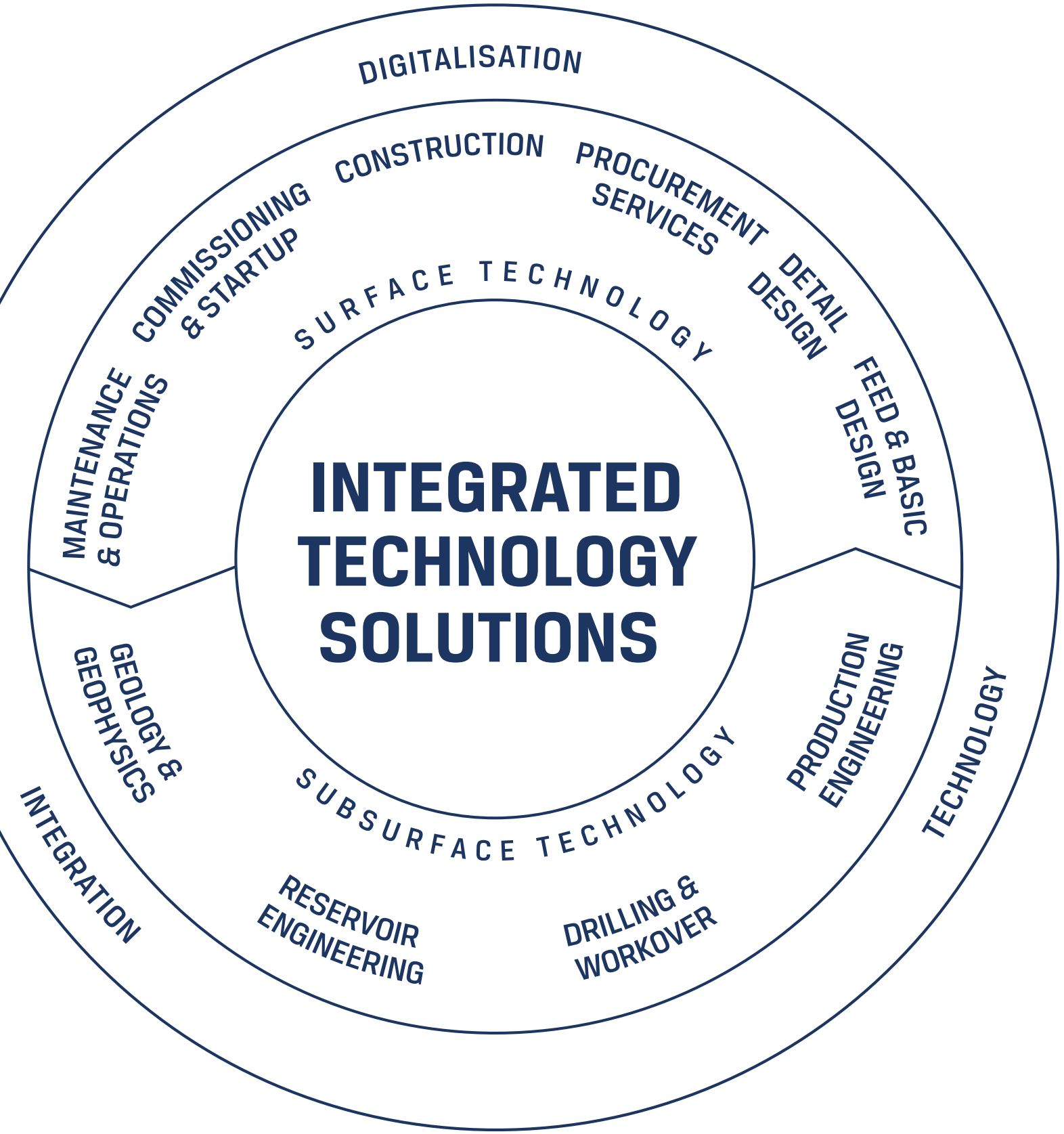
SUBSURFACE TECHNOLOGY

REFERENCE LIST

DECEMBER 2024

ISO 9001: 2015 Quality Management System
ISO 14001 : 2015 Environmental Management System
ISO 45001 : 2018 Occupational Health and Safety Management System
ISO 50001 : 2018 Energy Management System

Certified by **TÜV NORD**



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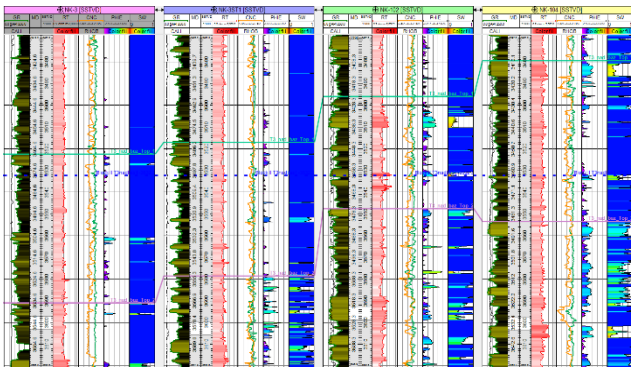
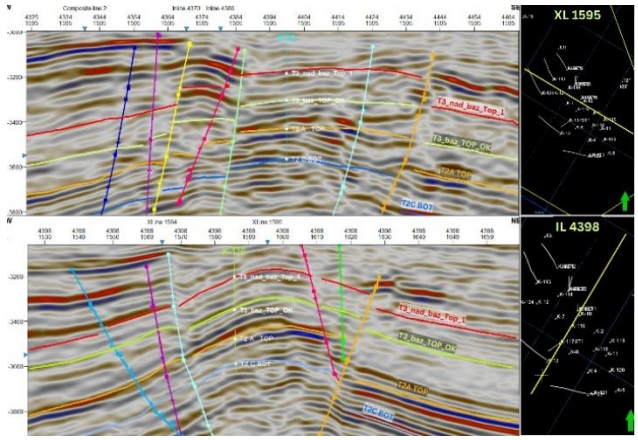
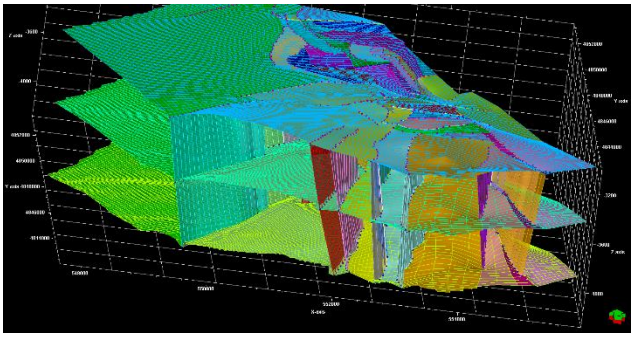
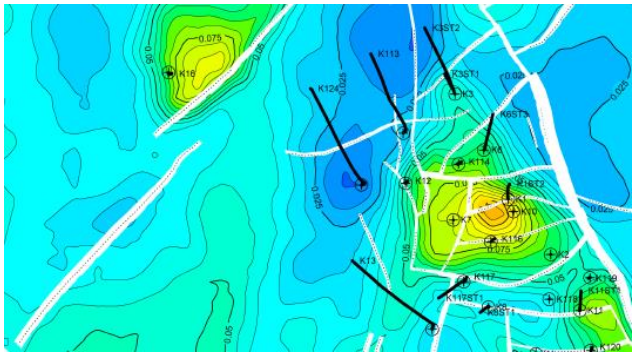
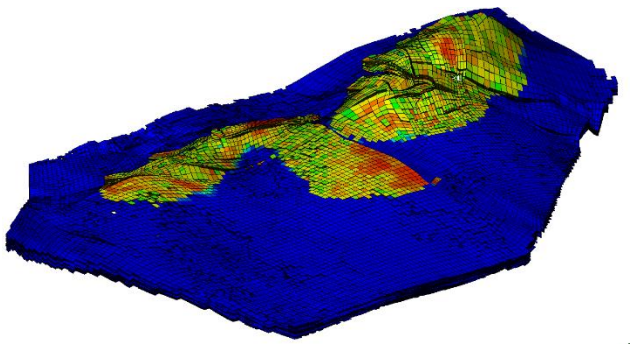
ISO 9001: ISO 14001: ISO 45001 : ISO 50001











PROJECT:

Static & Dynamic Modelling of Kariman & North Kariman Oil Fields

CLIENT: TechSol Engineering LLP / EMIR-OIL LLP

SERVICES: Data Gathering, Review & Analysis
Well Log Interpretation (petrophysical analysis)
3D Seismic Data Interpretation
3D Structural Modelling
3D Petrophysical Modelling
Reservoir Engineering & Simulation

The Kariman & North Kariman Oil Fields are located in the Mangistau region of the Republic of Kazakhstan. Each field consists of six heavily faulted reservoirs. Three of them belong to the Upper Triassic & three of them to the Middle Triassic. The Upper Triassic reservoirs are mainly composed of sandstones, while the Middle Triassic reservoirs are mainly composed of carbonates.
The oil reservoirs are initially undersaturated and develop a secondary gas cap.

COMMENCEMENT: May 2024
COMPLETION: November 2024

SERVICES INCLUDED:

1) Data Gathering, Review & Analysis
- Review geology and reservoir studies
- Review and analyze well production & pressure history data
- Review and analyze fluid property and PVT data reports
- Review and analyze SCAL data reports
- Review and analyze transient well test and PLT data
- Review and analyze well log data
- Review and analyze workover reports

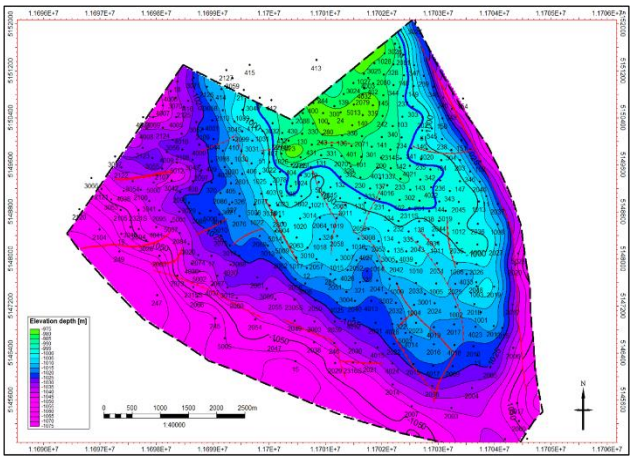
2) Well Log Interpretation (petrophysical analysis)
- Calculation of petrophysical parameters on the basis of well logging data, core data and laboratory core analysis
- Determination of porosity, water saturation, flushed zone water saturation, matrix density, dry and wet clay volume.
- Cut off value determination
- Well top interpretation
- Fluid contact interpretation & correlation

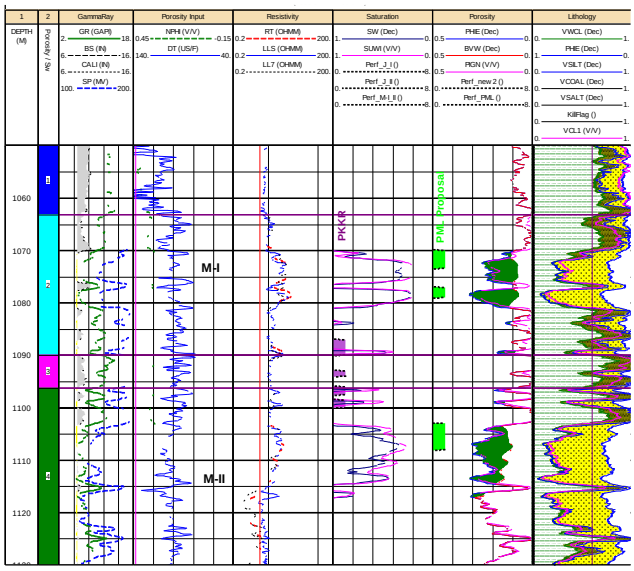
3) 3D Seismic Data Interpretation
- Seismic data quality control
- Depth conversion quality control
- Structural seismic interpretation (fault & horizon interpretation)
- Assessment of the tectonic regime
- Correlation of well tops to key horizons

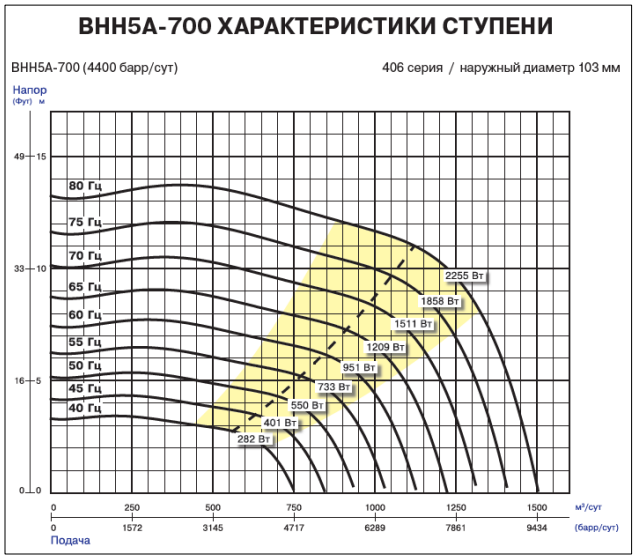
4) 3D Structural Modelling
- Fault modelling
- Pillar gridding
- Horizon modelling
- Zonation
- Layering

5) 3D Petrophysical Modelling
- Upscaling of well logs to the structural model
- Variogram analysis
- Stochastic modelling using Sequential Gaussian Simulation (SGS)
- Calculation of net-to-gross (NTG), porosity, water saturation and permeability cubes
- Volumetric calculations (inc. Monte Carlo simulation)

6) Reservoir Engineering & Simulation
- Pressure & fluid data analysis to investigate communication /compartmentalization
- Preparation of production and pressure data to be used for reservoir simulation
- Hydrocarbon fluid & reservoir brine characterization
- Equation of state (EOS) modelling & black oil PVT table generation
- Relative permeability & capillary pressure data analysis & reservoir simulation input data preparation including saturation table end-point scaling
- Pressure & fluid data analysis to investigate communication / compartmentalization
- 3D reservoir simulation model building
- Calculation of initial phase and pressure distribution
- History matching (aquifer strength determination, pressure match (regional & bottom hole flowing & static pressures), well phase rate match)
- Prediction calculations with different scenarios (do nothing, drilling of additional wells, reactivation of suspended wells, water injection & gas injection)







PROJECT:

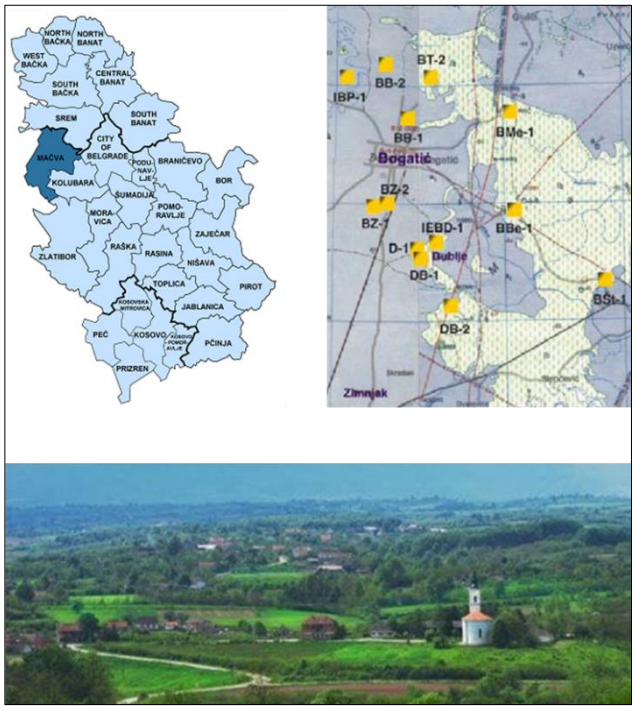
Suspended Wells Problem Analysis & Workover Program Preparation, Kumkol South O&G Field

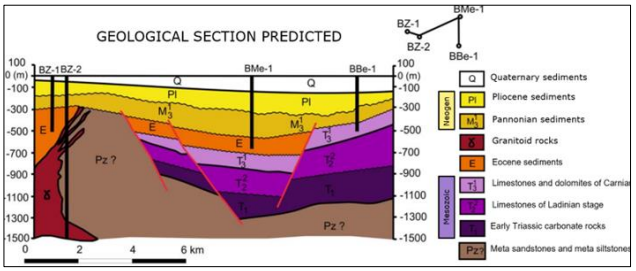
CLIENT: PetroKazakhstan Kumkol Resources JSC
SERVICES: Field Development Support & Integrated Technology Services

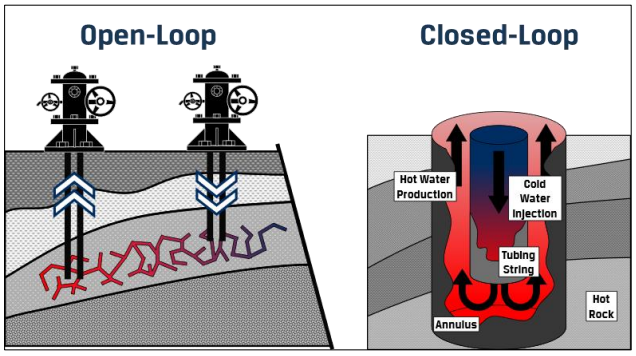
COMMENCEMENT: September 2022
COMPLETION: March 2023

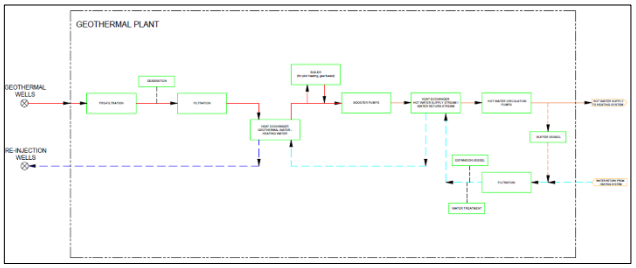
SERVICES INCLUDED:

1) Well Problem Analysis General Workflow preparation
2) Data Acquisition, Review, Quick Look Analysis
   - Review Geology and Reservoir Studies
   - Review and analyze well production history data
   - Review and analyze fluid property and PVT data reports
   - Review and analyze well test data and PLT
   - Review and analyze well log data
   - Review and analyze workover reports
   - Reporting on Data Review, additional data requested to client
3) Pilot Project
   - Candidate selection for pilot analysis
   - Geological features analysis
   - Log data interpretation/analysis
   - WO history and well schematic analysis
   - Production history analysis
   - PLT and welltest interpretation analysis
   - DCA, forecast and remaining reserves estimation
   - Well Problem(s) identification and solution proposal
   - New opportunities identification
   - Building well model, IPR, WFP, Sensitivity Analysis
   - Artificial lift selection and design
   - WO and/or well intervention program
   - Cost/benefit analysis









PROJECT:

Hydro-Geothermal Potential of the Macva region, Serbia

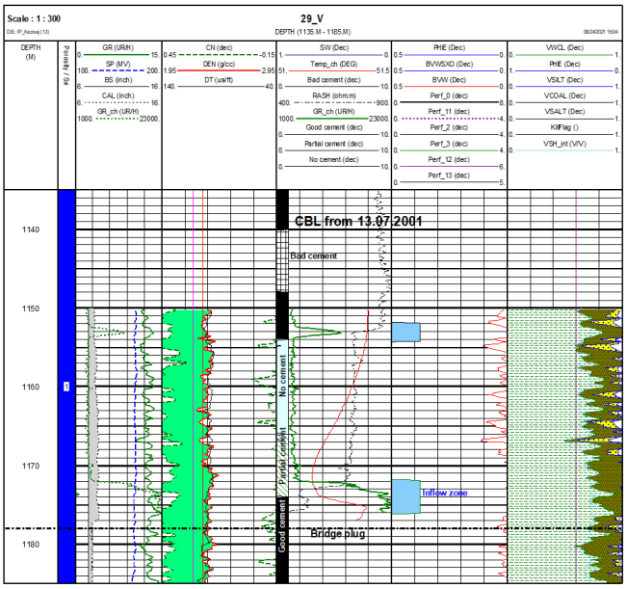
CLIENT: PM Lucas Corporate
SERVICES: Geological Analysis
Market Analysis
Surface Technology Analysis
COMMENCEMENT: January 2023
COMPLETION: March 2023

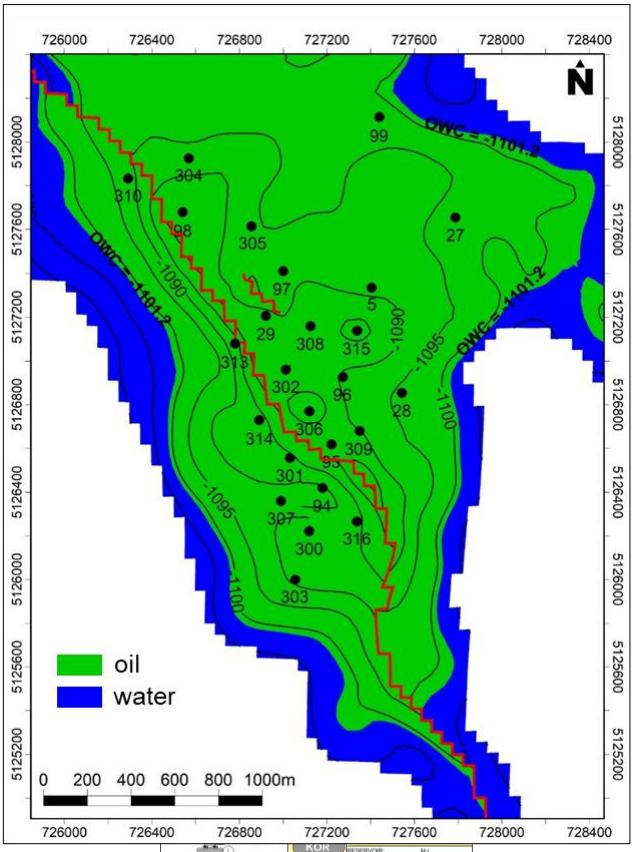
SERVICES INCLUDED:

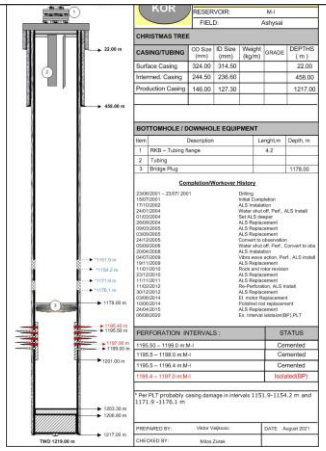
1) Geological Analysis
- Geographical characteristics of the area
- Analysis of available drilling data
- Studying of the geological framework
- Structural-tectonic characterization
- Characterization of the hot water aquifer system
- Comparison with geothermal projects in Austria
- Reporting on Data Review, additional data requested to client

2)Market Analysis
- District heating
- Industrial heat consumers

3)Surface Technology Analysis
- Comparison of closed loop and open loop systems
- Block diagrams







PROJECT:

Field Development Support
Ashysai Field

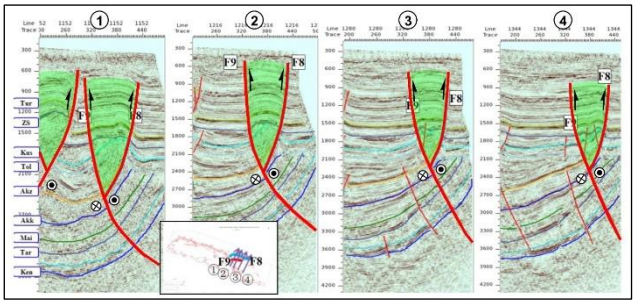
CLIENT: KOR Oil Company LLP
SERVICES: Field Development Support &
Well Problem Analysis &
Well Workover Program Proposal

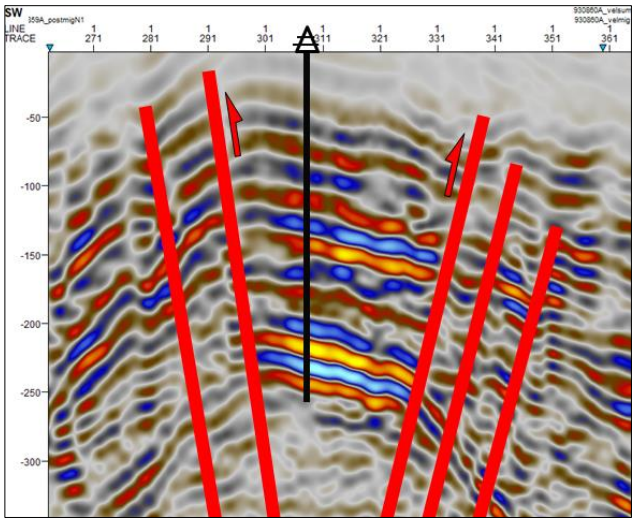
COMMENCEMENT: June 2021
COMPLETION: March 2023

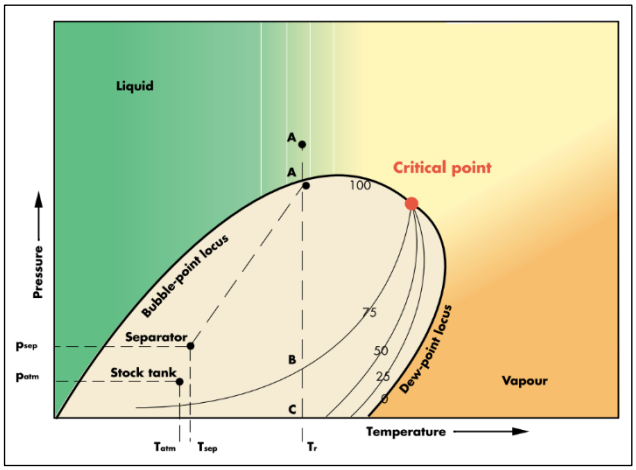
SERVICES INCLUDED:

1) Well Problem Analysis
- Geological analysis
- Well log (re)interpretation with CBL & PLT data
- Well production history analysis
- Well workover history analysis
- Well schematic review
- Analysis of single well in context with entire field
- Suggestions for way forward

2) Well Workover Proposal
- Well status analysis
- Providing safety procedures
- Regulatory aspects analysis
- Well data and wellbore configuration analysis
- Workover program proposal for water shut off and CB







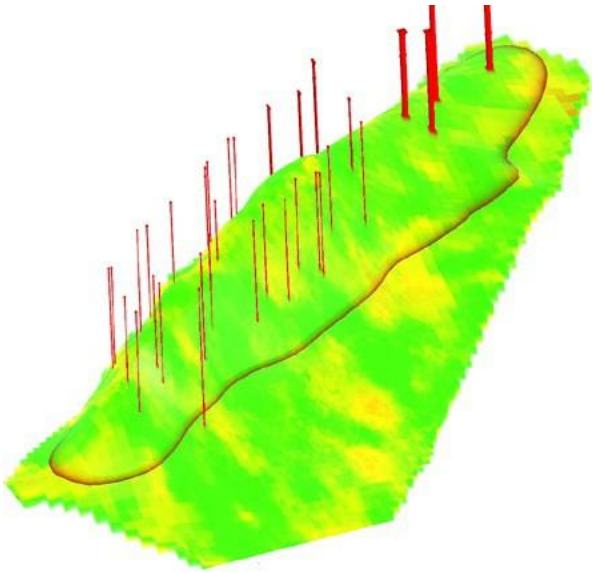
PROJECT:

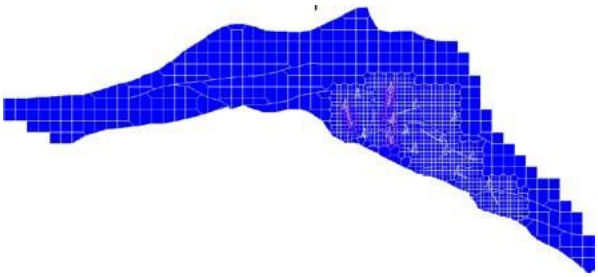
Field Development Support
Zaysan South Basin

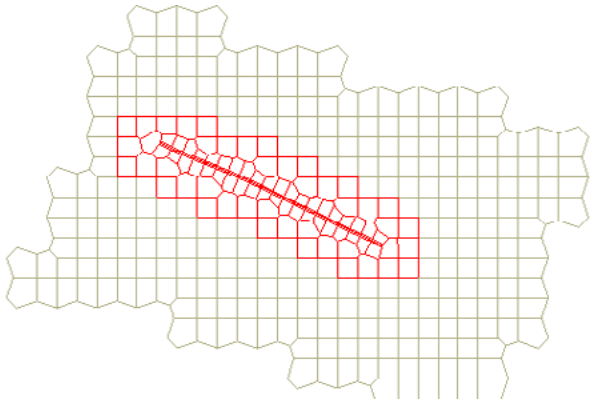
CLIENT: ManyraqGasBarlau LLP
SERVICES: Field Development Support
Geology & Geophysics Support
Reservoir Engineering Support
Drilling & Completion Program Support
COMMENCEMENT: March 2021
COMPLETION: August 2021

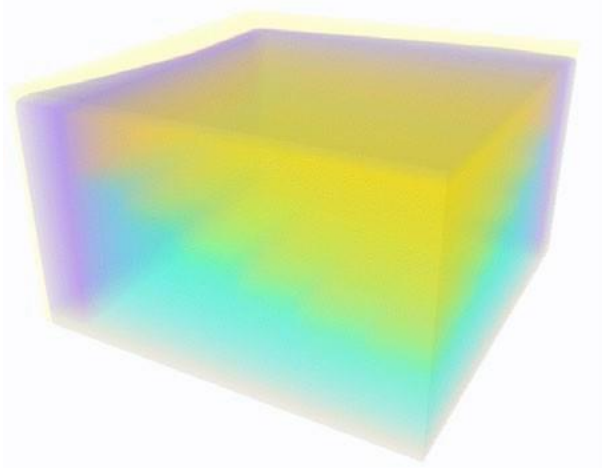
SERVICES INCLUDED:

1) Geology & Geophysics Support
   - Review of 2D seismic proposals
   - Advise on geological challenges and issues in HC exploration
   - Advise on new seismic campaign
   - Propose well location based on available data
2) Reservoir Engineering Support
   - Fluid data analysis (analogy with Sarybulak field)
3) Drilling & Completion Program
   - General & Geology
   - Well Construction
   - Drilling Engineering
   - Casing & Cementing
   - Well Control Equipment & Testing
   - Evaluation Operations (Coring, Logging, Deviation Survey)
   - Rig Structure
   - Drilling Procedures & Recommendations
   - Scope of Work
   - Risk Assessment









PROJECT:

IN-HOUSE RESERVOIR SIMULATOR DEVELOPMENT

CLIENT: PM Lucas Corporate

SERVICES: Development and Maintenance of Multi-Purpose Reservoir Simulator

COMMENCEMENT: January 2017

COMPLETION: ongoing

SERVICES INCLUDED:

1) 3D all purpose, multiphase numerical modelling

2) Black oil and compositional model formulation

3) Multi scale modelling
- Multiple reservoirs
- Full field
- Sector
- Single well
- Column
- Single matrix block
- Lab scale / slim tube

4) Unstructured PEBI grids
- Fault modelling
- Local grid refinement
- Local grid coarsening

5) Windowing Technique
- Changing the grid over time
- Radial and horizontal well models
- Transient well testing

6) Fracture Modelling
- Single Matrix Block (SMB) analysis
- Recovery Curve Method (RCM)
- Dual porosity / dual permeability

7) Model verification / assisted history matching
- Target Pressure Method (TPM)
- Target Pressure and Phase Method (TPPM)
- Drainage Phase Method (DPM)

8) Well integrity detection module
- Automated identification of abnormal production behavior
- Recognition of abnormal pressure developments
- Estimation of local fugitive emission rates

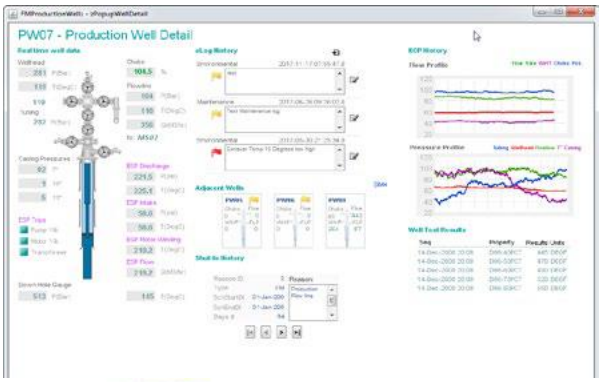
9)C02e Module
- Reporting of hydrocarbons in place and well production in C02e
- Integration with leading process simulation software
- Tracking of molecules through all simulation domains (from pore space to point of release)
- Subsurface module of holistic material balance
- Bottom-up Scope 1, 2 & 3 GHG emission assessment & classification

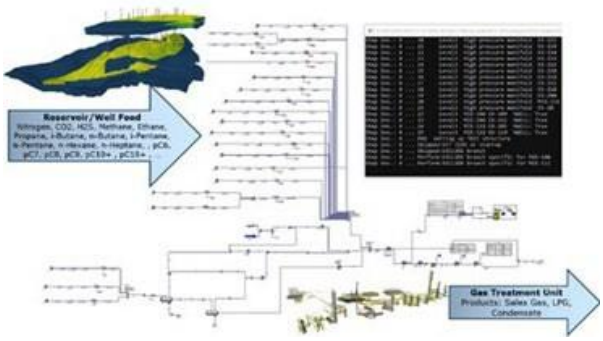
10) Underground Hydrogen Storage (UHS) Module
- Modelling of dispersion and diffusion of H2 in the reservoir
- Assessing long term impact of injected H2 on cap rock integrity
- Modelling of geochemical & biochemical reactions
- Modelling of subsurface in-situ bio-methanation / "Green Methane"
- Integration with leading process simulation software packages

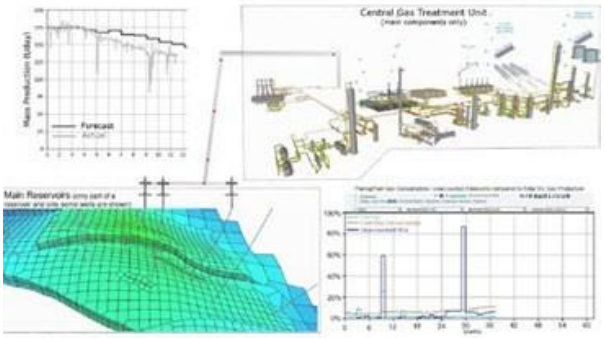
11) Carbon Capture Sequestration (CCS) Module
- Modelling of dispersion and diffusion of C02 in the reservoir
- Assessing long term HSE impact of C02 sequestration
- Assessment of long-term impact on reservoir rock and cap rock integrity
- Modelling of geochemical & biochemical reactions
- Integration with leading process simulation software packages

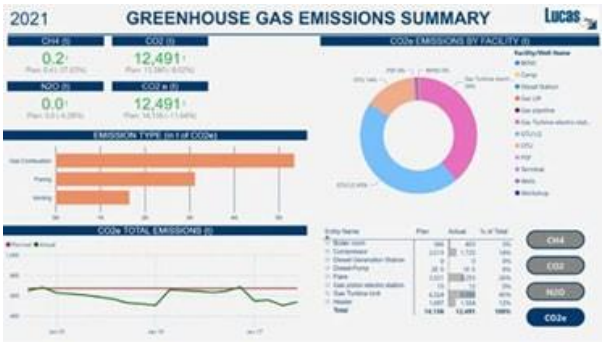
12) Geothermal Energy Recovery Module
- Modelling of geothermal assets (low- and high enthalpy reservoirs)
- Modelling of thermal conduction of heat in the rock and convection of heat with the injected/produced working fluid (reservoir brine)
- Integration with leading process simulation software packages

13) Smart Well Module
- Well site installed dedicated reservoir simulator
- Fully integrated into overall digital oil field solution
- Fully automated, on-site history matching and near to midterm forecasting
- Real time well performance monitoring & model validation tool
- Integration with leading ERP (enterprise resource planning) systems









PROJECT:

FULL ASSET DIGITALIZATION & ESYS SIMULATION

CLIENT: ZhaikMunai LLP, Kazakhstan

SERVICES: Development, Pilot Installation, Field Roll Out and Long-Term Maintenance

COMMENCEMENT: March 2018

COMPLETION: ongoing

SERVICES SUMMARY:

The full Integrated Digitalization enables achievement of Environmental Social Corporate Governance (ESG) targets as well as future RoK Regulatory requirements for GHG Emissions reporting and compliance. Integrated asset-wide numerical model from the reservoir to the backend of the processing facility. Full Document Management System (DMS) Integration, Project Quality Management Integration, Facility Maintenance Integration. Forecasting of plant product specifications based on reservoir development scenarios. Assessment of Scope 1 and Scope 2 emissions resulting from plant operations

SERVICES INCLUDED:

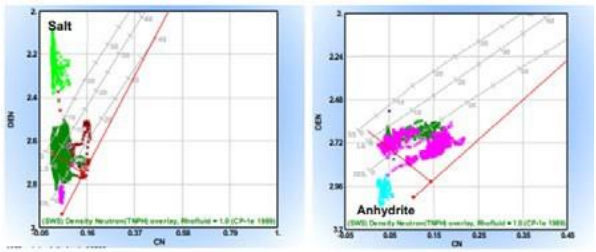
1) Data Collection & Storage
- Data collection from field instruments
- Data collection from manual inputs, reports
- Automatic reviewing and approval process
- One single data source

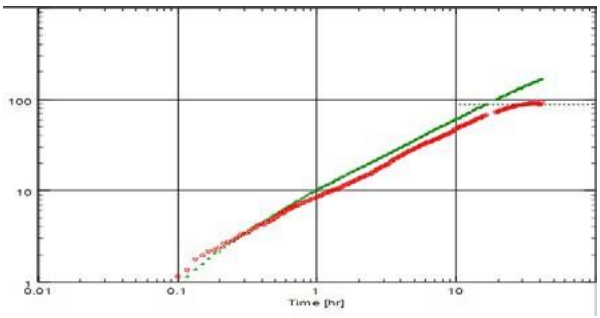
2) Data Analysis
- Data cleansing and filtering (pre-processing)
- Data aggregation and calculations

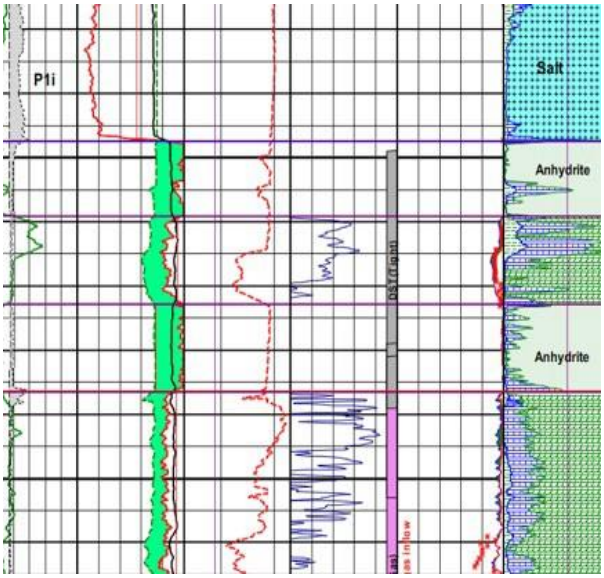
3) Integrated Subsurface-Surface ESYS Simulation
- Connection of reservoir and facility simulation into one numerical tool
- Link the reservoir simulation models of Ardatovski, Biyski, Frasnian & Tournaisian reservoirs to the process simulation models of the gas treatment units GTU 1-2, GTU 3and the oil treatment complex UPN
- Revision of sour conditions gas condensate and oil fluid description to conform to reservoir and surface simulation needs
- Full compositional, equation-of-state numerical modeling from the reservoir to the backend of the processing facility
- High-resolution compositional simulation of the well drainage area
- Integrated subsurface-surface modeling of complex physical and chemical processes, and their impact on operational and investment decisions
- Forecasting of plant products and product quality and assessment the impact of reservoir development strategies

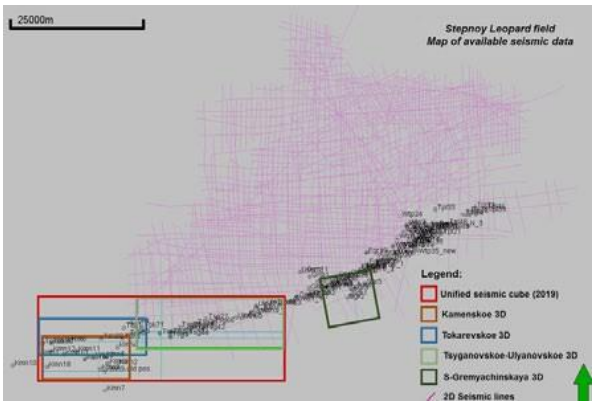
4) GHG Emissions calculations & forecasts
- Assessment of Scope 1 and Scope 2 emissions resulting from plant operations
- Evaluation of reservoir development strategies and plant operations to develop emission mitigation strategies
- Bottom-up accounting of unaccounted hydrocarbons (e.g. fugitive emissions)

5) Automated Reporting System
- Interactive & intuitive dashboards
- PDF Reports (government)
- Data availability (SharePoint, PC, tablet, phone, watch)
- Role-based approach
- Real-time monitoring









PROJECT:

STEPNOY LEOPARD DEVELOPMENT PROJECT, PHASE II

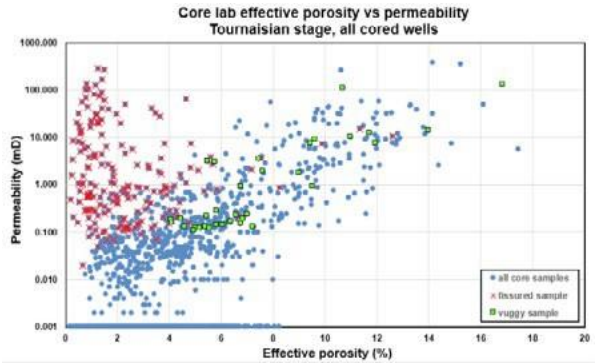
CLIENT: Nostrum Oil & Gas Coöperatief U.A
SERVICES: Full Field Appraisal Development Project
COMMENCEMENT: January 2019
COMPLETION: December 2019

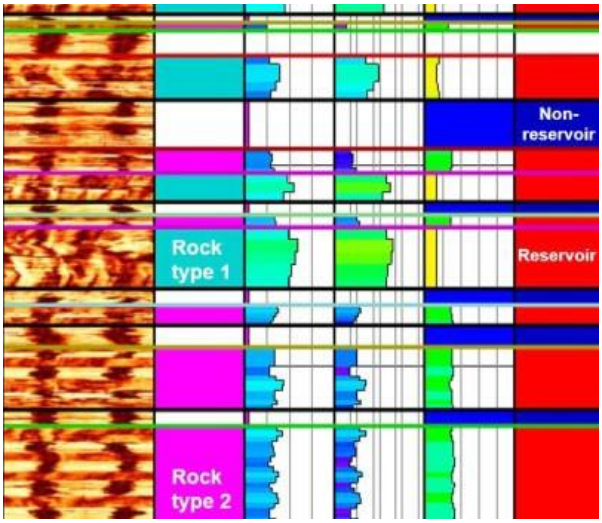
SERVICES SUMMARY:
Stepnoy Leopard Project incorporates an 80km long chain of hydrocarbon fields in the NW part of the Republic of Kazakhstan, which belongs to hydrocarbon prolific Pre-Caspian sedimentary basin. The chain of eight gas-condensate and gas-condensate-oil fields is controlled by a long stretch of Permian carbonate barrier reefs. The challenges for geological modeling were:

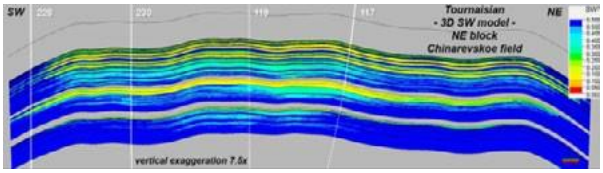
- structural morphology of shelf-edge reefs, rising above shelf plateau up to several hundred meters
- complex internal architecture as a consequence of specific depositional conditions & diagenetic alterations
- highly variable reservoir properties

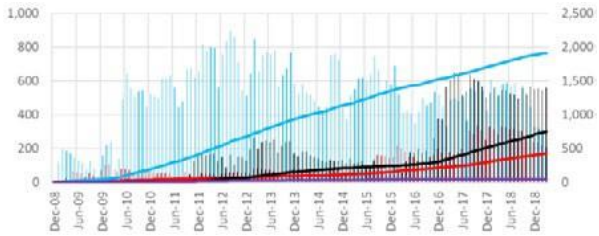
SERVICES INCLUDED:

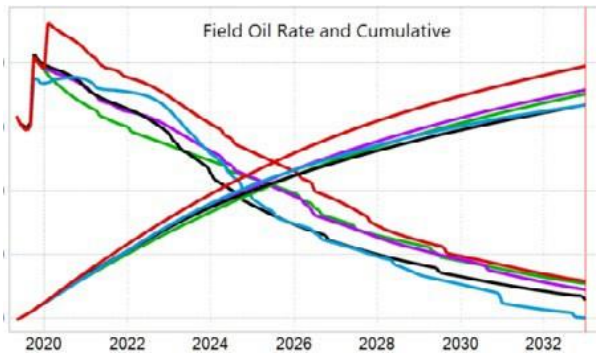
1) Complex database established
2) Geological data QC and analyses
3) Seismic data QC
4) Well log data QC and interpretation
5) Reservoir engineering data QC and analyses
6) Guides to 3D seismic data re-processing
7) 3D geological modeling of reservoirs
8) Simulation modeling of reservoirs
9) Hydrocarbon in place volumes and HC reserves estimation
10) Assets evaluation
11) Field development plan
12) Well integrity assessment of existing 150 wells
13) Well designs
14) General drilling programs
15) Production & Operations Simulations











PROJECT:

GEOLOGICAL & SIMULATION MODELLING AND DEVELOPMENT STRATEGY FOR TOURNAISIAN AND BIYSKI + AFONINSKI RESERVOIRS (THE CHINAREVSKOE FIELD)

CLIENT: ZhaikMunai LLP, Kazakhstan

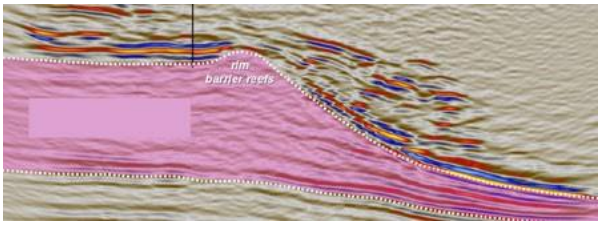
SERVICES: 3D Geological Modeling, HC in Place Volumes Estimation, 3D Simulation Modeling, HC Reserves Estimation, Development Strategy

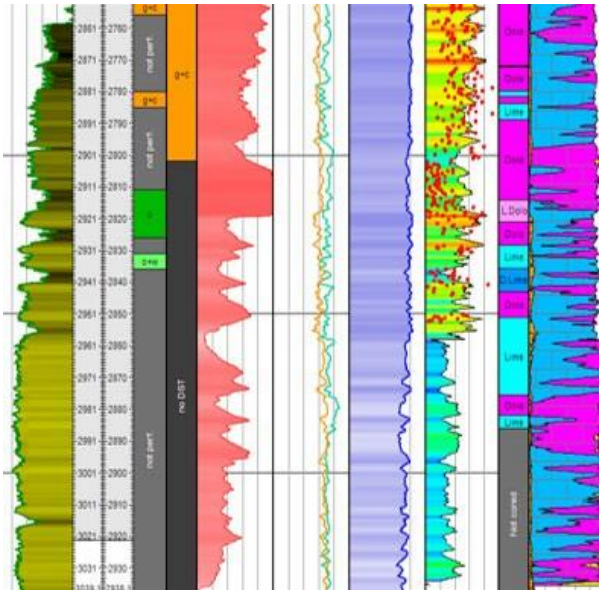
COMMENCEMENT: November 2018

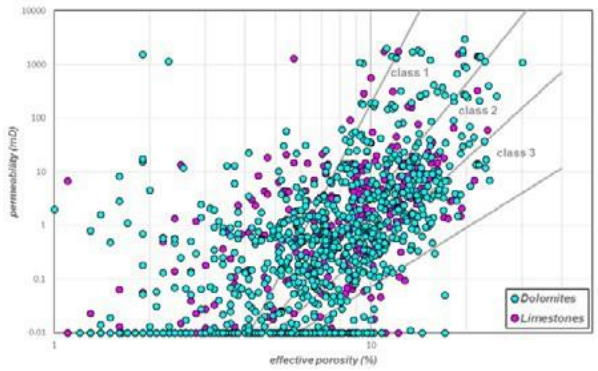
COMPLETION: December 2019

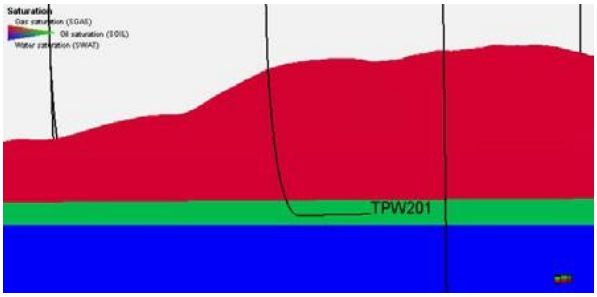
SERVICES INCLUDED:

1) Data base updating
2) Geological and geophysical data QC and analyses
3) Well log data interpretation
4) 3D seismic data interpretation
5) Seismic attribute analyses
6) 3D structural modeling
7) 3D facies modeling
8) 3D reservoir properties modeling
9) 3D fracture modeling
10) HC in place volumes estimation
11) Reservoir engineering data QC and analyses
12) Production analyses and production re-allocation
13) PLT data interpretation
14) Well test data interpretation
15) PVT data modeling
16) History matching
17) Forecasting
18) Development strategy









PROJECT:

STEPNOY LEOPARD DEVELOPMENT PROJECT I

CLIENT: Nostrum Oil & Gas Coöperatief U.A
SERVICES: Full Field Appraisal Development Project

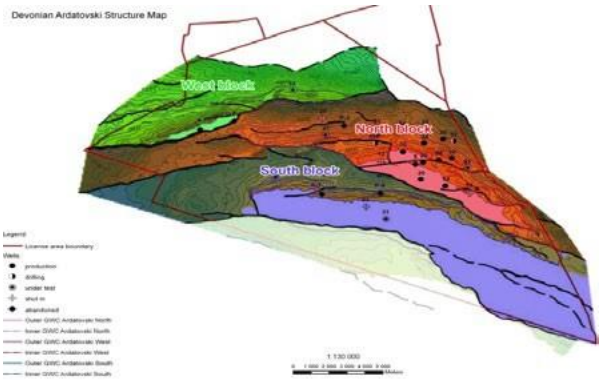
COMMENCEMENT: March 2018
COMPLETION: November 2018

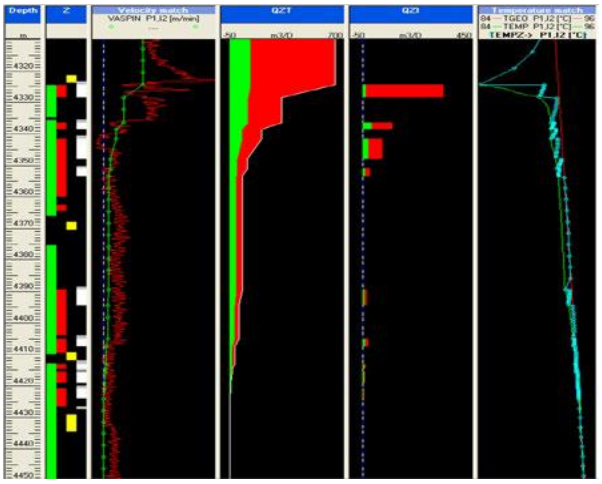
SERVICES INCLUDED:
Stepnoy Leopard Project incorporates an 80km long chain of hydrocarbon fields in the NW part of the Republic of Kazakhstan, which belongs to hydrocarbon prolific Pre-Caspian sedimentary basin. The chain of eight gas-condensate and gas-condensate-oil fields is controlled by a long stretch of Permian carbonate barrier reefs. The challenges for geological modeling were:

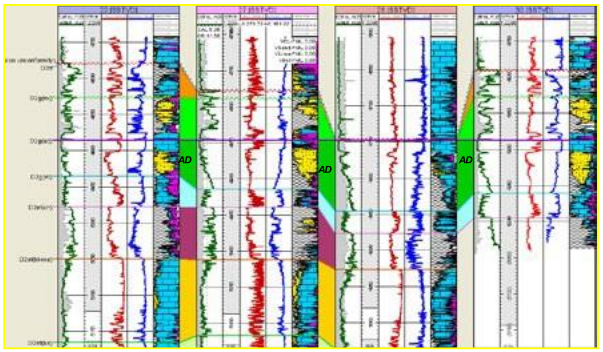
- structural morphology of shelf-edge reefs, rising above shelf plateau up to several hundred of meters,
- complex internal architecture as a consequence of specific depositional conditions & diagenetic alterations
- highly variable reservoir properties

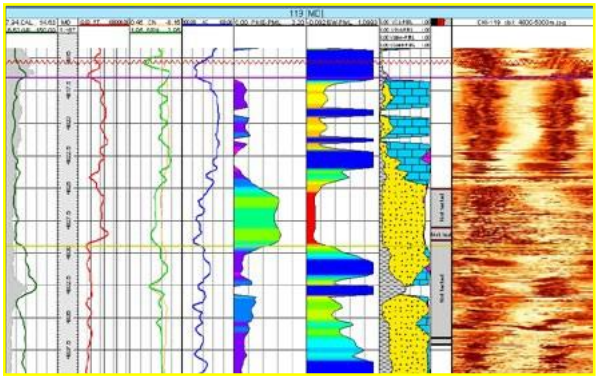
SERVICES INCLUDED:

1) Data base design and implementation
2) Geological data QC and analyses
3) Well log data QC and interpretation
4) 3D seismic data QC and interpretation
5) 3D geological modeling and HC in place volumes estimation
6) Reservoir engineering data QC and analyses
7) Simulation modeling and HC reserves estimation
8) Assets Evaluation
9) Development plan
10) Well integrity assessment of existing 150 wells
11) General drilling program
12) Production & Operations Simulations
13) Technical solutions for surface facilities









PROJECT:

PRODUCTION OPERATIONS AND PETROLEUM ENGINEERING SUPPORT (CHINAREVSKOE GAS-OIL FIELD)

CLIENT: ZhaikMunai LLP, Kazakhstan

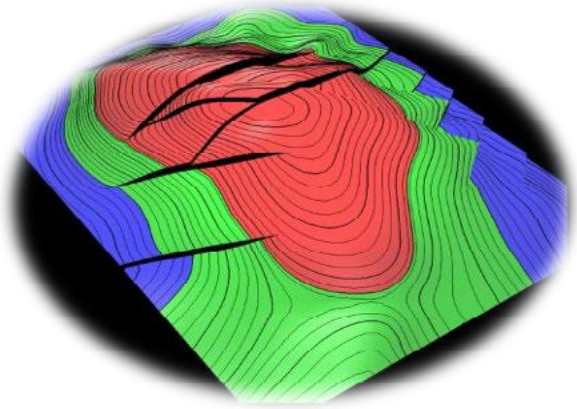
SERVICES: Gas-Condensate and Oil Wells Production Performance Monitoring, Water Wells Production and Water Injection Wells Performance Monitoring, Production Data Validation, Well Production Allocation, Well Evaluations and Well Problem Analysis, 3D Reservoir Modelling, Operations Management System Development and Implementation

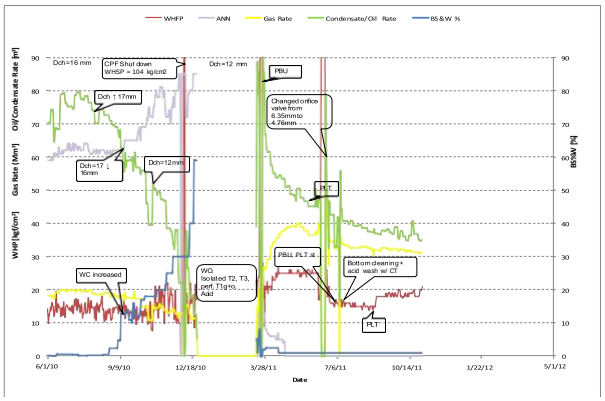
COMMENCEMENT: May 2010

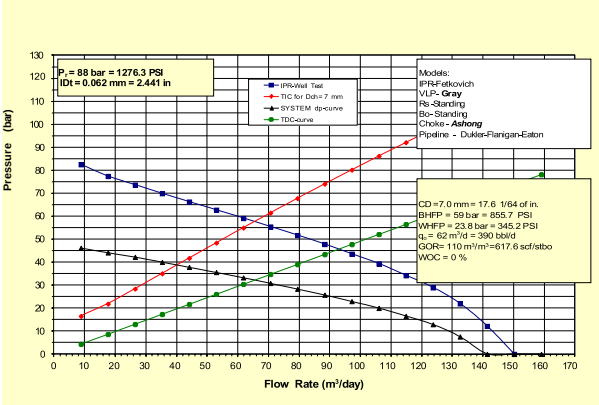
COMPLETION: Ongoing

SERVICES INCLUDED:

1) Gas-Condensate and Oil Production Wells Performance Monitoring and Analysis
2) Water Production Wells and Water Injection Wells Performance Monitoring and Analysis
3) WO and Well Services Monitoring and well testing planning
4) Well Production Validation, Production Allocation and Production Reporting
5) Well Evaluations (Well Log Interpretation, Well Test Design and Interpretation, Production Log Interpretation)
6) Well Flow Analysis (Inflow and Outflow Analysis)
7) Well Problem Analysis (Reservoir, Near Wellbore and Bottom Hole Assembly Problems and Surface Facility Problem Definition) and Recommendations for Problem Solution
8) G & G Considerations (Well Locations, Well Trajectory Definition)
9) 3D Static Reservoir Modelling (3D Structural and 3D Property Modelling)
10) Reservoir Engineering Considerations (Material Balance Calculations, Flow Efficiency Estimations)
11) 3D Dynamic Modelling
12) Operations and Management System Development and Implementation
13) Well Integrity Assessments & Solutions







PROJECT:

PRODUCTION OPERATION SUPPORT, KONYS OIL FIELDS

CLIENT: KuatAmlonMunai LLP

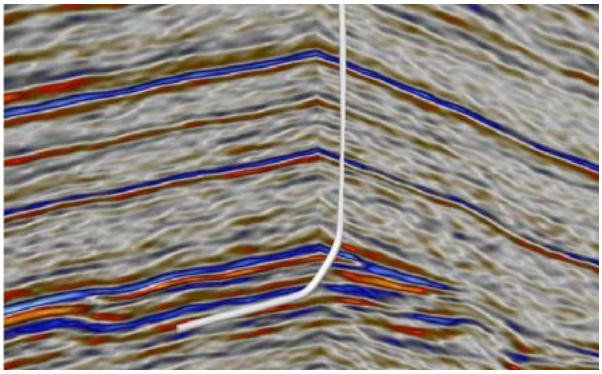
SERVICES: Oil Wells Production Performance Monitoring, Water Wells Production and Water Injection Wells Performance Monitoring, Production Data Validation, Well Production Allocation, Well Evaluations and Well Problem Analysis, Workover Design and Workover Final Reports, Artificial Lift Selection and Design, Artificial Lift System Optimization, Well Testing and Production Log Planning and Supervision, Well Servicing Planning and Supervision, Overall Field Production Optimization

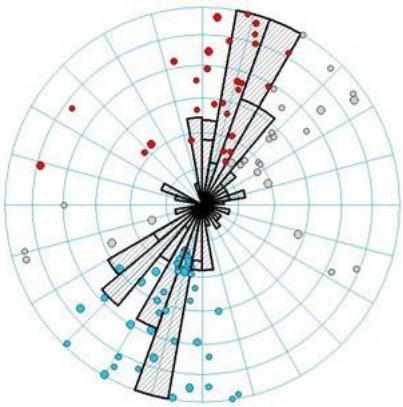
COMMENCEMENT: November 2002

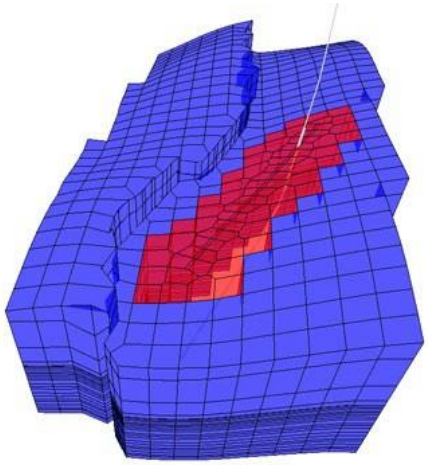
COMPLETION: 2003 - 2020

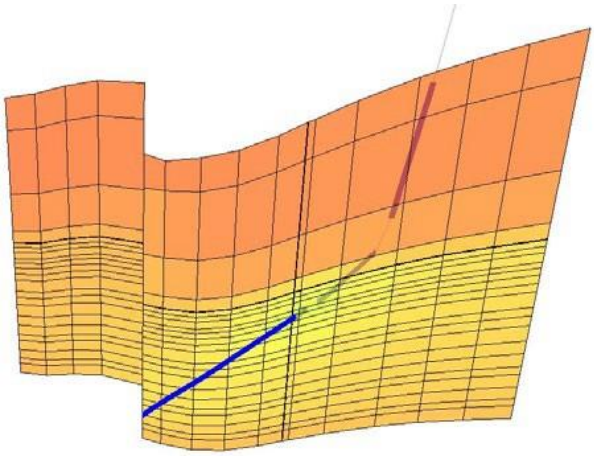
SERVICES INCLUDED:

1) Reservoir and Well Evaluations
2) Daily Production Wells Performance Analysis
3) Daily Water and Gas Injection Wells Performance Analysis
4) Well Integrity Assessments & Solutions
5) Well Service Planning
6) Well Test Planning and Supervision
7) Production Logging Planning and Supervision
8) Daily, Monthly and Yearly Production Reporting
9) Well Problem Analysis and Diagnosis
10) Artificial Lift System Design, Monitoring, Analysis and Optimization
11) WO Planning
12) WO Design
13) WO Well End Report
14) Well Stimulation Reports
15) Surface Facility Operation Supervision
16) Optimization of the Gathering and Treatment System
17) Production Data Base (OFM) Creation and Maintenance









PROJECT:

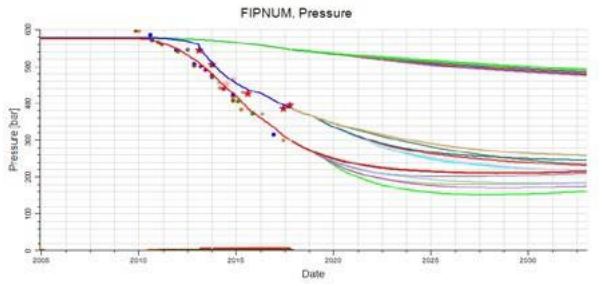
IMPACT OF NATURAL FRACTURES AND PROXIMITY TO FAULT ON WELL INTEGRITY IN RESERVOIRS SUBJECT TO MASSIVE WATER INJECTION

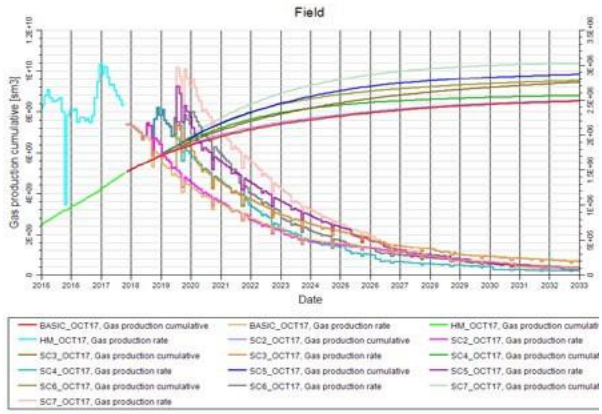
CLIENT: Public oil and gas company in former Soviet Union
SERVICES: Geological and Geo-Mechanical Study

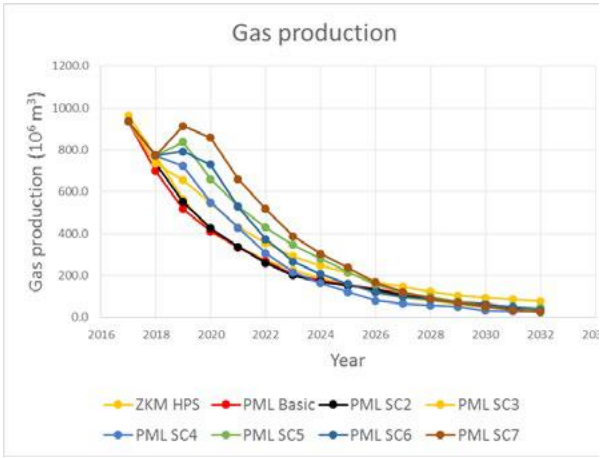
COMMENCEMENT: December 2017
COMPLETION: June 2019

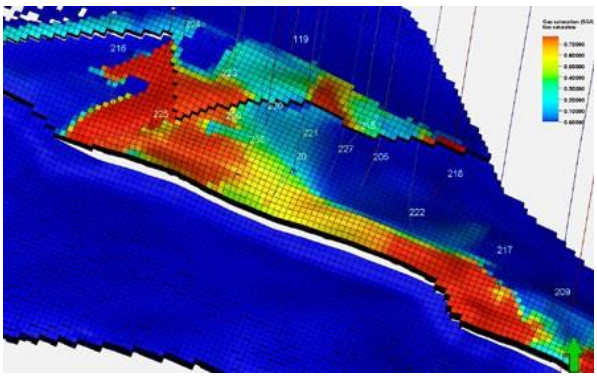
SERVICES INCLUDED:

1) Geophysical and petrophysical evaluation
2) Static and dynamic model building
3) Discrete fracture network modelling
4) Dynamic and geo-mechanical assessment of cement bond
   - Impact of stress regime and natural fractures on initial cement job
   - Fault re-activation (dynamic altered stress regime) due to depletion of neighboring compartments
5) Elaboration of reservoir management strategy to minimize alterations in stress regimes
6) Design of workover program to isolate flow behind casing









PROJECT:

3D SIMULATION STUDY (CHINAREVSKOE GAS-OIL FIELD, AFONINSKI+BIYSKI FORMATIONS, NORTH-EAST BLOCK)

CLIENT: ZhaikMunai LLP, Kazakhstan

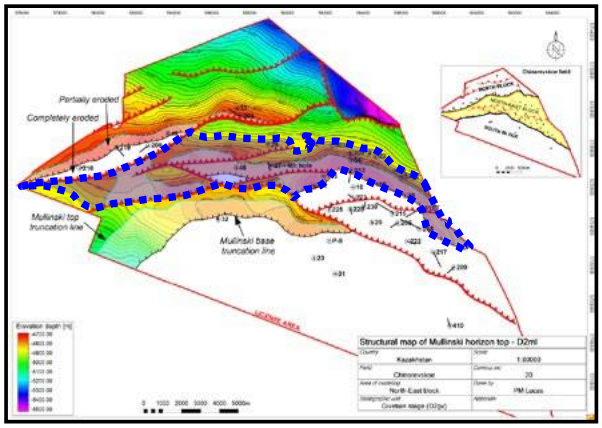
SERVICES: 3D Simulation Model Up-dating, History Matching and Dynamic Modelling for Afoninski and Biyski Formations, North-East Block

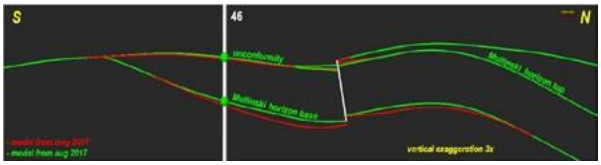
COMMENCEMENT: September 2017

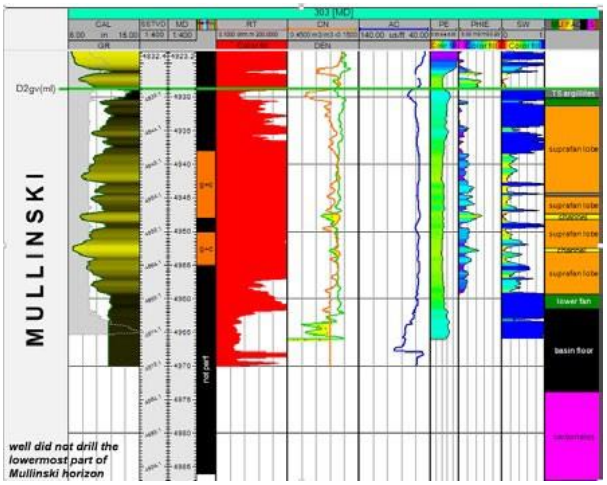
COMPLETION: November 2017

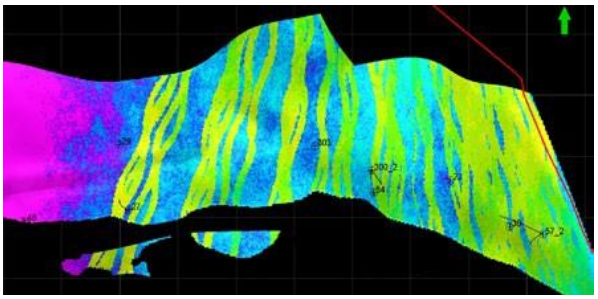
RESERVOIR STUDY INCLUDED:

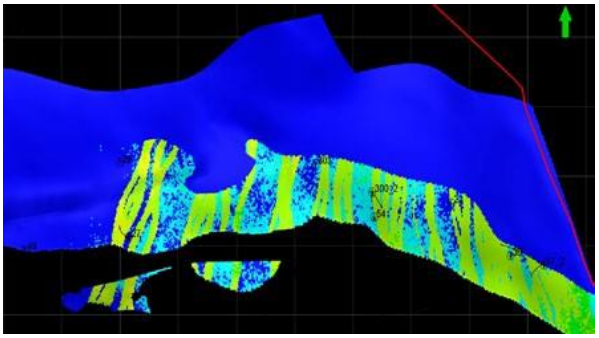
1) Change of PI over production time
2) Reduction of CGR due to condensate banking (consideration of critical condensate saturation)
3) Complete HM for 2017
4) Review the forecast decline behavior after reaching the inlet pressure
5) 3D model building:
   - Model dimensions
   - Reservoir porosity distribution
   - Rock type-permeability distribution
   - Relative permeability curves
   - Regionalization
   - Aquifer modeling
   - Fluid modeling
   - Initial conditions / Initial fluid in place
6) History match approach (calibration of the model by satisfactory matching between calculated and observation data (production and pressure data)
7) Establishing a basic scenario which served for comparison of all the other field development cases
8) Working out prediction scenarios that reflected different development options and operating conditions in the field
9) One of the main goals was to investigate production deliverability of unconventional Afoninski reservoir using multistage fracturing
10) Well integrity evaluations (in simulation was used ECLIPSE 300)











PROJECT:

3D GEOLOGICAL STUDY UPDATE (CHINAREVSKOE GAS-OIL FIELD, MULLINSKI FORMATION, NORTH-EAST BLOCK)

CLIENT: ZhaikMunai LLP, Kazakhstan

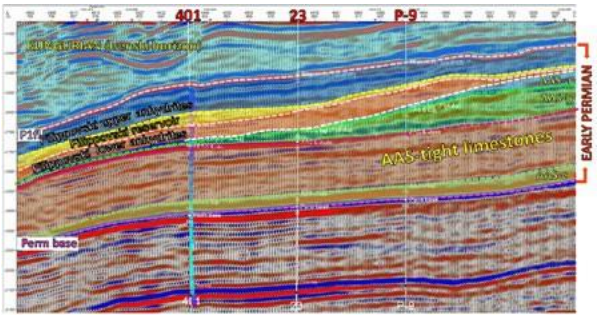
SERVICES: 3D Geological Model Update: 3D Structural Modelling, 3D Facies Modelling, 3D Petrophysical Modelling

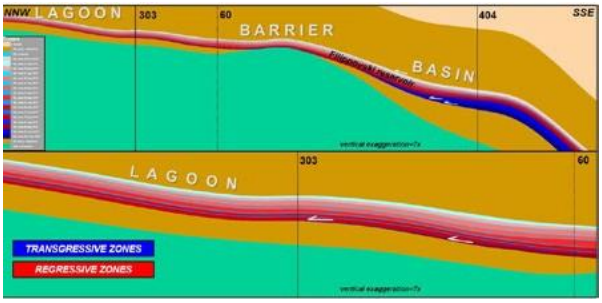
COMMENCEMENT: September 2017

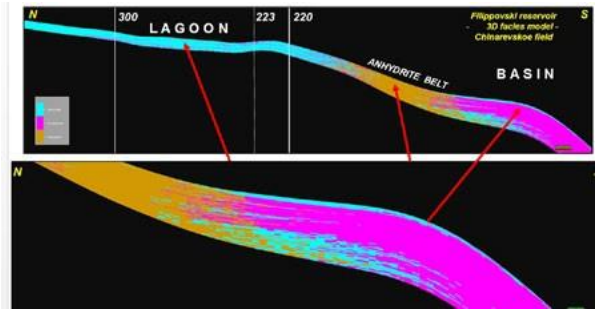
COMPLETION: October 2017

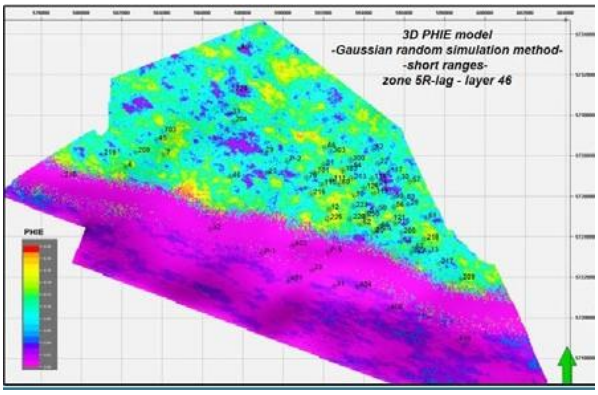
RESERVOIR STUDY INCLUDED:

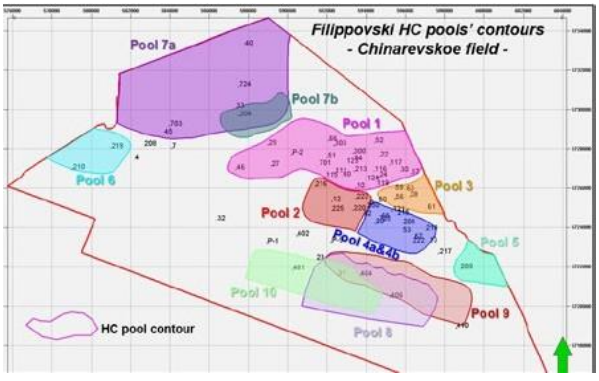
1) New well data analysis and interpretation
2) Modified 3D geo-modeling parameters
3) 3D structural model update
4) D facies model update
5) 3D petrophysical model update
6) Volumetric calculations
7) Well integrity evaluations











PROJECT:

3D GEOLOGICAL STUDY UPDATE (CHINAREVSKOE GAS-OIL FIELD, FILIPPOVSKI FORMATION, CHINAREVSKOE FIELD)

CLIENT: ZhaikMunai LLP, Kazakhstan

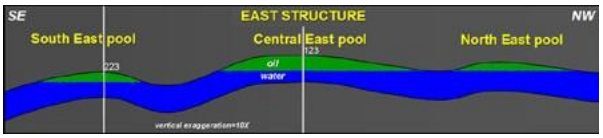
SERVICES: 3D Geological Model Building: 3D Structural Modelling, 3D Facies Modelling, 3D Petrophysical Modelling, Volumetric Calculations

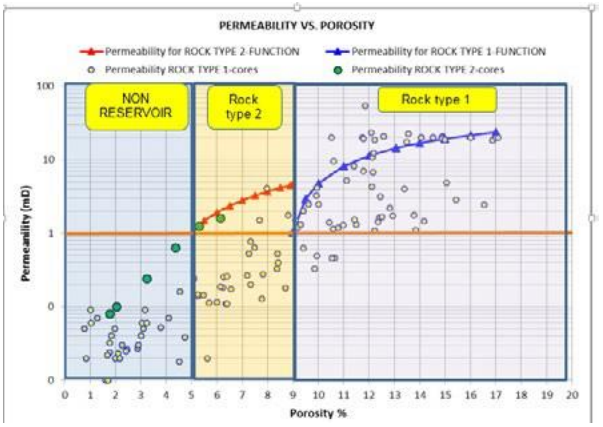
COMMENCEMENT: June 2017

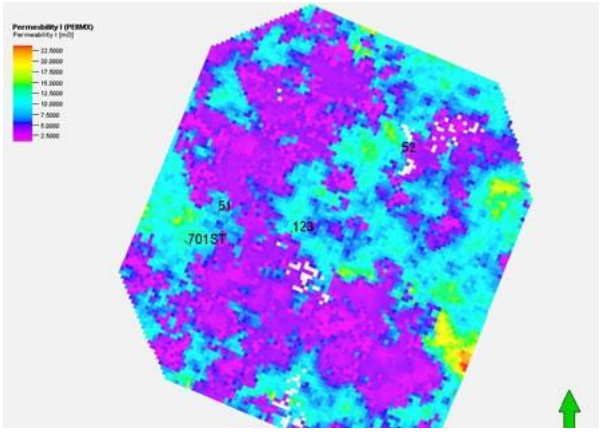
COMPLETION: October 2017

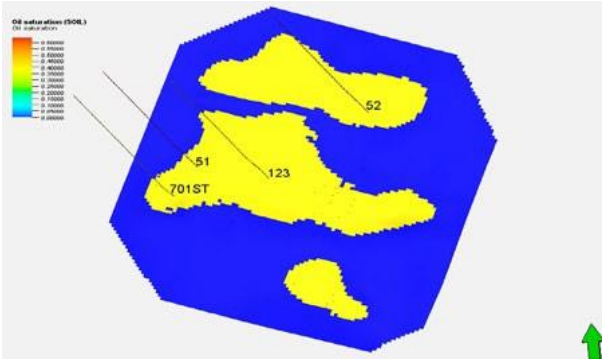
RESERVOIR STUDY INCLUDED:

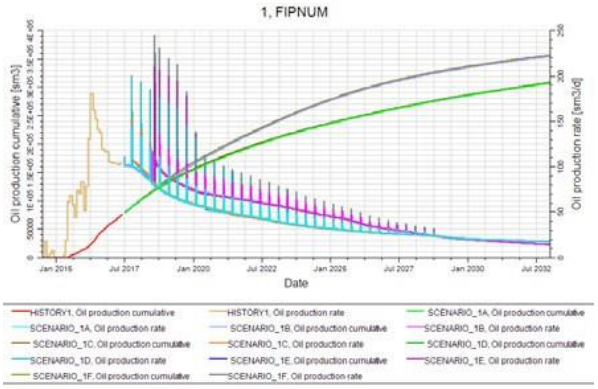
1) Regional stratigraphy
2) Lithology and architecture
3) Reservoir and non-reservoir rocks
4) Reservoir properties
5) Depositional environment
6) 3D structural model
7) 3D facies model
8) Trapping mechanisms
9) 3D effective porosity model
10) 3D connected volumes model
11) 3D net to gross thickness model
12) 3D property model
13) 3D water saturation model
14) Hydrocarbon properties
15) Hydrocarbon pools
16) Volumetric calculations
17) Uncertainties











PROJECT:

3D SIMULATION STUDY (CHINAREVSKOE GAS-OIL FIELD, BASHKIRIAN FORMATION, EAST POOL)

CLIENT: ZhaikMunai LLP, Kazakhstan

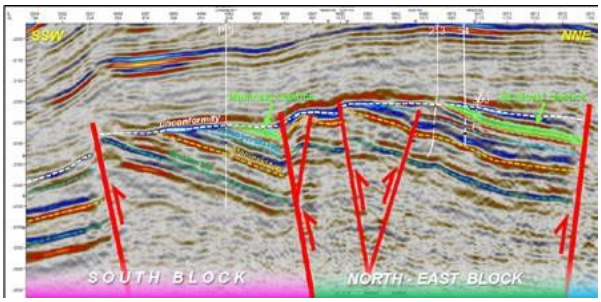
SERVICES: 3D Simulation Model Building, History Matching and Dynamic Modelling for Bashkirian Formation, East Pool

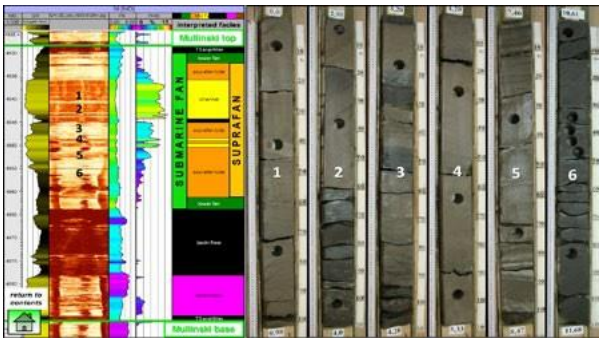
COMMENCEMENT: June 2017

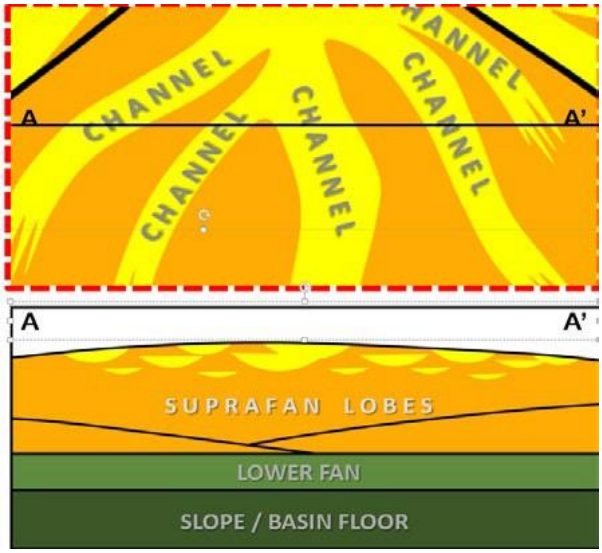
COMPLETION: August 2017

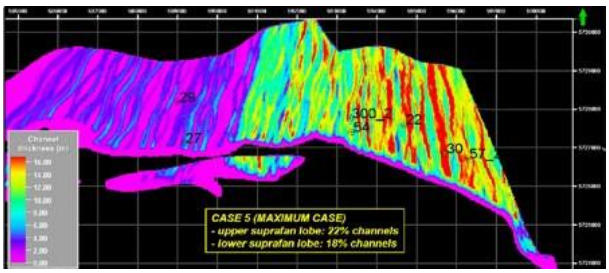
RESERVOIR STUDY INCLUDED:

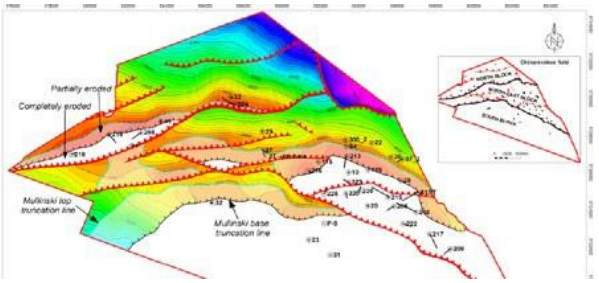
1) 3D model building:
   - Model dimensions
   - Reservoir porosity distribution
   - Rock type-permeability distribution
   - Relative permeability curves
   - Regionalization
   - Aquifer modeling
   - Fluid modeling
   - Initial conditions / Initial fluid in place
2) History match approach (calibration of the model by satisfactory matching between calculated and observation data (production and pressure data)
3) Establishing a basic scenario which served for comparison of all the other field development cases
4) Working out prediction scenarios that reflected different development options in the field
5) One of the main goals was to investigate production deliverability of three pools (North East, Central East and South East pool)
6) Well integrity evaluations (simulation - ECLIPSE 300)











PROJECT:

3D GEOLOGICAL STUDY UPDATE (CHINAREVSKOE GAS-OIL FIELD, MULLINSKI FORMATION, NORTH-EAST BLOCK)

CLIENT: ZhaikMunai LLP, Kazakhstan

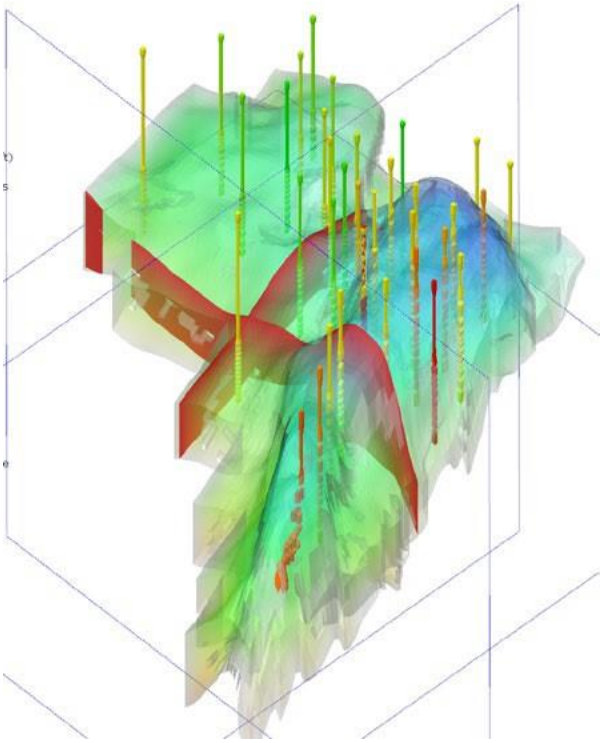
SERVICES: 3D Geological Model Building: 3D Structural Modelling, 3D Facies Modelling, 3D Petrophysical Modelling

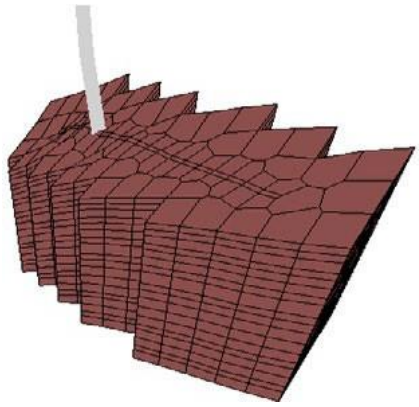
COMMENCEMENT: February 2017

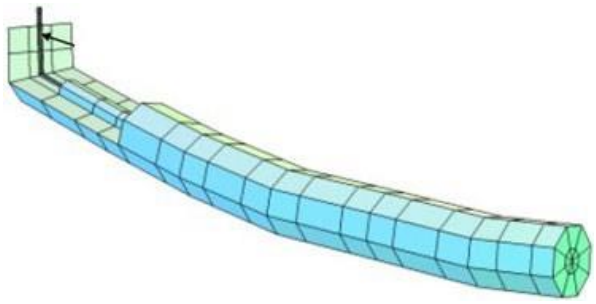
COMPLETION: June 2017

RESERVOIR STUDY INCLUDED:

1) Tectonic style
2) Lithology and architecture
3) Depositional environment
4) Reservoir rock properties
5) Trapping mechanisms
6) 3D structural modelling
7) 3D facies modelling
8) 3D petrophysical modelling
9) Volumetric calculations
10) Main uncertainties highlights







PROJECT:

WELL AND CAP ROCK INTEGRITY STUDY FOR A RESERVOIR IN COMPLEX GEOLOGICAL SETTING SUBJECT TO MASSIVE WATER INJECTION

CLIENT: NOC Subsidiary - North Africa

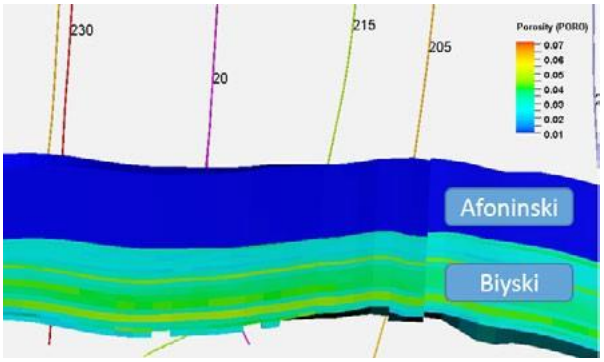
SERVICES: Geological and Dynamic Reservoir Modelling, Assisted History Matching Focusing on Assessment of Cap-Rock Integrity and Workover Program Development

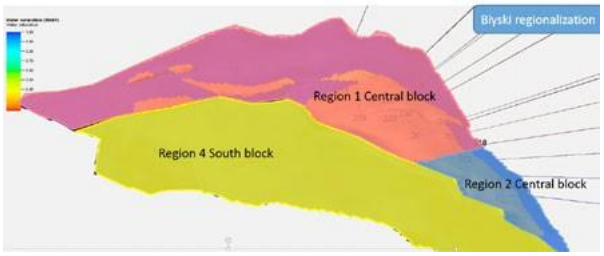
COMMENCEMENT: March 2016

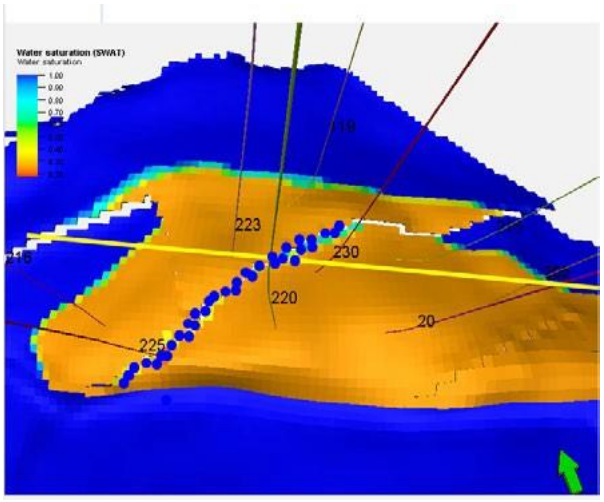
COMPLETION: May 2017

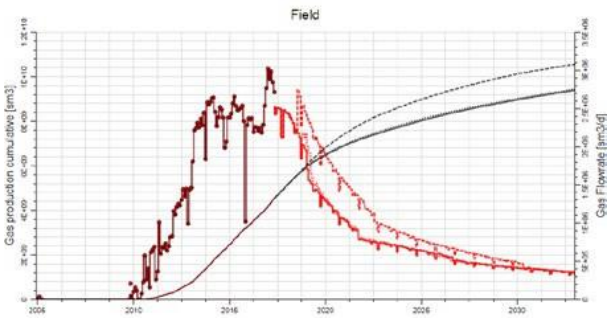
SERVICES INCLUDED:

1) Geophysical and petrophysical audit
2) Material balance and water influx evaluation
3) Dynamic model building
4) Assisted history matching
5) Identification of areas with potential cap rock fracturing
6) Ranking of wells potentially suffering from well integrity issues
7) Work over program design
8) Reservoir management strategy to initiate fracture closure and mitigate risk of further cap rock fracturing









PROJECT:

3D SIMULATION STUDY (CHINAREVSKOE GAS-OIL FIELD, AFONINSKI+BIYSKI FORMATIONS, NORTH-EAST BLOCK)

CLIENT: ZhaikMunai LLP, Kazakhstan

SERVICES: 3D Simulation Model Up-dating, History Matching and Dynamic Modelling for Afoninski and Biyski Formations, North-East Block

COMMENCEMENT: February 2017

COMPLETION: May 2017

RESERVOIR STUDY INCLUDED:

1) Key points-Afoninski activity, water production and gas-condensate ratio

2) 3D model building:
   - Model dimensions
   - Reservoir porosity distribution
   - Rock type-permeability distribution
   - Relative permeability curves
   - Regionalization
   - Aquifer modeling
   - Fluid modeling
   - Initial conditions / Initial fluid in place

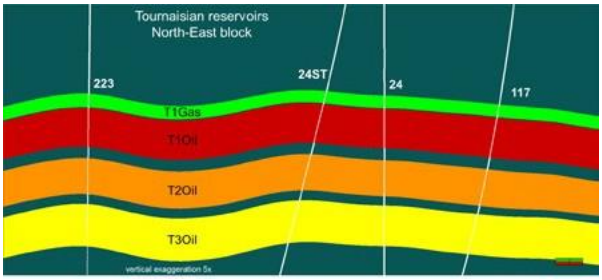
3) History match approach (calibration of the model by satisfactory matching between calculated and observation data (production and pressure data)

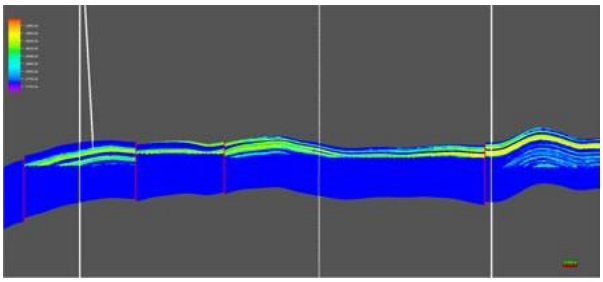
4) Establishing a basic scenario which served for comparison of all the other field development cases

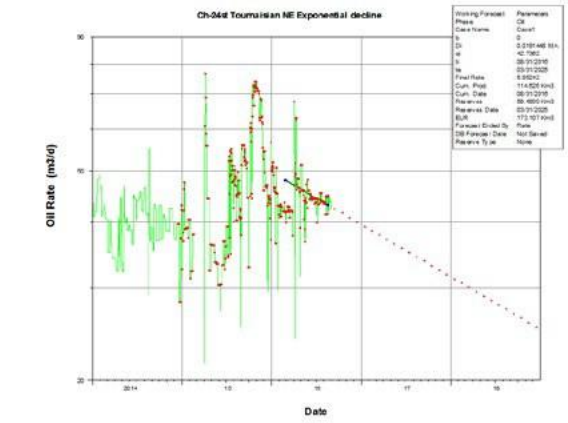
5) Working out prediction scenarios that reflected different development options and operating conditions in the field

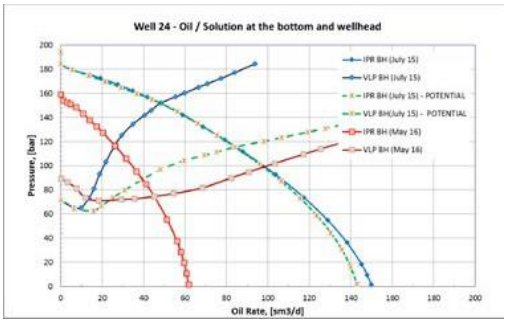
6) One of the main goals was to investigate production deliverability of unconventional Afoninski reservoir using multistage fracturing

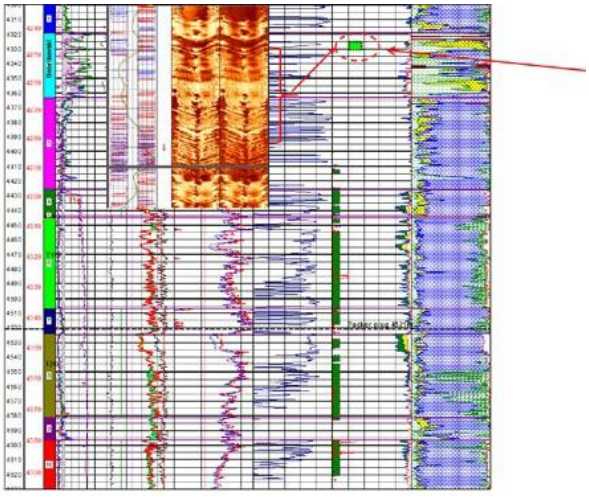
7) Well integrity evaluations simulation - ECLIPSE 300











PROJECT:

WA-WPA STUDY (CHINAREVSKOE GAS-OIL FIELD, ALL DRILLED WELLS ON LICENSE AREA)

CLIENT: ZhaikMunai LLP, Kazakhstan

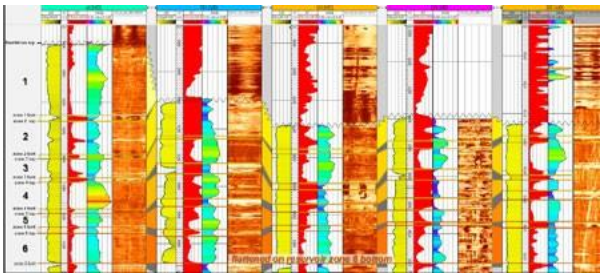
SERVICES: Well Analysis-Well Problem Analysis, Estimation of New Well Opportunities for Each Well on the License Area

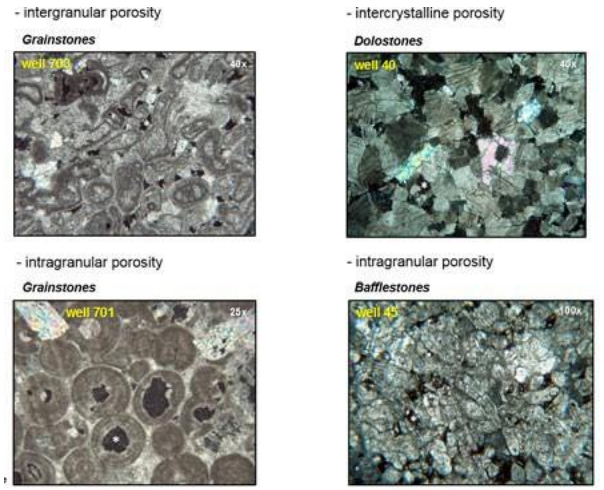
COMMENCEMENT: September 2016

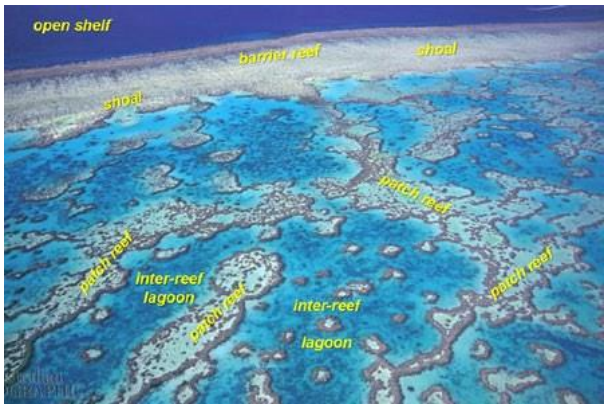
COMPLETION: April 2017

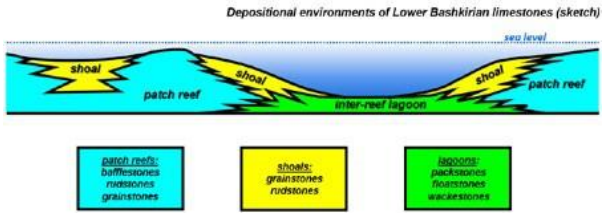
RESERVOIR STUDY INCLUDED:

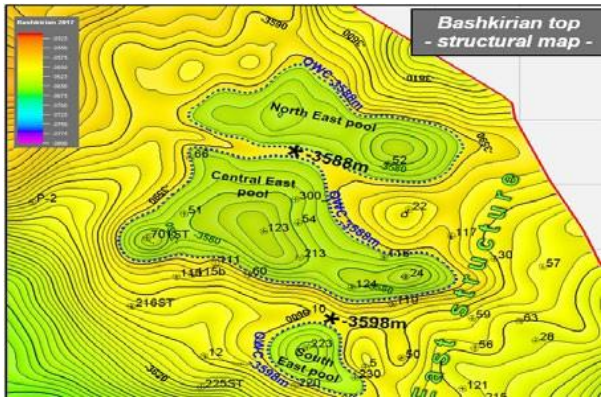
1) The main geological features
2) Well log re-interpretations
3) Work over history
4) Production history and production forecast (3D simulation results, decline analysis); PLT and WT history
5) Well integrity evaluations & solutions
6) Nodal analysis and ALS analysis
7) Production optimization, production increment estimations
8) Well problem(s) identification/ Definition and solution proposal
9) New opportunities, selection feasible opportunities, and schedule definition
10) Operations duration and cost estimate











PROJECT:

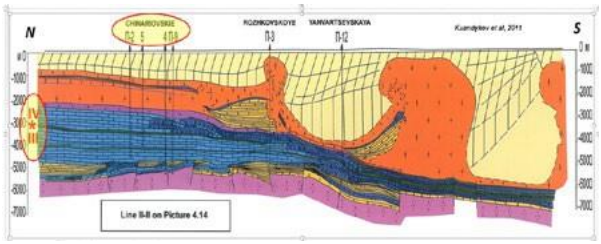
3D GEOLOGICAL MODEL (CHINAREVSKOE GAS-OIL FIELD, BASHKIRIAN FORMATION, EAST POOL)

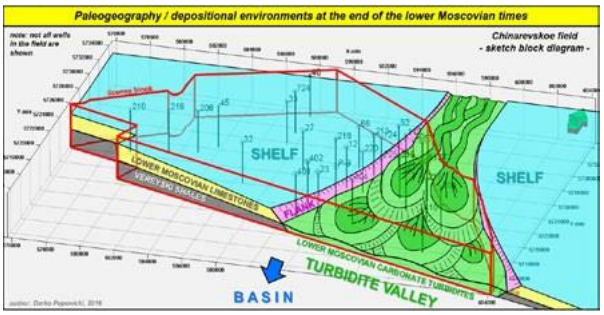
CLIENT: ZhaikMunai LLP, Kazakhstan
SERVICES: 3D Geological Model Up-dating

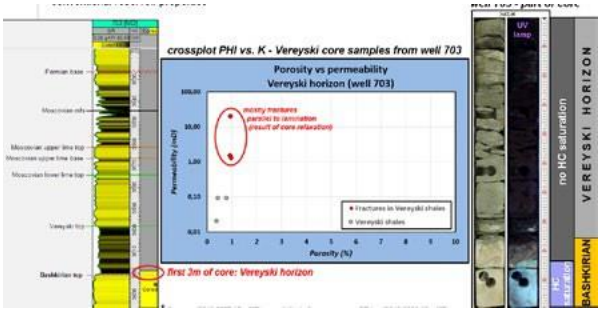
COMMENCEMENT: December 2016
COMPLETION: February 2017

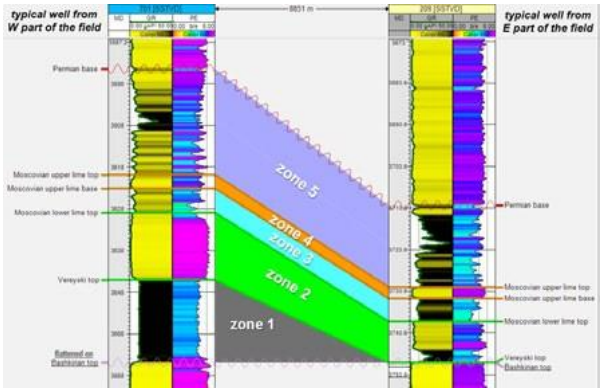
RESERVOIR STUDY INCLUDED:

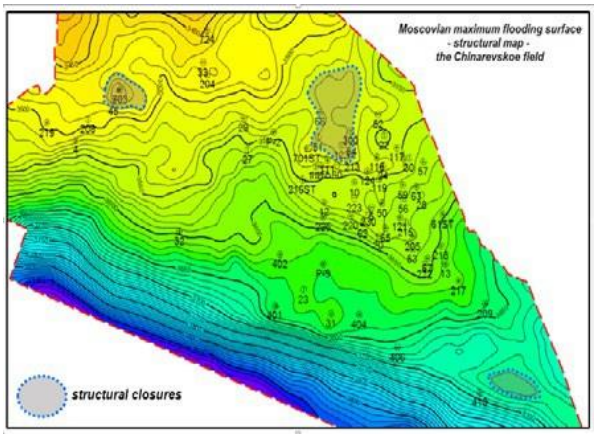
1) Stratigraphic analysis and interpretation
2) Analysis of lithology
3) Reservoir properties analysis
4) Depositional style
5) Tectonic style
6) Well correlation
7) 3D structural modelling
8) 3D facies modelling
9) 3D petrophysical modelling
10) HC in place calculation











PROJECT:

MOSCOVIAN HORIZON: A DEEPER INSIGHT INTO THE GEOLOGY AND HYDROCARBON POTENTIAL OF THE MOSCOVIAN STAGE IN THE CHINAREVSKOE FIELD BLOCK)

CLIENT: ZhaikMunai LLP, Kazakhstan

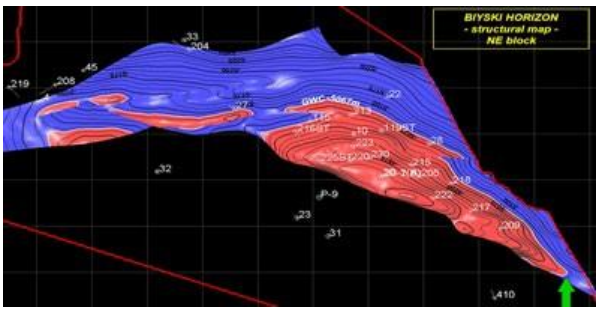
SERVICES: Analysis of all available data to describe main geological features and to estimate hydrocarbon potential of Moscovian Formation

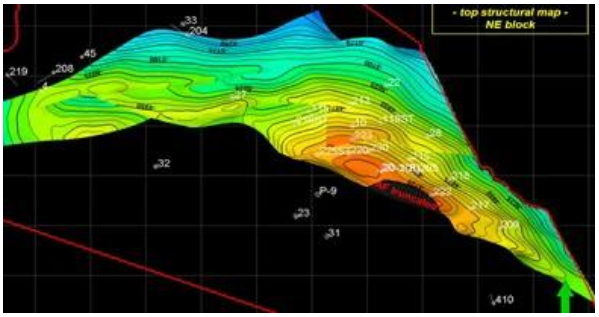
COMMENCEMENT: December 2016

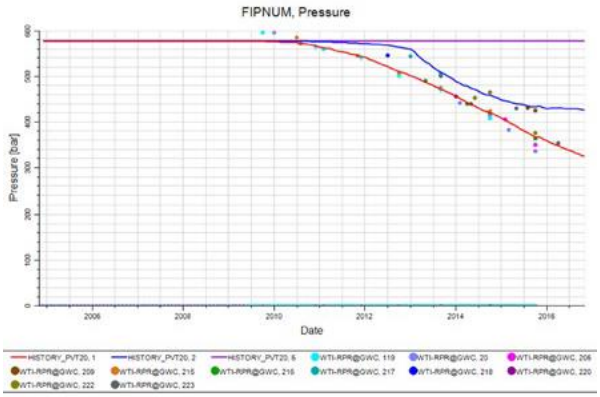
COMPLETION: January 2017

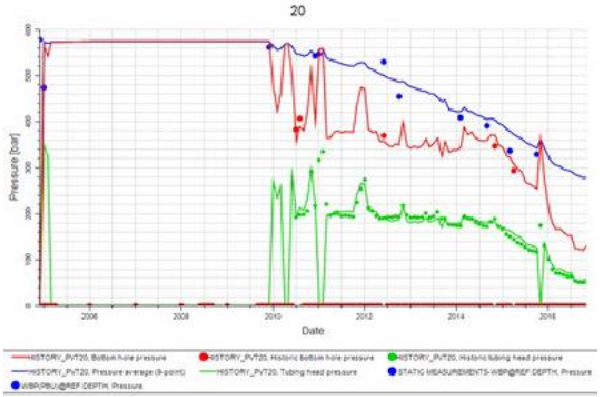
RESERVOIR STUDY INCLUDED:

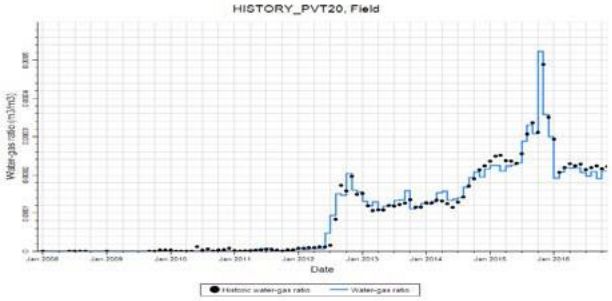
1) Analysis of stratigraphy
2) Sedimentology
3) Analysis of lithology
4) Sequence stratigraphy analysis
5) Structural morphology
6) Reservoir properties
7) Trapping mechanisms
8) Source rock properties
9) Well proposed for testing











PROJECT:

3D SIMULATION STUDY (CHINAREVSKOE GAS-OIL FIELD, AFONINSKI+BIYSKI FORMATIONS, NORTH-EAST BLOCK)

CLIENT: ZhaikMunai LLP, Kazakhstan

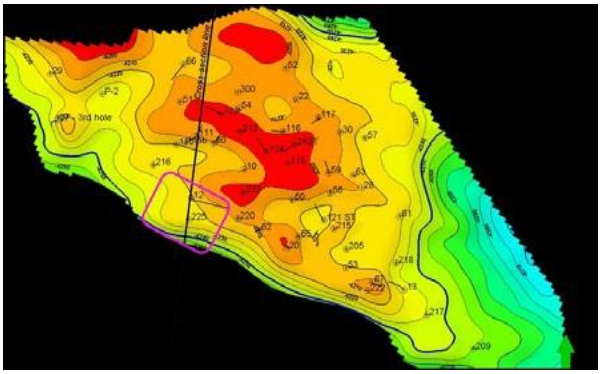
SERVICES: 3D Geological Model Up-dating, History Matching and Dynamic Modelling for Afoninski and Biyski Formations, North-East Block

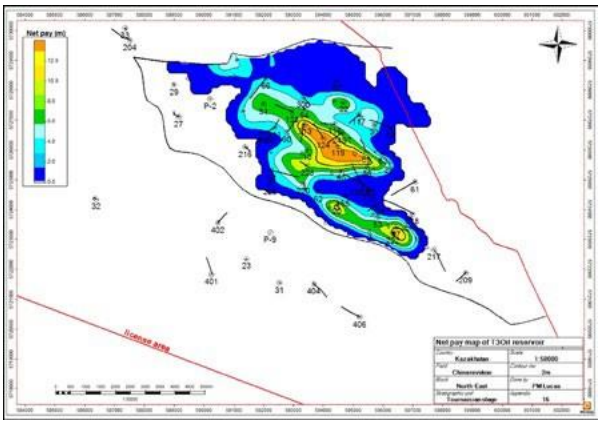
COMMENCEMENT: November 2016

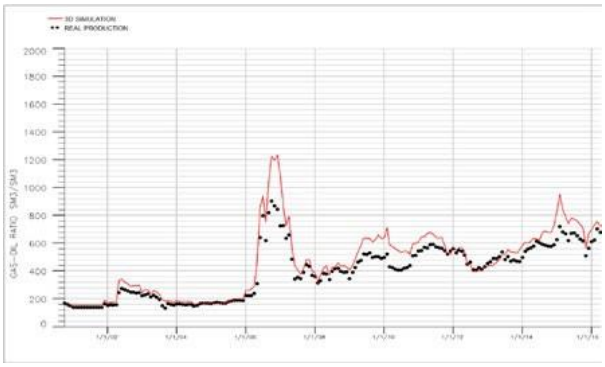
COMPLETION: November 2016

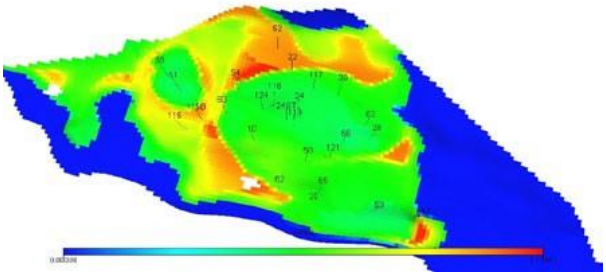
RESERVOIR STUDY INCLUDED:

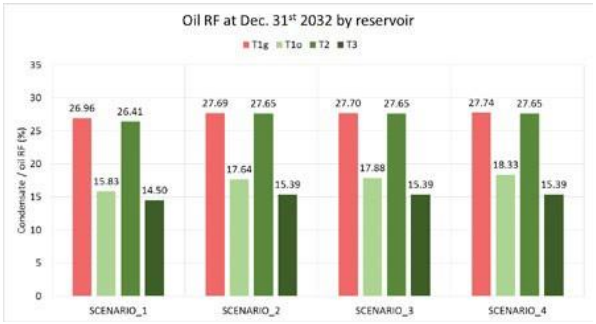
1) The 3D geological model up-dating (structural and petrophysical) based on new information (new well production data, pressure transient data, PLT interpretation data); in the model is included Afoninski reservoir
2) OOIP calculation
3) 3D simulation model building based on updated 3D geological model
4) Calibration of the model by satisfactory matching between calculated and observation data (production and pressure data)
5) In simulation was used ECLIPSE 300
6) Establishing a basic scenario which served for comparison of all the other field development cases
7) Working out prediction scenarios that reflected different development options and operating conditions in the field; one of the main goals was to investigate production deliverability of unconventional Afoninski reservoir using multistage fracturing
8) Well integrity evaluations
9) Providing a range of forecast results that will be used further to update the best development plan











PROJECT:

3D SIMULATION STUDY (CHINAREVSKOE GAS-OIL FIELD, TOURNAISIAN FORMATION, NORTH-EAST BLOCK)

CLIENT: ZhaikMunai LLP, Kazakhstan

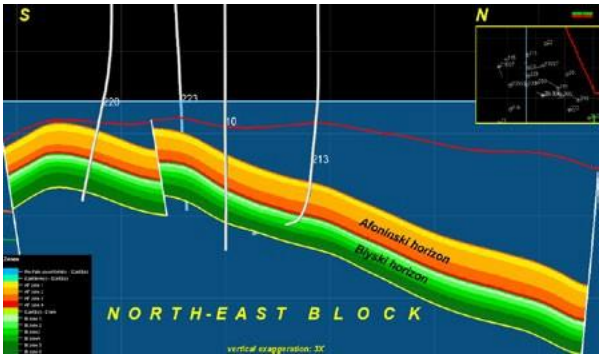
SERVICES: 3D Geological Model Up-dating, History Matching and Dynamic Modelling for Tournaisian Formation, North-East Block

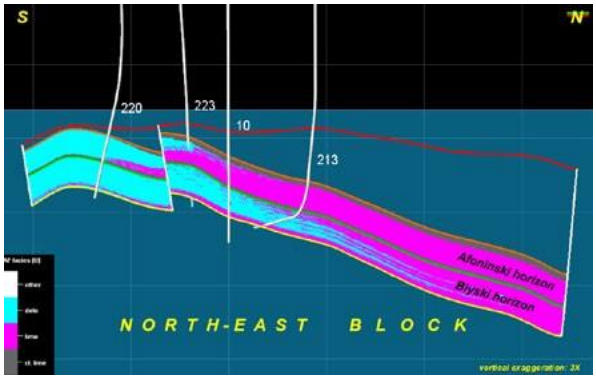
COMMENCEMENT: June 2016

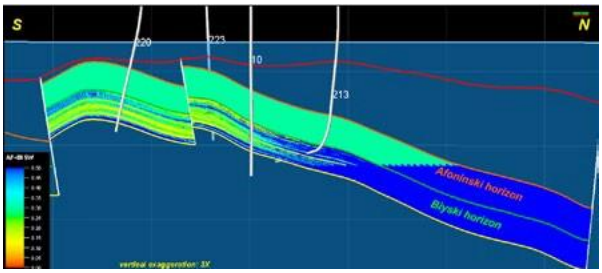
COMPLETION: June 2016

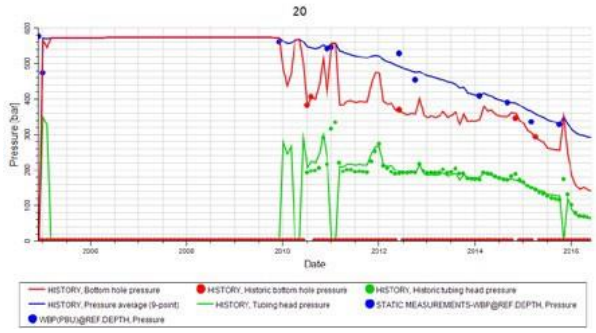
RESERVOIR STUDY INCLUDED:

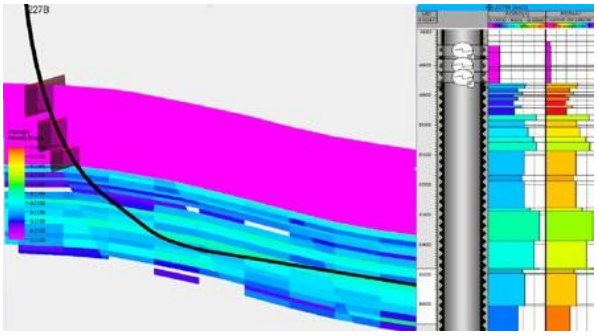
1) The 3D geological model updating (structural and petrophysical) based on new information (new well production data, pressure transient data, PLT interpretation data)
2) OOIP calculation
3) 3D simulation model building based on updated 3D geological model
4) Calibration of the model by satisfactory matching between calculated and observation data (production and pressure data)
5) In simulation was used ECLIPSE 300
6) Establishing a basic scenario, which served for comparison of all the other field development cases
7) Working out prediction scenarios that reflected different development options and operating conditions in the field
9) Providing a range of forecast results that will be used further to update the best development plan











PROJECT:

3D SIMULATION STUDY (CHINAREVSKOE GAS-OIL FIELD, AFONINSKI+BIYSKI FORMATIONS, NORTH-EAST BLOCK)

CLIENT: ZhaikMunai LLP, Kazakhstan

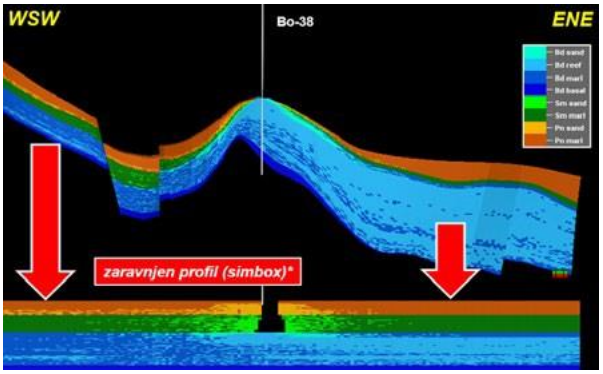
SERVICES: 3D Geological Model Up-dating, History Matching and Dynamic Modelling for Afoninski and Biyski Formations, North-East Block

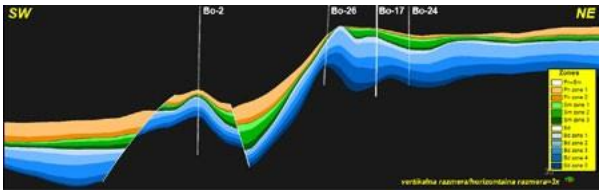
COMMENCEMENT: May 2016

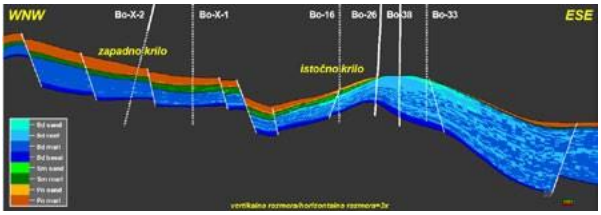
COMPLETION: June 2016

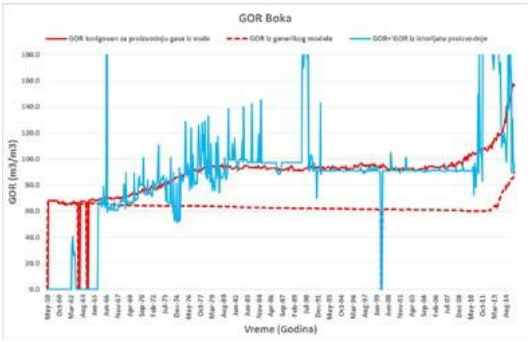
RESERVOIR STUDY INCLUDED:

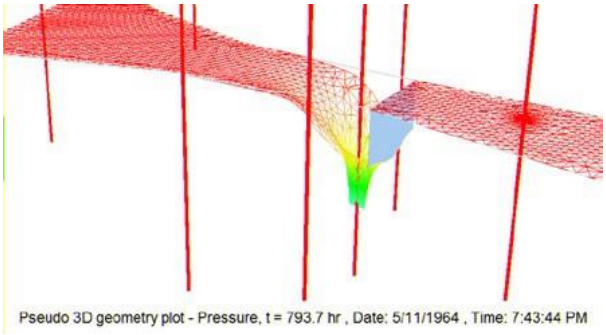
1) The 3D geological model updating (structural and petrophysical) based on new information (neW well production data, pressure transient data, PLT interpretation data); in the model is included Afoninski reservoir
2) OOIP calculation
3) 3D simulation model building based on updated 3D geological model
4) Calibration of the model by satisfactory matching between calculated and observation data (production and pressure data)
5) In simulation was used ECLIPSE 300
6) Establishing a basic scenario, which served for comparison of all the other field development cases
7) Working out prediction scenarios that reflected different development options and operating conditions in the field
8) One of the main goals was to investigate production deliverability of unconventional Afoninski reservoir using multistage fracturing
9) Providing a range of forecast results that will be used further to update the best development plan

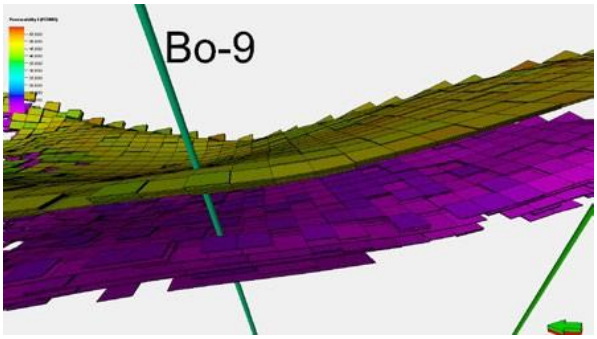












PROJECT:

RESERVOIR STUDY OF THE OIL FIELD BOKA

CLIENT: NIS a.d. Novi Sad, Serbia

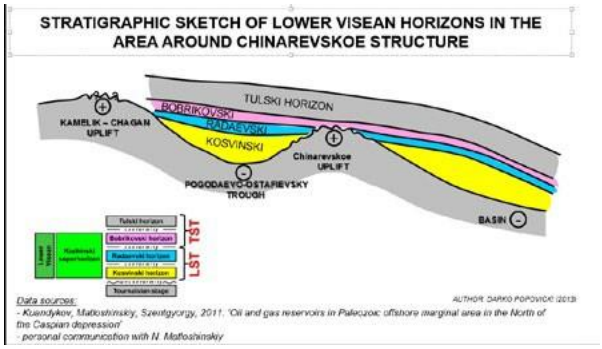
SERVICES: 3D Geological Model Building, OOIP Calculation, RF and Recoverable Reserves Calculation, Production Profile Estimation, Techno-economical Calculation and Verification of the HC Reserves with Republic of Serbia State Authorities

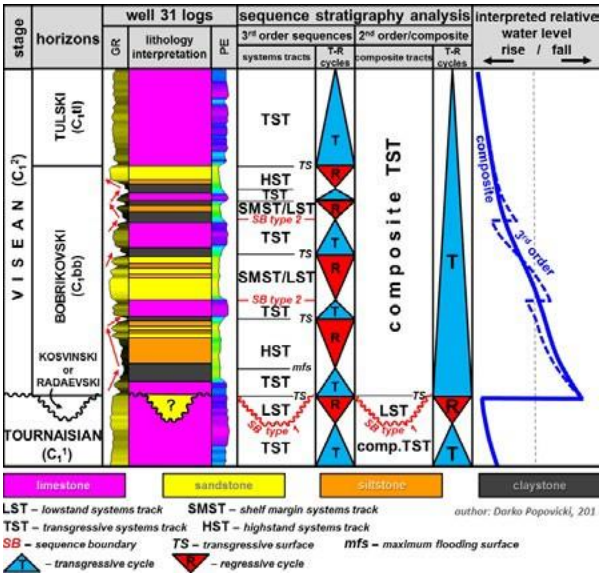
COMMENCEMENT: September 2015

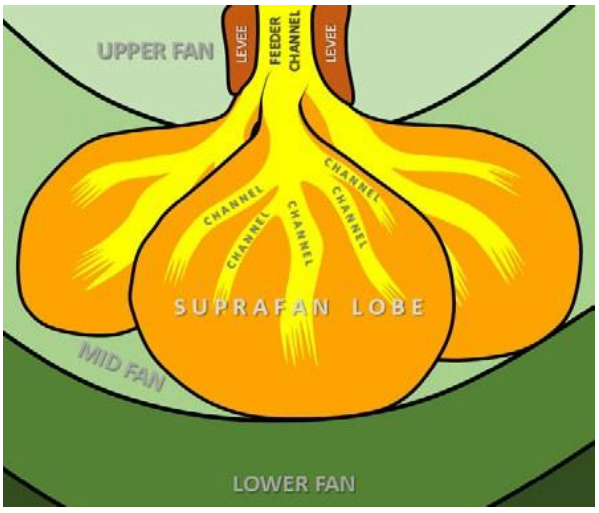
COMPLETION: June 2016

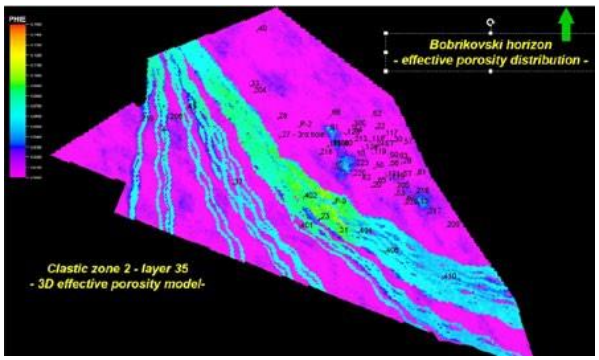
RESERVOIR STUDY INCLUDED:

1) The 3D geological model building
   - Structural model building
   - Facial modeling
   - Petrophysical model building
   - In 3D modeling were used all available information (3D seismic data, well data, production data, pressure transient data, laboratory core and fluid data, PVT data)
2) OOIP calculation
3) Estimation of RF for all reservoirs within area of interest
4) Recoverable reserves and future production profile calculation by:
   - Statistical method
   - Material balance
   - 3D simulation
5) Techno-economical estimation of the reserves
6) Verification of remained recoverable reserves of oil and gas with Republic of Serbia state authorities









PROJECT:

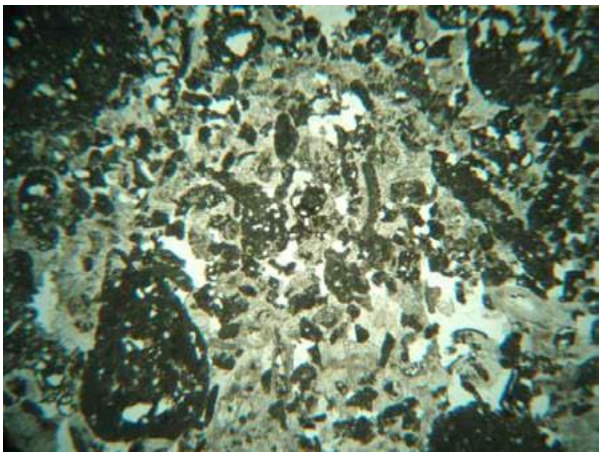
3D GEOLOGICAL MODEL UPDATE (CHINAREVSKOE GAS-OIL FIELD, BOBRIKOVSKI FORMATION-LOWER VISEAN STAGE OF EARLY CARBONIFEROUS

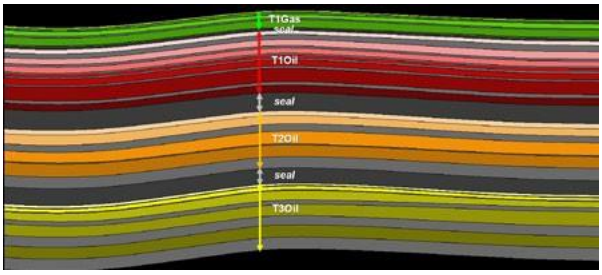
CLIENT: ZhaikMunai LLP, Kazakhstan
SERVICES: Data QC, 3D Geological Model updating, HC Volume Calculations

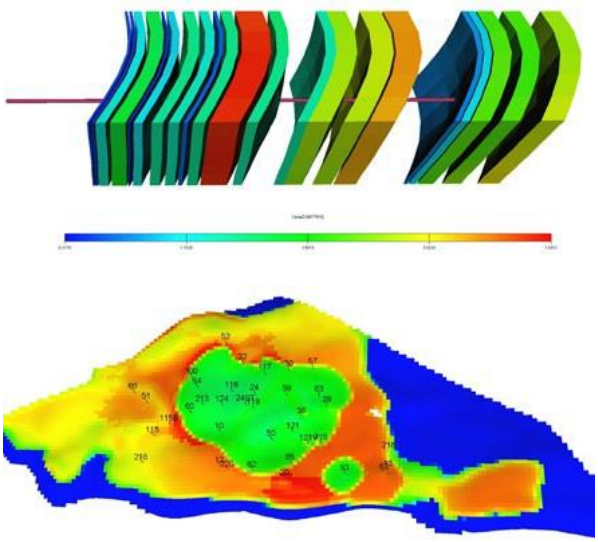
COMMENCEMENT: January 2016
COMPLETION: April 2016

RESERVOIR STUDY INCLUDED:

1) 3D GEOLOGICAL MODEL UPDATE
   - 3D structural modeling
   - 3D facies modeling
   - 3D petrophysical modeling
2) HC VOLUMES
   - Deterministic approach (volumetric calculation)
   - Probabilistic approach (Monte Carlo simulation)







PROJECT:

3D SIMULATION STUDY (CHINAREVSKOE GAS-OIL FIELD, TOURNAISIAN FORMATION, NORTH-EAST BLOCK)

CLIENT: ZhaikMunai LLP, Kazakhstan

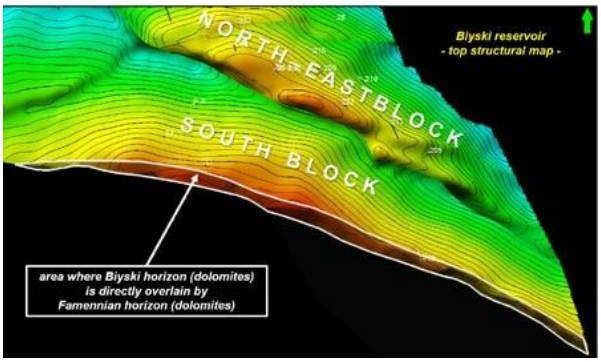
SERVICES: 3D Geological Model Up-dating, History Matching and Dynamic Modelling for Tournaisian Formation, North-East Block

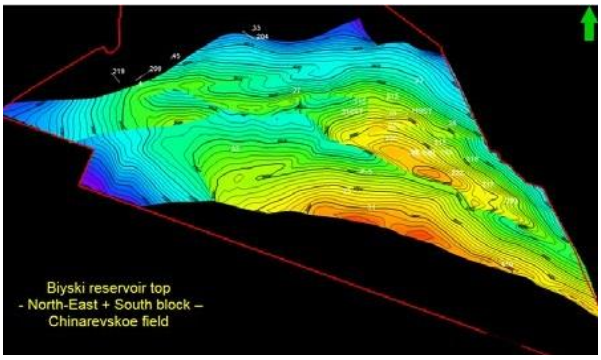
COMMENCEMENT: August 2015

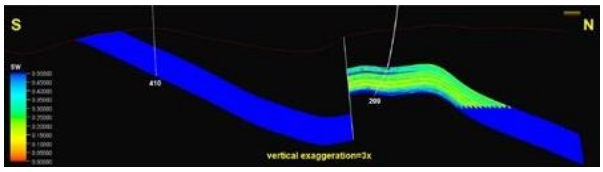
COMPLETION: December 2015

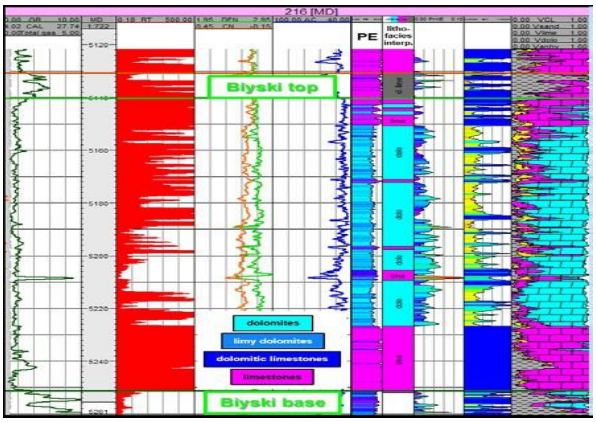
RESERVOIR STUDY INCLUDED:

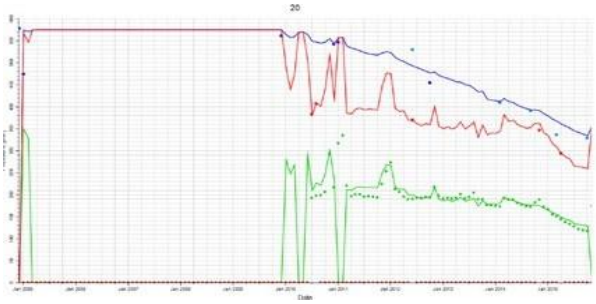
1) The 3D geological model updating (structural and petrophysical) based on new information (production data, pressure transient data, PLT interpretation data)
2) OOIP calculation
3) 3D simulation model building based on updated 3D geological model
4) Calibration of the model by satisfactory matching between calculated and observation data (production and pressure data)
5) In simulation was used ECLIPSE 300
6) Flooding system-pressure maintenance control and improvement were considered
7) GL system as artificial method was applied
8) Establishing a basic scenario, which served for comparison of all the other field development cases
9) Working out prediction scenarios that reflected different development options and operating conditions in the field
10) Providing a range of forecast results that will be used further to update the best development plan











PROJECT:

3D SIMULATION STUDY (CHINAREVSKOE GAS-OIL FIELD, BIYSKI FORMATION, NORTH-EAST + SOUTH BLOCK)

CLIENT: ZhaikMunai LLP, Kazakhstan

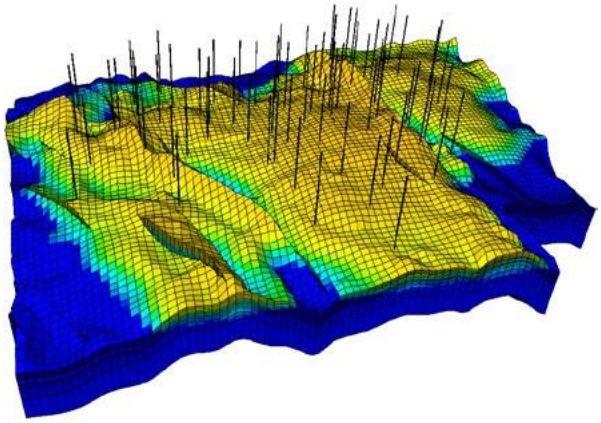
SERVICES: 3D Geological Model Building, History Matching and Dynamic Modelling for Biyski Formation, North-East + South Block

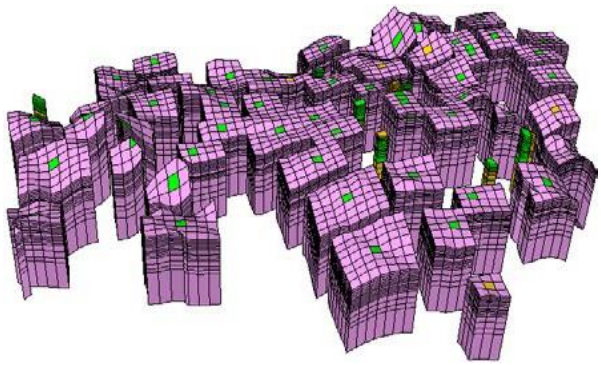
COMMENCEMENT: August 2015

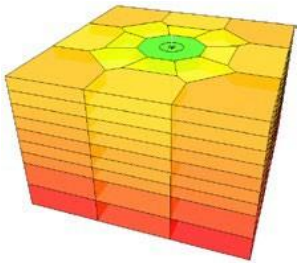
COMPLETION: December 2015

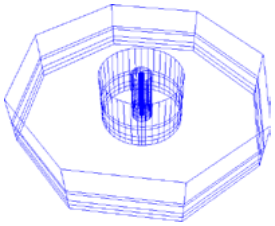
RESERVOIR STUDY INCLUDED:

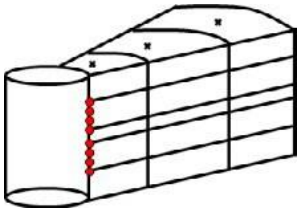
1) The 3D geological model building (structural and petrophysical) based on new information (production data, pressure transient data, PLT interpretation data)
2) OOIP calculation
3) 3D simulation model building based on 3D geological model
4) Calibration of the model by satisfactory matching between calculated and observation data (production and pressure data)
5) In simulation was used ECLIPSE 300
6) VLP tables were prepared and applied in 3D simulation
7) Based on pressure data, communication between N-E and S block was simulated
8) Establishing a basic scenario, which served for comparison of all the other field development cases
9) Working out prediction scenarios that reflected different development options and operating conditions in the field
10) Providing a range of forecast results that will be used further to update the best development plan











PROJECT:

ASSESSMENT OF FLOW BEHIND CASING – WELL INTEGRITY STUDY FOR A NATURALLY FRACTURED RESERVOIR

CLIENT: NOC Subsidiary - North Africa

SERVICES: Numerical Modelling to Identify Wells Potentially Suffering from Flow Behind Casing - Charging from Overlying Aquifer

COMMENCEMENT: February 2015

COMPLETION: November 2015

SERVICES INCLUDED:

1) Dynamic model audit and re-evaluation

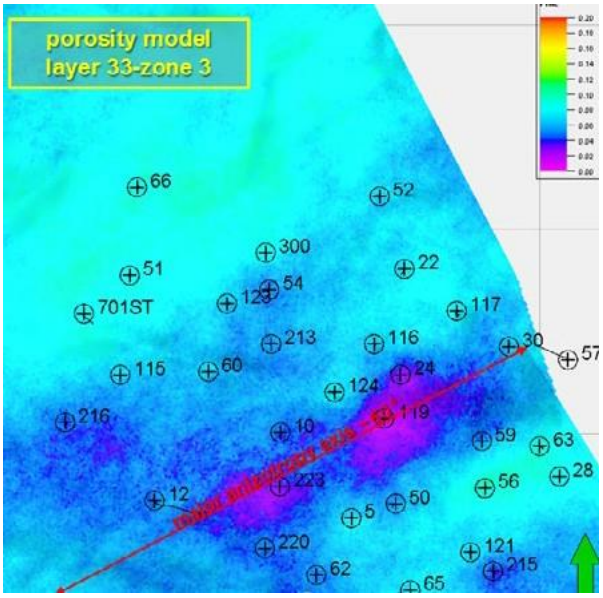
2) Assisted history matching update

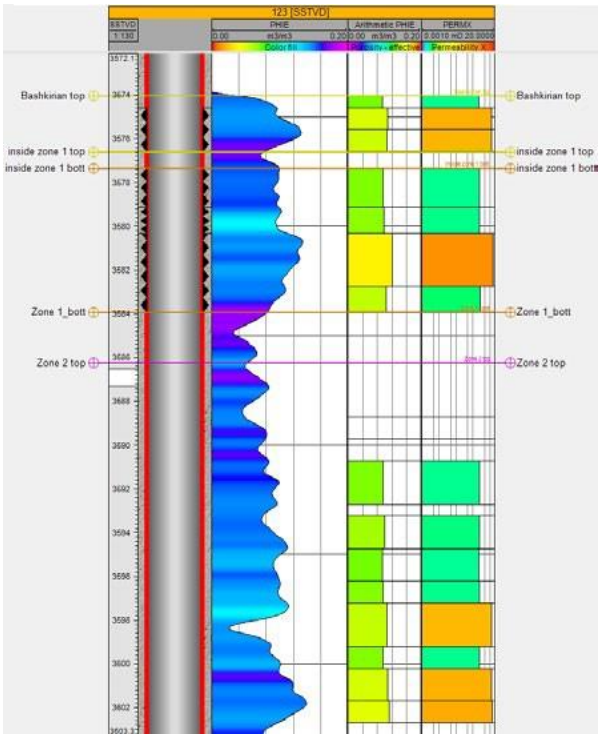
3) Identification of wells suffering from external water charging

4) In-depths analysis of problem wells

5) Categorizing of problem wells
   - Casing corrosion
   - Distorted cement bond
   - Leaking packers

6) Elaboration of workover program





PROJECT:

3D SIMULATION STUDY (CHINAREVSKOE GAS-OIL FIELD, BASHKIRIAN FORMATION-EAST POOL, NORTH-EAST BLOCK)

CLIENT: ZhaikMunai LLP, Kazakhstan

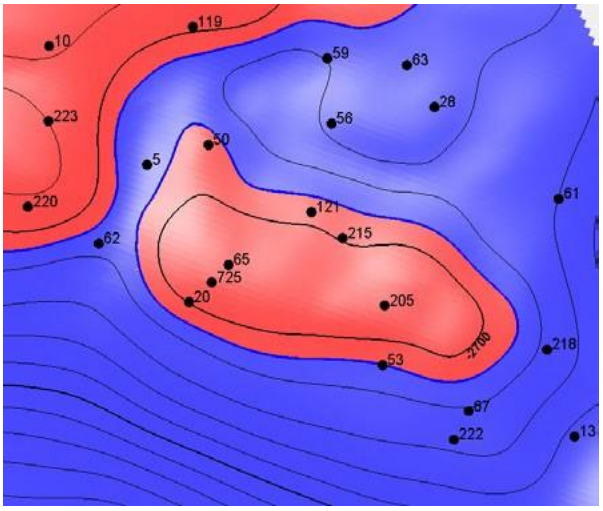
SERVICES: 3D Geological Model Building, History Matching and Dynamic Modelling for Bashkirian Formation-East Pool, North-East Block

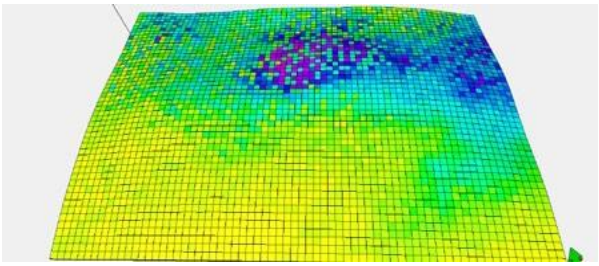
COMMENCEMENT: May 2015

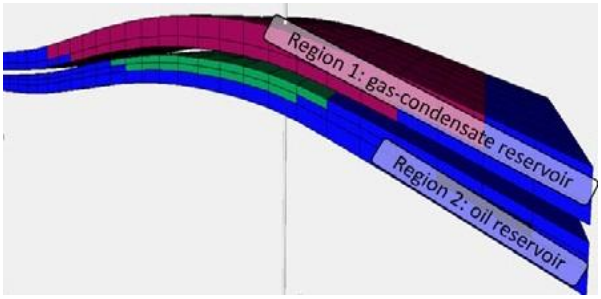
COMPLETION: September 2015

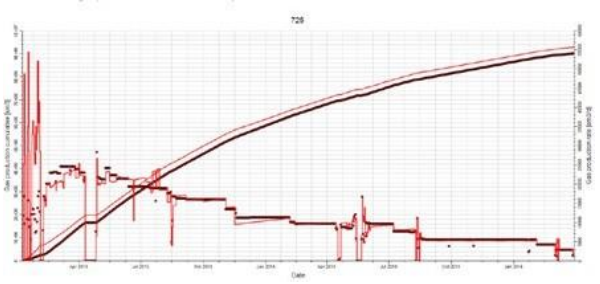
RESERVOIR STUDY INCLUDED:

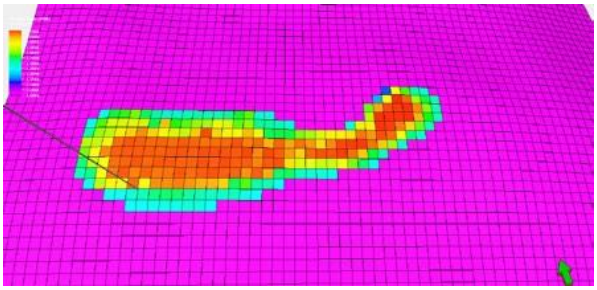
1) 3D geological model building (structural and petrophysical) based on new information (production data, pressure transient data, PLT interpretation data)
2) OOIP calculation
3) 3D simulation model building based on updated 3D geological model
4) Calibration of the model by satisfactory matching between calculated and observation data (production and pressure data)
5) In simulation was used ECLIPSE 100
6) Establishing a basic scenario, which served for comparison of all the other field development cases
7) Working out prediction scenarios that reflected different development options and operating conditions in the field
9) Providing a range of forecast results that will be used further to update the best development plan











PROJECT:

SIMULATION STUDY (CHINAREVSKOE GAS-OIL FIELD, FILIPPOVSKI FORMATION-SECTOR MODEL, NORTH-EAST BLOCK)

CLIENT: ZhaikMunai LLP, Kazakhstan

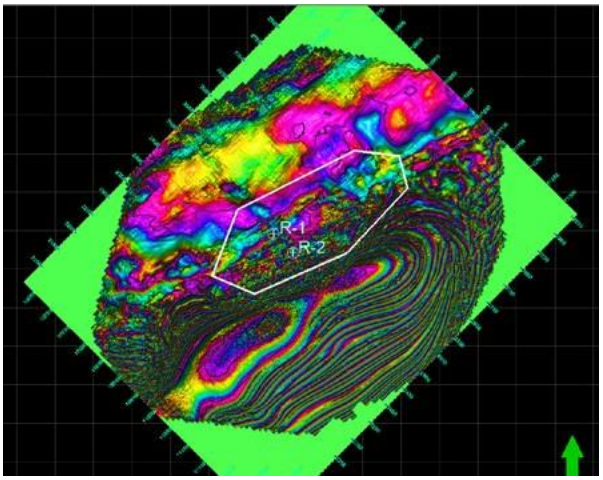
SERVICES: 3D Geological Model Updating, History Matching and Dynamic Modelling for Filippovski Formation-Sector model, North-East Block

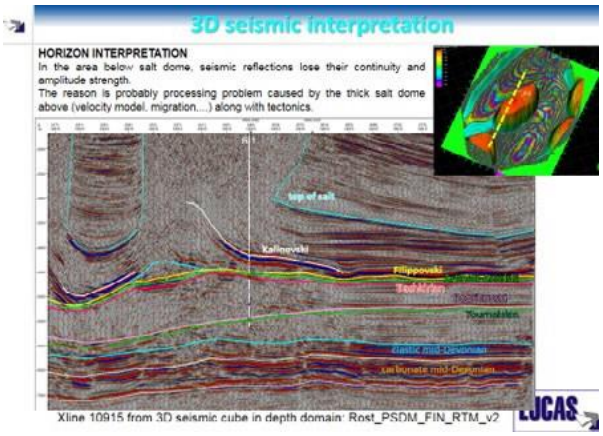
COMMENCEMENT: April 2015

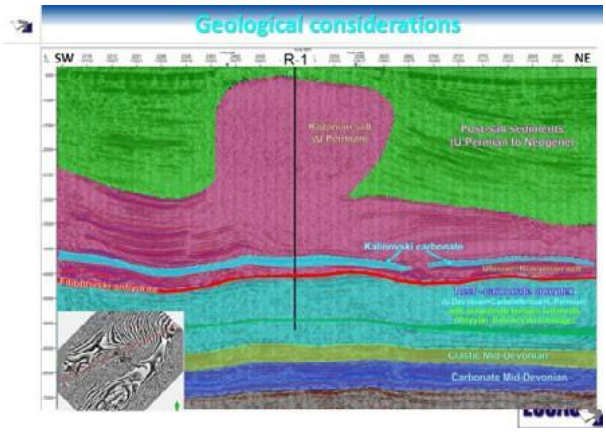
COMPLETION: May 2015

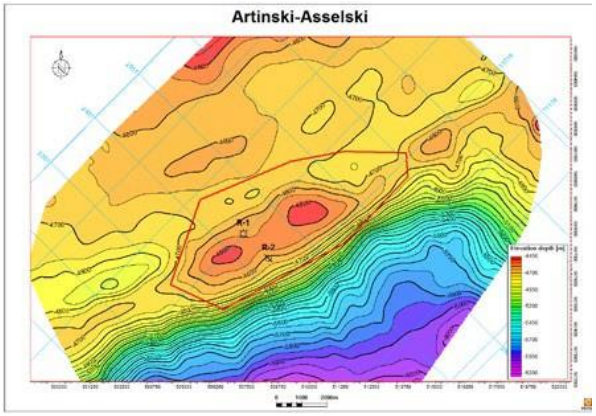
RESERVOIR STUDY INCLUDED:

1) The geological model updating (structural and petrophysical) based on new information (production data, pressure transient data, PLT interpretation data)
2) OOIP calculation
3) 3D simulation model building based on updated 3D geological model
4) Calibration of the model by satisfactory matching between calculated and observation data (production and pressure data)
5) In simulation was used ECLIPSE 300 for oil reservoir and for gas condensate reservoir
6) Well was considered as unique systems (commingled production from oil and gas-condensate reservoir). Well Integrity Evaluations performed
7) Establishing a basic scenario, which served for comparison of all the other field development cases
8) Working out prediction scenarios that reflected different development options and operating conditions in the field
9) Providing a range of forecast results that will be used further to update the best development plan









PROJECT:

2D GEOLOGICAL STUDY OF: KALINOVSKI CARBONATES (P_2kz, - UPPER PERMIAN), ARTINSKI-ASSELSKI CARBONATES (P_1a-ass - LOWER PERMIAN) AND BASHKIRIAN CARBONATES (C_2b - MIDDLE CARBONIFEROUS)

CLIENT: Nostrum Oil & Gas PLC, Netherlands

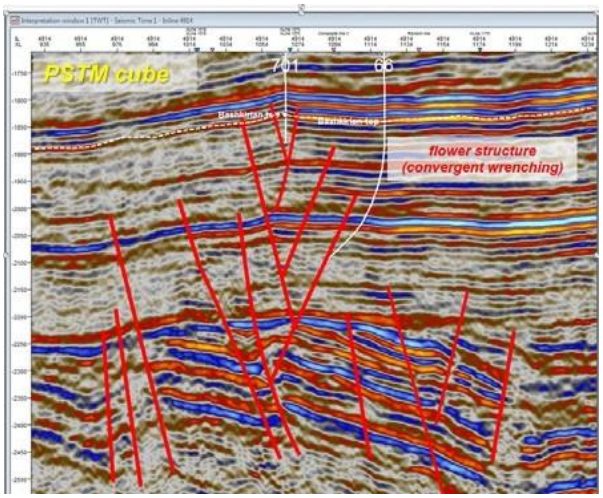
SERVICES: Geological Considerations, 3D Seismic Interpretation, Structural Mapping, HC Volumes In Place Estimation, Proposal for Further Drilling

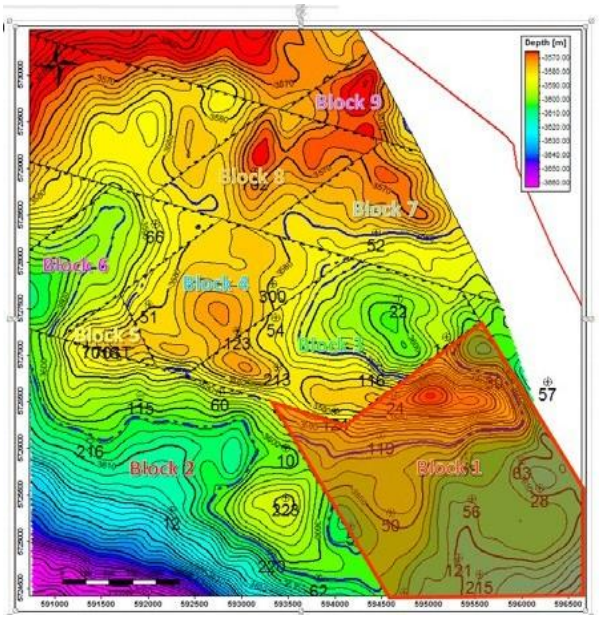
COMMENCEMENT: March 2015

COMPLETION: June 2015

SERVICES INCLUDED:

1) AVAILABLE DATA REVIEW
   - Basic well data
   - Well log data
   - 3D Seismic data
2) GEOLOGICAL CONSIDERATIONS
   - Regional geological setting
   - Well log correlation
   - Reservoir rocks
   - Cap rocks
3) 3D SEISMIC INTERPRETATION
   - Well to seismic tie
   - Horizon interpretation
4) STRUCTURAL MAPPING
5) HC VOLUMES IN PLACE ESTIMATION
   - OOIP estimation by MC simulation
6) PROPOSAL FOR FURTHER DRILLING





PROJECT:

RESERVOIR STUDY- BASHKIRIAN OIL RESERVOIR (EAST POOL)

CLIENT: ZhaikMunai LLP, Kazakhstan

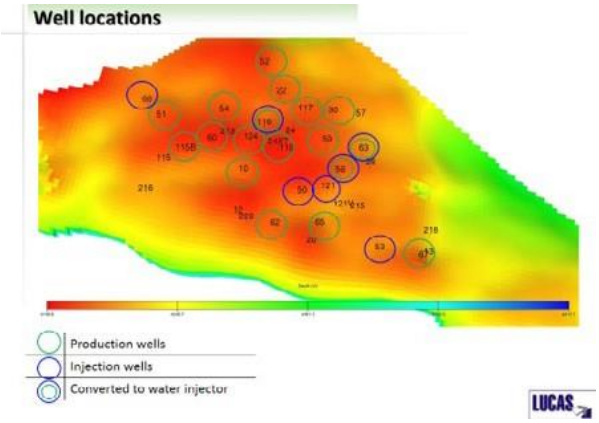
SERVICES: 3D Geological Model Building, Mapping Oil Pool(s), OOIP Calculations, Locations for Appraisal Well(s)

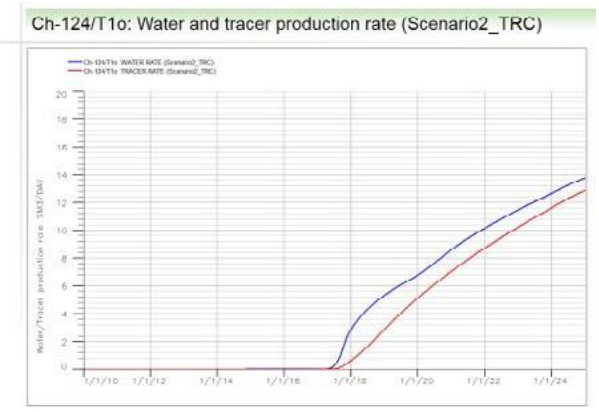
COMMENCEMENT: March 2015

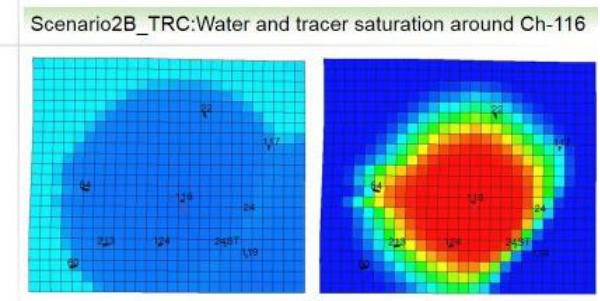
COMPLETION: April 2015

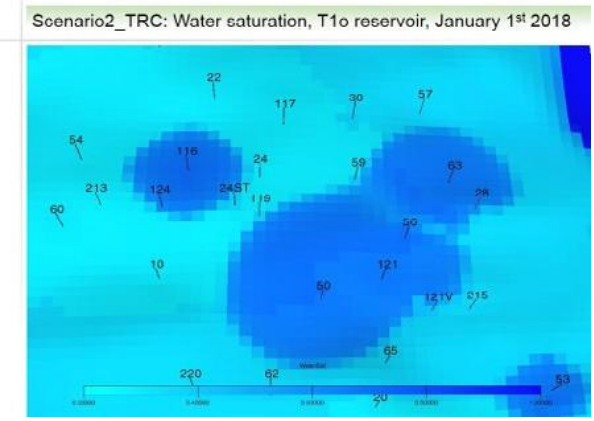
RESERVOIR STUDY INCLUDED:

1) RESERVOIR LITHOLOGY
2) HORIZON PETROPHYSICS
3) PRODUCTION RESULTS
4) 3D GEOLOGICAL MODELING
   - area of 3D geological modeling
   - 3D structural modeling
   - oil-water contact(s)
   - 3D petrophysical modeling
5) VOLUMETRIC CALCULATION
6) PROPOSAL FOR THE LOCATION OF APPRAISAL WELL(S)









PROJECT:

RESERVOIR STUDY-TOURNAISIAN N-E

CLIENT: ZhaikMunai LLP, Kazakhstan

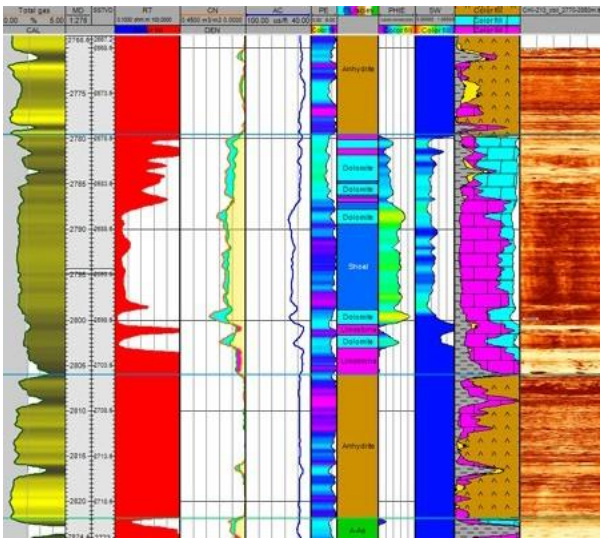
SERVICES: Application of Tracers-3D Dynamic Simulation to Track Tracer Movement Throughout the Reservoir

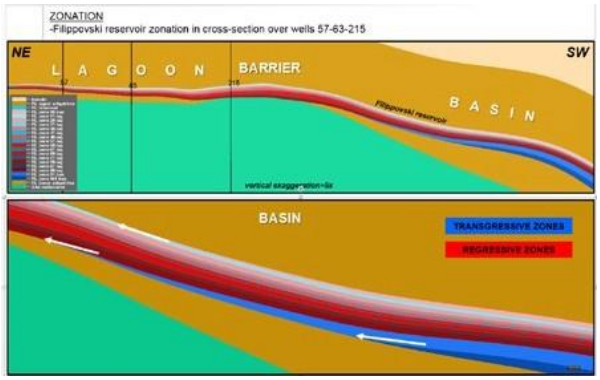
COMMENCEMENT: March 2015

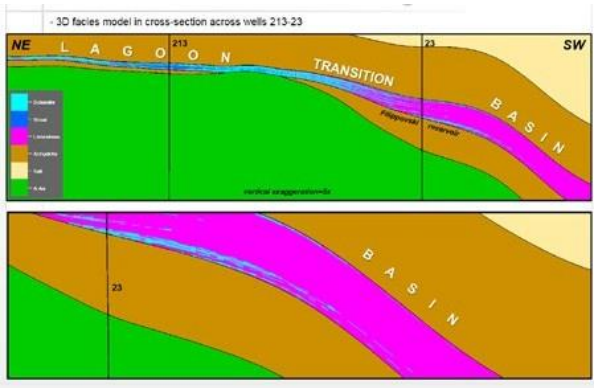
COMPLETION: April 2015

RESERVOIR STUDY INCLUDED:

1) Sector selection for tracking tracer
2) Selection of the well(s) for tracer injection
3) 3D model building
4) Water rate injection and tracer concentration definition
5) 3D simulation scenarios:
   - Water breakthrough in production wells
   - Tracker concentration changes
6) Proposal of the tracker tracking strategy
7) Tracker tracking optimization







PROJECT:

3D GEOLOGICAL STUDY (CHINAREVSKOE GAS-OIL FIELD, FILIPPOVSKI HORIZON (1P 4 OR P fl) OF THE KUNGURIAN STAGE (P 4 OR Pk)

CLIENT: ZhaikMunai LLP, Kazakhstan

SERVICES: Data QC, General Considerations and Key Geological Features, 3D Geological Model Building, HC Pools and HC Volume Calculations, The Main Uncertainties

COMMENCEMENT: September 2014

COMPLETION: December 2014

SERVICES INCLUDED:

1) GENERAL CONSIDERATIONS

2) KEY GEOLOGICAL FEATURES:
- Structural features
- Lithology
- Depositional environments
- Reservoir rocks
- PVT analyses

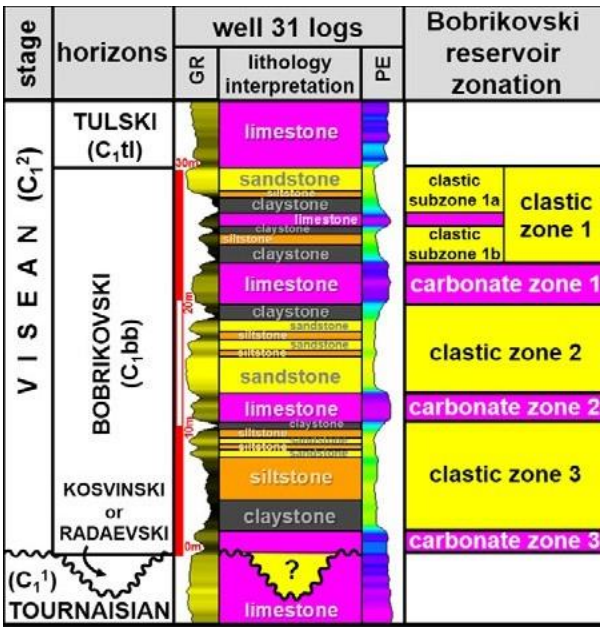
3) 3D GEOLOGICAL MODELING:
- 3D structural modeling
- 3D facies modeling
- 3D petrophysical modeling

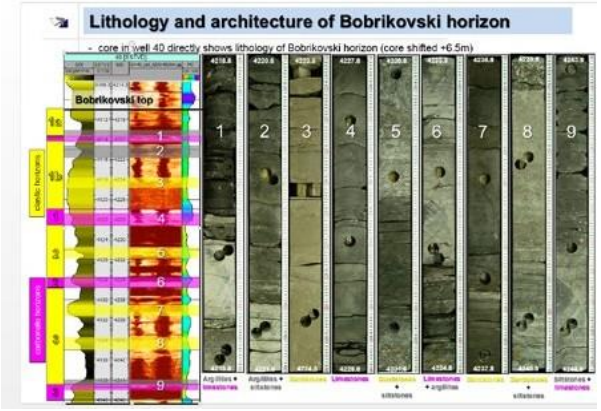
4) HC POOLS

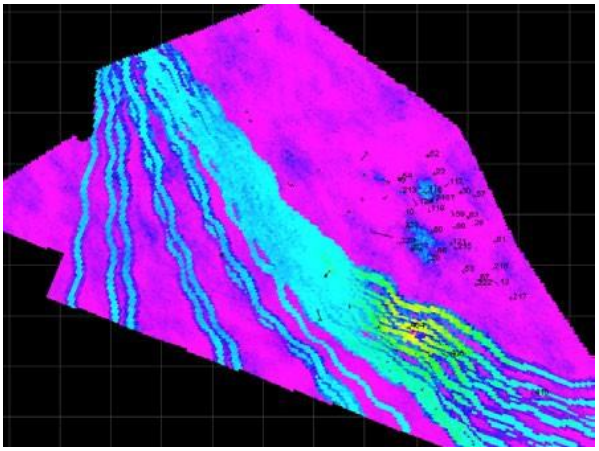
5) HC VOLUMES IN PLACE

6) UNCERTAINTIES

7) Providing a range of volumetric calculations that will be used in economic calculations







PROJECT:

3D GEOLOGICAL STUDY (CHINAREVSKOE GAS-OIL FIELD, BOBRIKOVSKI FORMATION-LOWER VISEAN STAGE OF EARLY CARBONIFEROUS)

CLIENT: ZhaikMunai LLP, Kazakhstan

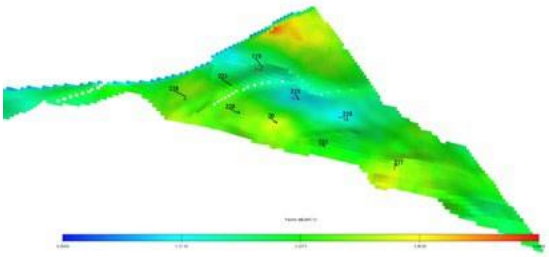
SERVICES: Data QC, Basic Geological Features, 3D Geological Model Building, HC Volume Calculations

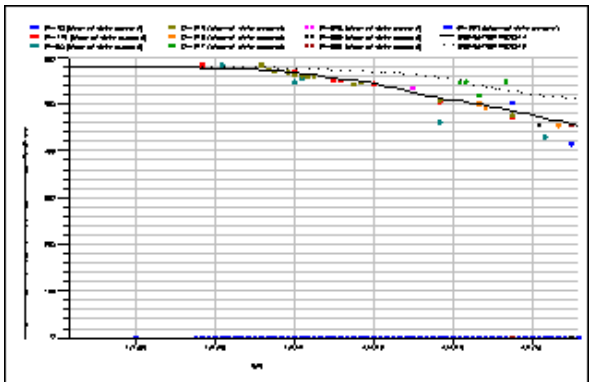
COMMENCEMENT: July 2014

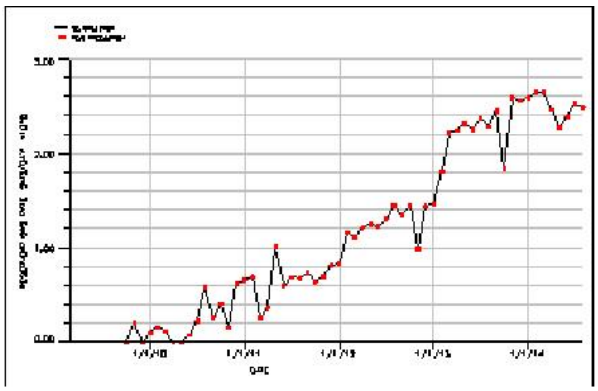
COMPLETION: October 2014

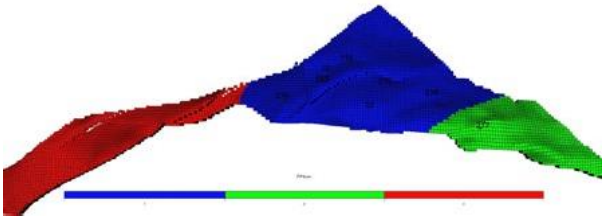
SERVICES INCLUDED:

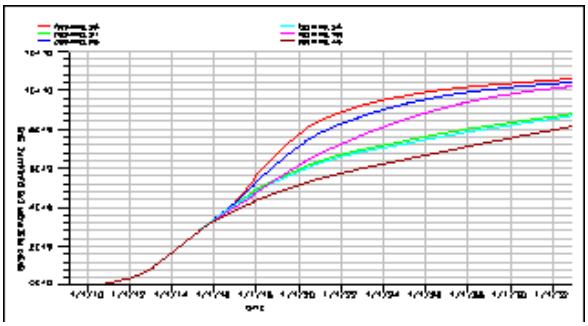
1) KEY GEOLOGICAL FEATURES:
   - Regional stratigraphy
   - Lithology and architecture
   - Sequence stratigraphy
   - Depositional environments
   - Reservoir rocks
   - Trapping mechanism
   - Fluid characteristics and PVT analysis
   - Production data
2) 3D GEOLOGICAL MODELING:
   - Input data QC
   - 3D structural modeling
   - Oil-water contact
   - 3D facies modeling
   - 3D petrophysical modeling
3) HC VOLUMES:
   - Deterministic approach (volumetric calculation)
   - Probabilistic approach (Monte Carlo simulation)
4) Providing a range of volumetric calculations that will be used in economic calculations to define further development plan











PROJECT:

3D SIMULATION STUDY (CHINAREVSKOE GAS-OIL FIELD, BIYSKI FORMATION, NORTH-EAST BLOCK)

CLIENT: ZhaikMunai LLP, Kazakhstan

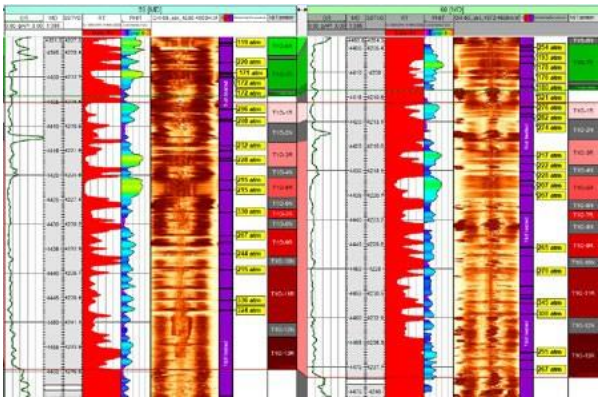
SERVICES: 3D Geological Model Updating, History Matching and Dynamic Modelling for Biyski Formation, New Development Scenarios Analysis, North-East Block

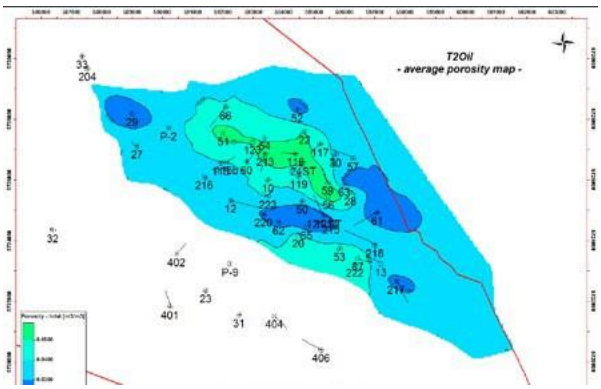
COMMENCEMENT: August 2014

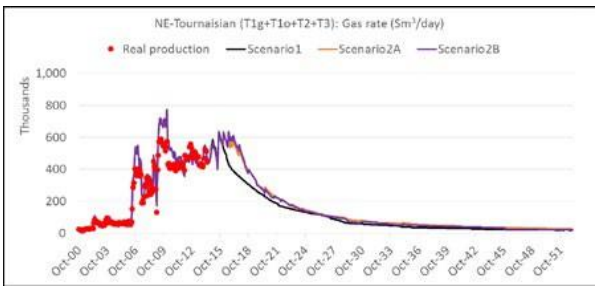
COMPLETION: September 2014

RESERVOIR STUDY INCLUDED:

1) 3D simulation model updating
2) Model initialization and OHIP calculations
3) Calibration of the model by satisfactory matching between calculated and observation data (production and pressure data)
4) In simulation was used ECLIPSE 300
5) Establishing a basic scenario, which served for comparison of all the other reservoir development cases
6) Working out prediction scenarios that reflected different development options and operating conditions in the field
7) The main uncertainty analysis
7) Providing a range of forecast results that will be used in economic calculations to define the best development plan







PROJECT:

3D SIMULATION STUDY (CHINAREVSKOE GAS-OIL FIELD, TOURNAISIAN FORMATION, NORTH-EAST BLOCK)

CLIENT: ZhaikMunai LLP, Kazakhstan

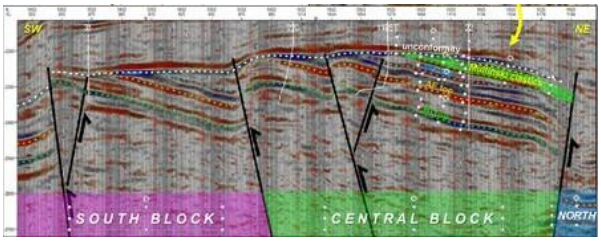
SERVICES: 3D Geological Model Up-grading, History Matching and Dynamic Modelling for Tournaisian Formation, North-East Block

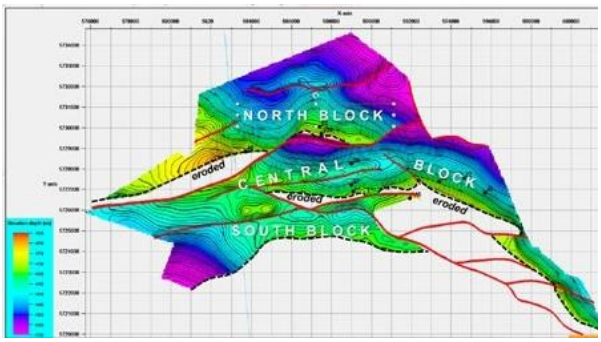
COMMENCEMENT: March 2014

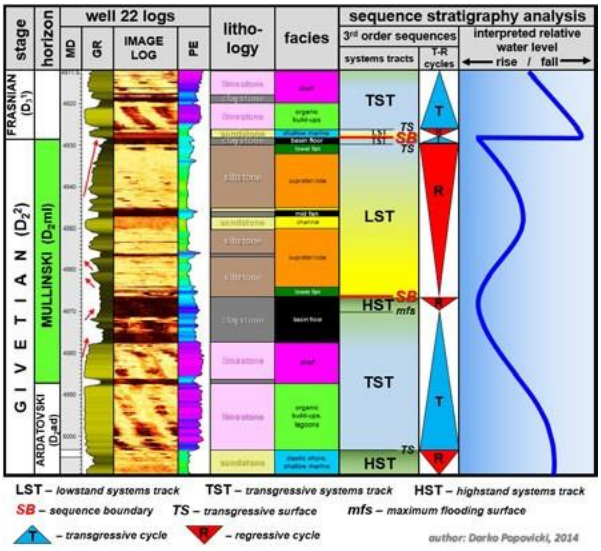
COMPLETION: August 2014

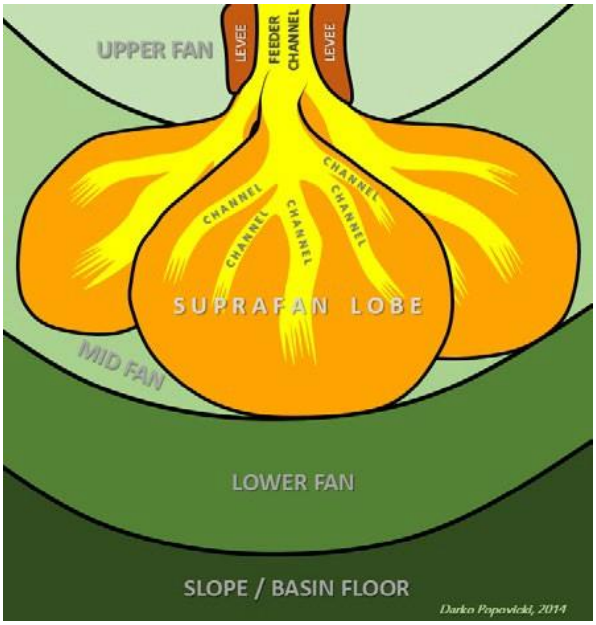
RESERVOIR STUDY INCLUDED:

1) The geological model updating (structural and petrophysical) based on new information (new wells, production data, pressure transient data, PLT interpretation data)
2) OOIP calculation based on new 3D model
3) 3D simulation model building based on new 3D geological model
4) Calibration of the model by satisfactory matching between calculated and observation data (production and pressure data)
5) In simulation was used ECLIPSE 300 for oil reservoirs and for gas condensate reservoir
6) Wells were considered as unique systems (commingled production from three oil and one gas-condensate reservoir)
7) Establishing a basic scenario, which served for comparison of all the other field development cases
8) Working out prediction scenarios that reflected different development options and operating conditions in the field
9) Providing a range of forecast results that will be used in further economic calculations to define the best development plan









PROJECT:

3D SIMULATION STUDY (CHINAREVSKOE GAS-OIL FIELD, MULLINSKI FORMATION, NORTH-EAST BLOCK)

CLIENT: ZhaikMunai LLP, Kazakhstan

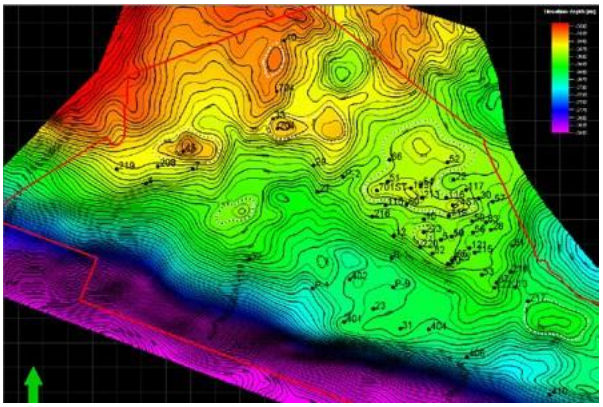
SERVICES: 3D Geological Model Building: 3D Structural Modelling, 3D Facies Modelling, 3D Petrophysical Modelling

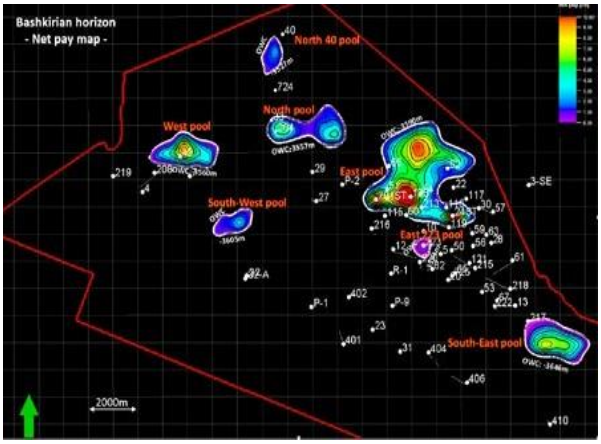
COMMENCEMENT: May 2014

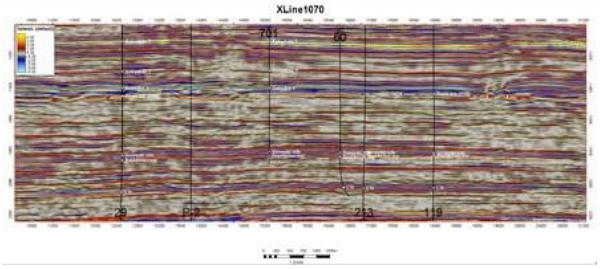
COMPLETION: October 2014

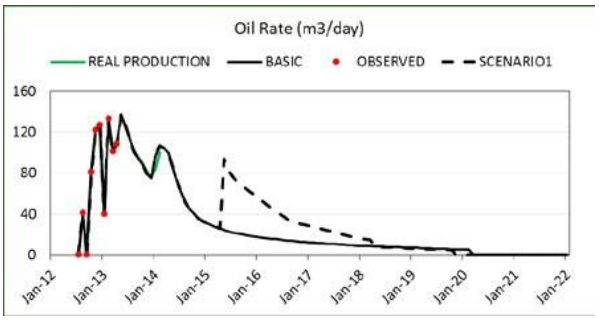
RESERVOIR STUDY INCLUDED:

1) 3D seismic data interpretation
2) 3D geological model building (structural and property modeling) based on available information (drilled wells, pilot production data, pressure transient data, PLT interpretation data)
3) Facies modeling
4) Probability and uncertainty analysis
5) OOIP calculation based on 3D model and probability approach
6) Appraisal well location and trajectory definition
7) 3D simulation model building based on 3D geological model
8) Calibration of the model by satisfactory matching between calculated and observation data (production and pressure data)
9) In simulation was used ECLIPSE 300 for oil reservoirs and for gas condensate reservoir
10) Establishing a basic scenario, which served for comparison of all the other field development cases
11) Working out prediction scenarios that reflected different development options and operating conditions in the field
12) Providing a range of forecast results that will be used in further economic calculations to define the best development plan









PROJECT:

RESERVOIR STUDY- BASHKIRIAN OIL RESERVOIR

CLIENT: ZhaikMunai LLP, Kazakhstan

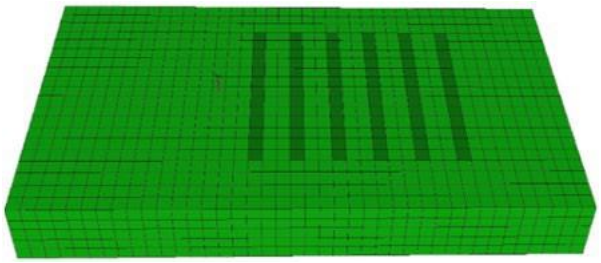
SERVICES: Geological Model Building-Mapping New Oil Pools for Exploration Drilling, History Matching, 3D Dynamic Modelling and Recovery Factor and Production Profile Re-Estimation for Different Scenarios for Bashkirian Reservoir, Chinarevskoe Oil Field, West Pool

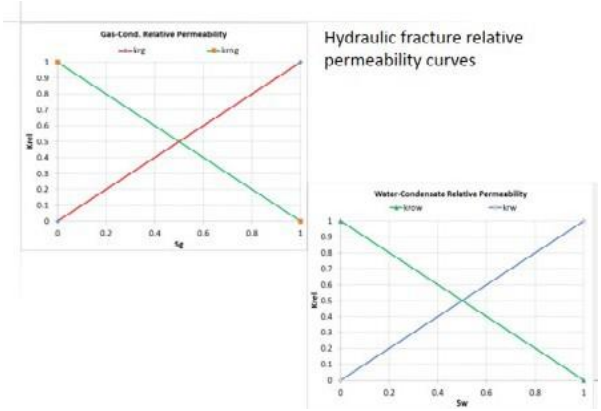
COMMENCEMENT: February 2014

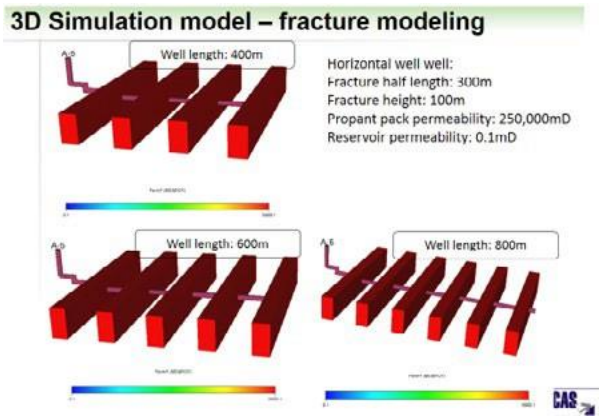
COMPLETION: March 2014

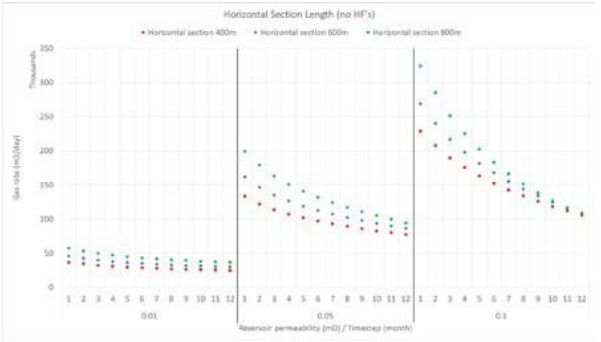
RESERVOIR STUDY INCLUDED:

1) 3D seismic data re-interpretation
2) The geological model construction (structural and petrophysical modeling) based on available information (well data, well testing, pilot production data, pressure transient data)
3) Preparation of structural maps (new pools for drilling)
4) OOIP calculation based on geological model for all defined pools
5) Calibration of the model by satisfactory matching between calculated and observation data (production and pressure data) for West pool (around well Ch-45)
6) In simulation was used ECLIPSE 100
7) Establishing a basic scenario, which served for comparison of all the other field development cases
8) Working out prediction scenarios that reflected different development options and operating conditions in the field
9) Natural water inflow and natural pressure support were considered as the main development approach









PROJECT:

RESERVOIR STUDY OF GAS-CONDENSATE RESERVOIR AFONINSKI, NORTH-EAST BLOCK OF CHINAREVSKOE GAS-OIL FIELD (3D SIMULATION HYDRAULIC FRACTURING - SENSITIVITY ANALYSIS)

CLIENT: ZhaikMunai LLP, Kazakhstan

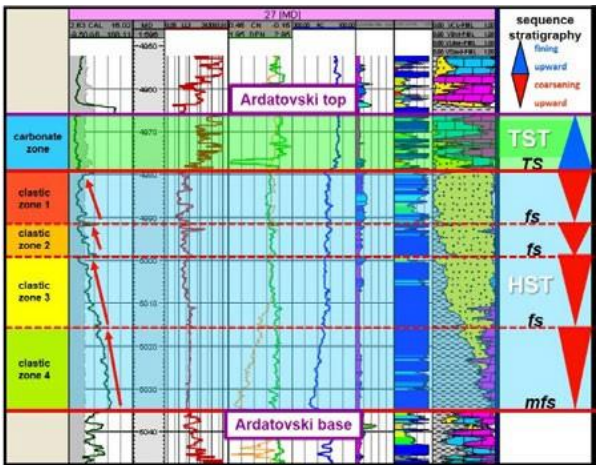
SERVICES: 3D Generic Model Building, (Structural and Property Modelling), 3D Dynamic Model Building, Estimation of The Initial Gas and Condensate Production Rates for Different Scenarios

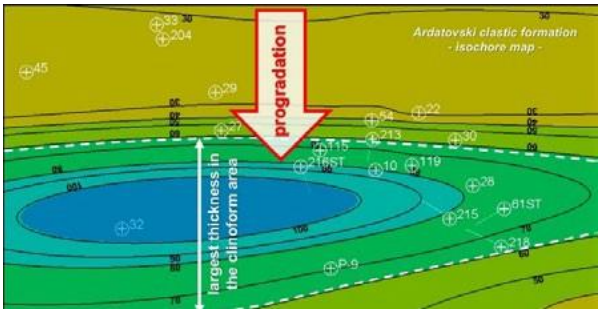
COMMENCEMENT: February 2014

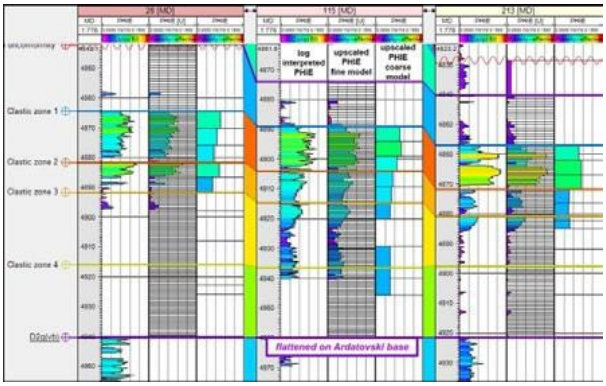
COMPLETION: March 2014

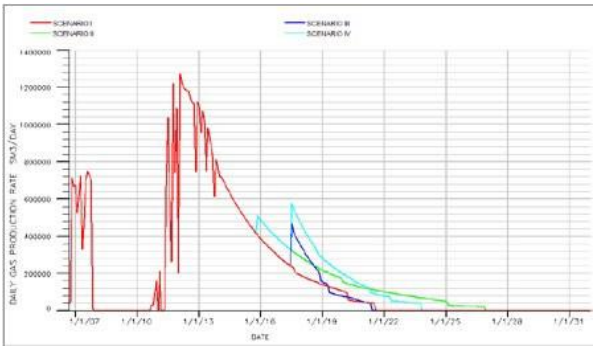
SERVICES INCLUDED:

1) 3D structural modeling
2) 3D petrophysical modeling
3) 3D dynamic model building
4) Providing a range of forecast results that will be used in further economic sensitivity analysis and risk analysis and assessments. The next parameters are modelled:
   - Rock permeability
   - Fracture proppant permeability
   - Length of horizontal section
   - Number of hydraulic fractures
   - Hydraulic fracture height
   - Hydraulic fracture half length









PROJECT:

RESERVOIR STUDY OF GAS-CONDENSATE RESERVOIR ARDATOVSKI, (NORTH-EAST BLOCK OF CHINAREVSKOE GAS-OIL FIELD)

CLIENT: ZhaikMunai LLP, Kazakhstan

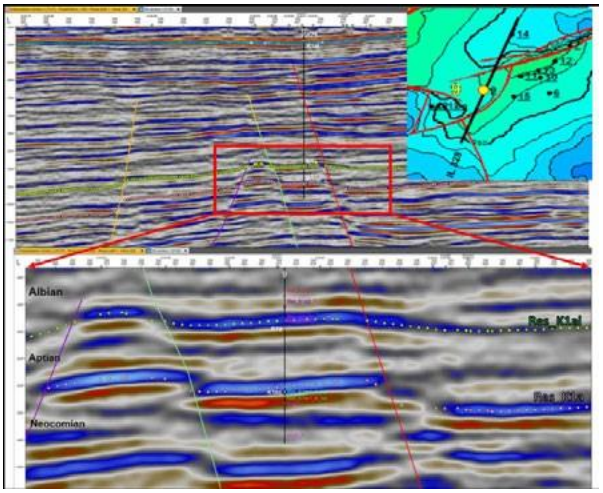
SERVICES: 3D Geological Modelling (Structural and Property Modelling), OGIP/OCIP Estimation and Recovery Factor (Recoverable Reserves Calculation for Different Scenarios)

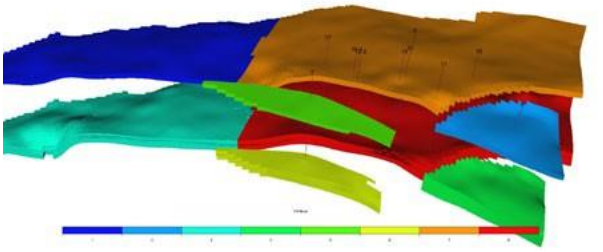
COMMENCEMENT: January 2014

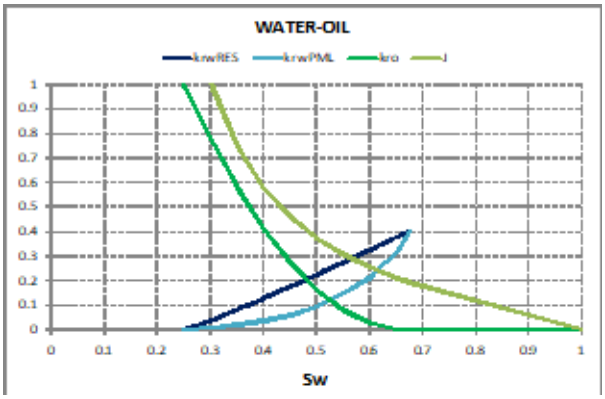
COMPLETION: February 2014

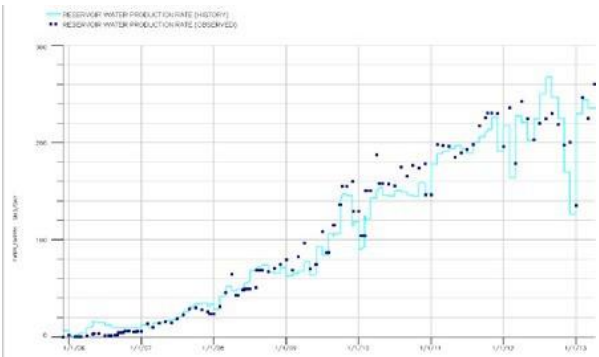
RESERVOIR STUDY INCLUDED:

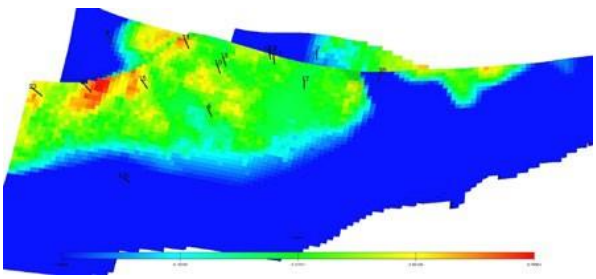
1) 3D structural modeling
2) 3D petrophysical modeling
3) 3D static model up-scaling
4) OGIP/OCIP by volumetrics
5) 3D dynamic model building
6) The model calibration to reflect good matching between calculated and available observation data (production and pressure data)
7) The base scenario prediction which served for comparison of all the other field development cases
8) Working out a prediction scenarios that reflected different operating conditions in the field
9) Providing a range of forecast results that will be used in further economic calculations to determine the best field development plan











PROJECT:

RESERVOIR STUDY- MORSKOE EAST OIL FIELD

CLIENT: Probel Capital Management, Brussels

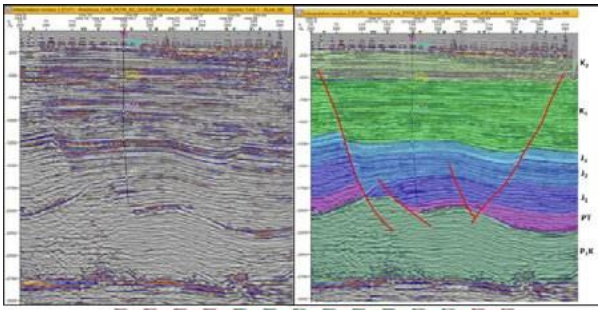
SERVICES: OOIP Evaluations, Recovery Factor and Oil Production Forecast Evaluation

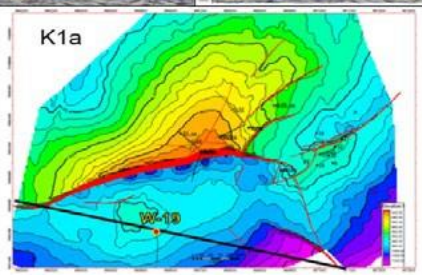
COMMENCEMENT: September 2013

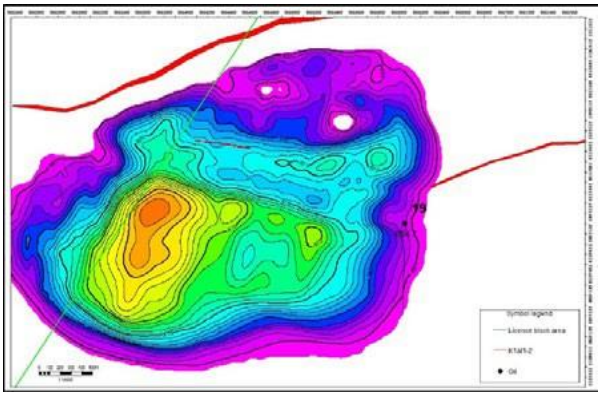
COMPLETION: October 2013

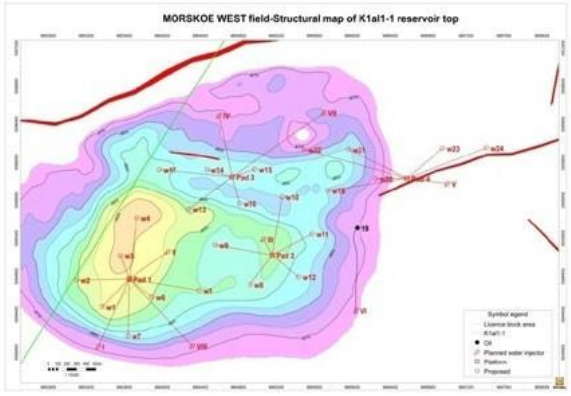
RESERVOIR STUDY INCLUDED:

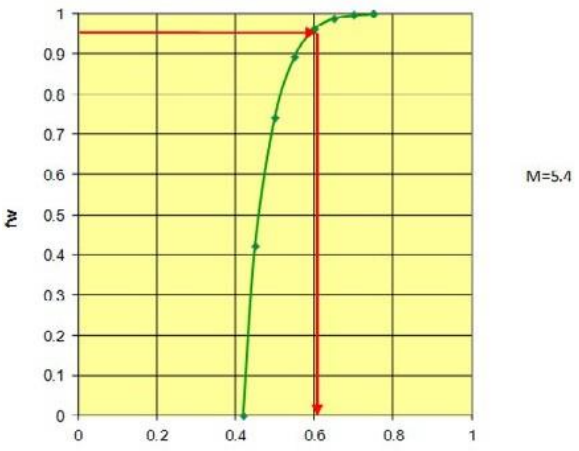
1) Data collection, Analysis and Validation
2) Structural Model Checking
3) Petrophysical Model Checking
4) OOIP Calculations Checking
5) Production Date Base Creation
6) Production History Analysis
7) WFP Analysis for Key Wells
8) 3D Dynamic Model Checking and 3D Dynamic Model Upgrading
9) Production Forecast-New Development Scenarios
10) Capital Costs Estimation
11) Operation Cost Estimation
12) The Main Uncertainties and Risks











PROJECT:

RESERVOIR STUDY- MORSKOE WEST OIL FIELD

CLIENT: Probel Capital Management, Brussels

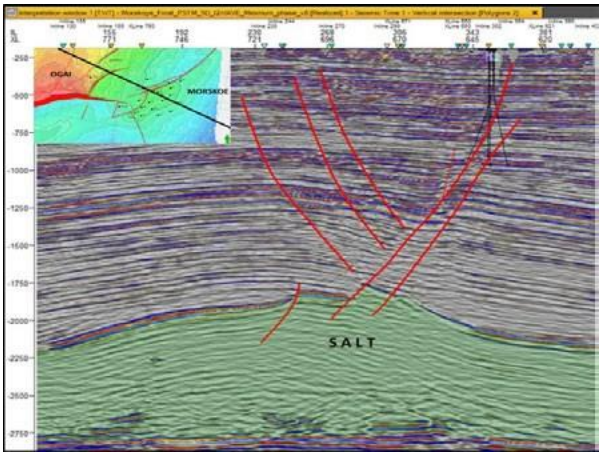
SERVICES: OOIP Evaluations, Recovery Factor and Oil Production Forecast Evaluation

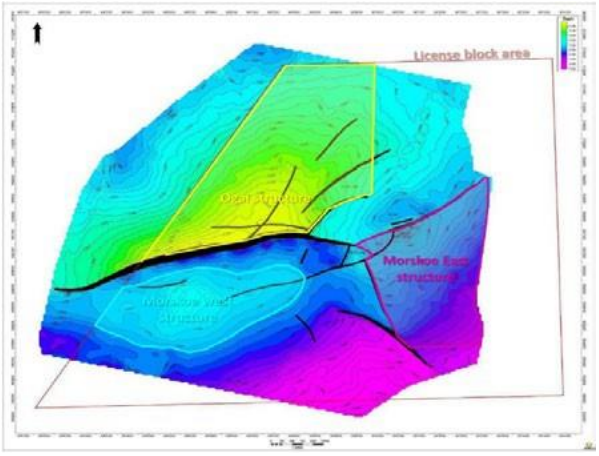
COMMENCEMENT: September 2013

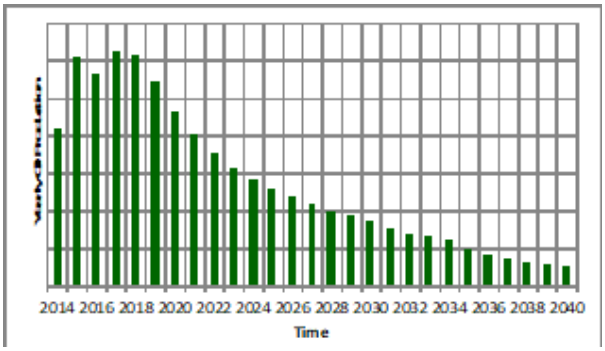
COMPLETION: October 2013

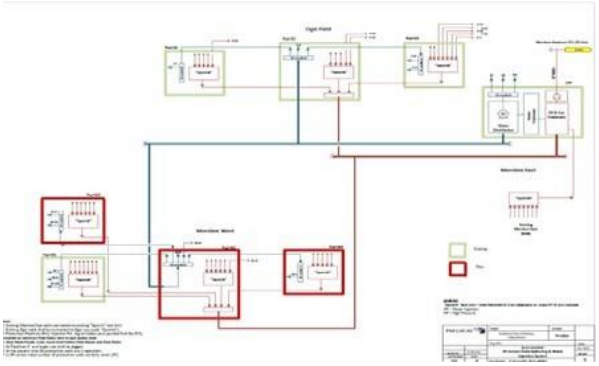
RESERVOIR STUDY INCLUDED:

1) Data collection, Analysis and Validation
2) Structural Model Checking
3) Petrophysical Model Checking
4) OOIP Calculations Checking
5) WFP Analysis for Exploration Well
6) Recovery Factor Calculation
7) Definition and Estimation P1, P2 and P3 Reserves
8) Field Development Scenarios Definition
9) Production Forecast Estimations
10) Capital Costs Estimations
11) Operation Cost Estimations
12) The Main Uncertainties and Risks









PROJECT:

RESERVOIR STUDY- OGAI OIL FIELD

CLIENT: Probel Capital Management, Brussels

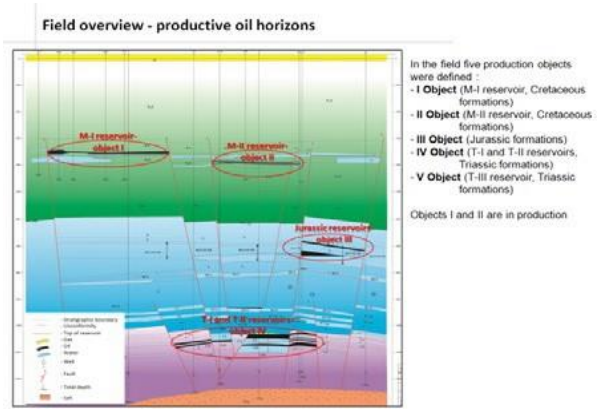
SERVICES: OOIP Evaluations, Recovery Factor and Oil Production Forecast Evaluation

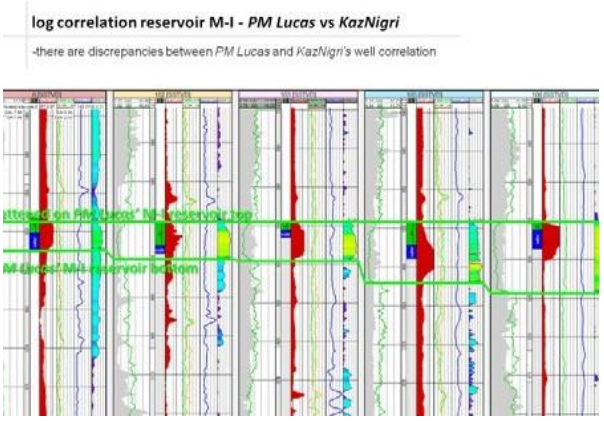
COMMENCEMENT: September 2013

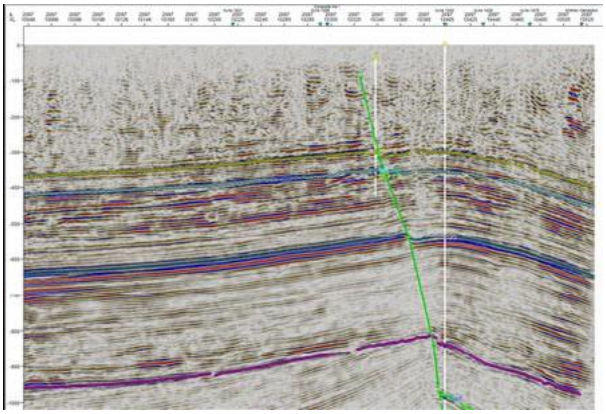
COMPLETION: October 2013

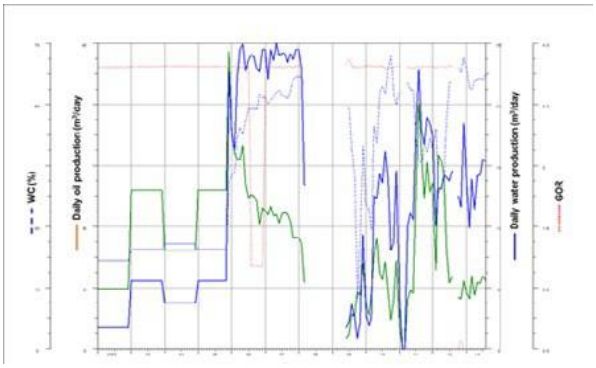
RESERVOIR STUDY INCLUDED:

1) Data collection, Analysis and Validation
2) Structural Model Checking
3) Petrophysical Model Checking
4) OOIP Calculations Checking
5) Production Data Base Creation
6) Production History Analysis
7) WFP for key wells
8) 3D Dynamic Model Checking
9) Field Development Scenarios
10) Production Forecast
11) Capital Costs Estimation
12) Operation Cost Estimation
13) The Main Uncertainties and Risks









PROJECT:

RESERVOIR STUDY-SOUTH KOZHA OIL FIELD

CLIENT: PM Lucas Enterprises, Kazakhstan

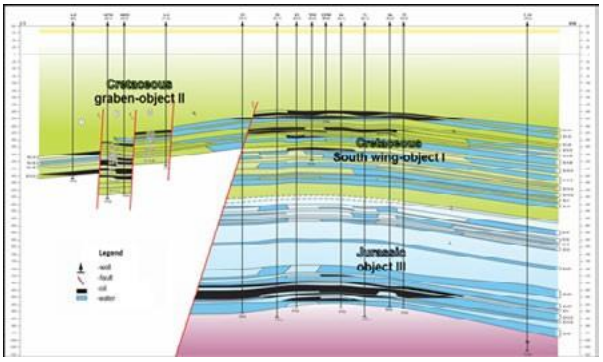
SERVICES: 00IP Evaluations, Recovery Factor and Oil Production Forecast Evaluation

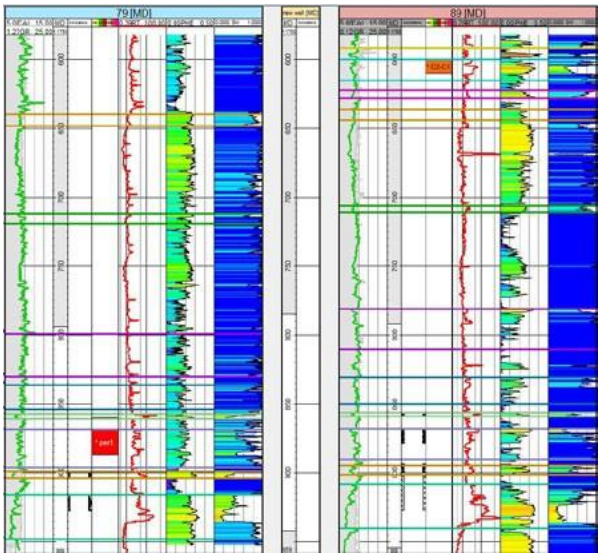
COMMENCEMENT: August 2013

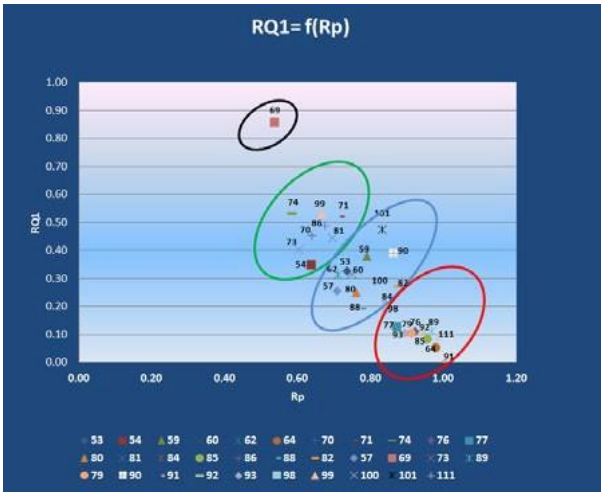
COMPLETION: September 2013

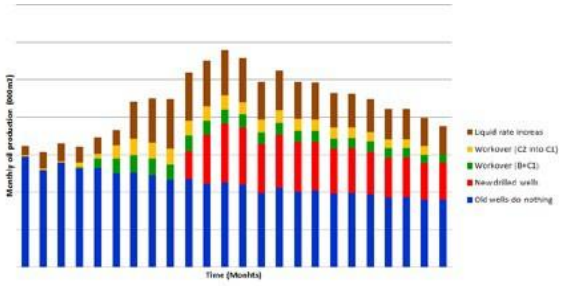
RESERVOIR STUDY INCLUDED:

1) Data Analysis and Validation
2) Structural Model Checking
3) Petrophysical Model Checking
4) 00IP Calculations Checking
5) Production History Analysis
6) Recovery Factor Calculations
7) Production Forecast Estimation
8) The main Uncertainties and Risks









PROJECT:

RESERVOIR STUDY-KYRYKMYLTYK OIL FIELD

CLIENT: K&D Capital Partners LP, London

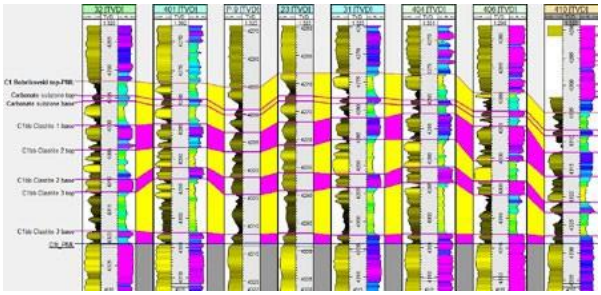
SERVICES: OOIP Evaluations, Recovery Factor and Oil Production Forecast Evaluation

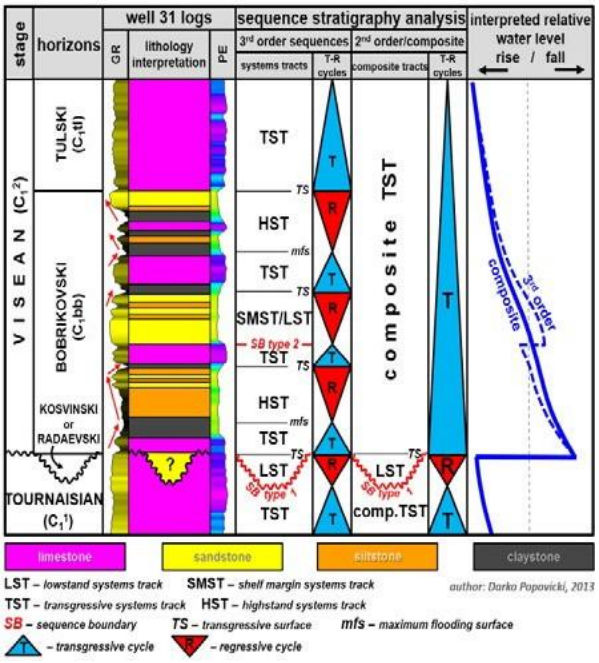
COMMENCEMENT: July 2013

COMPLETION: August 2013

RESERVOIR STUDY INCLUDED:

1) Data collection, Analysis and Validation
2) Structural Model Checking
3) Petrophysical Model Checking
4) OOIP Calculations Checking
5) Production data Base Creation
6) Production History Analysis
7) Base Line Production Definition for Jurassic Reservoirs
8) Short term Activities for Production Increase for Jurassic Reservoirs
9) Short Term Production Forecast for Jurassic Reservoirs
10) Estimated Short Term Capital Costs
11) The Main Uncertainties and Risks





PROJECT:

RESERVOIR STUDY-BOBRIKOVSKI OIL RESERVOIR

CLIENT: ZhaikMunai LLP, Kazakhstan

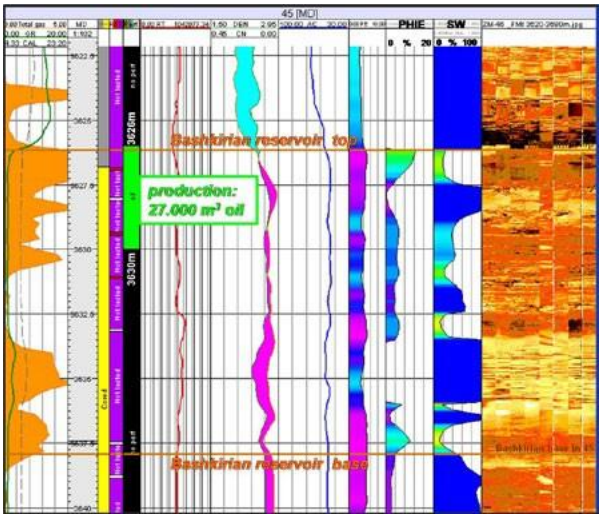
SERVICES: Regional Stratigraphy, Seismic Interpretation, 3D Geological Model Building, Volumetrics

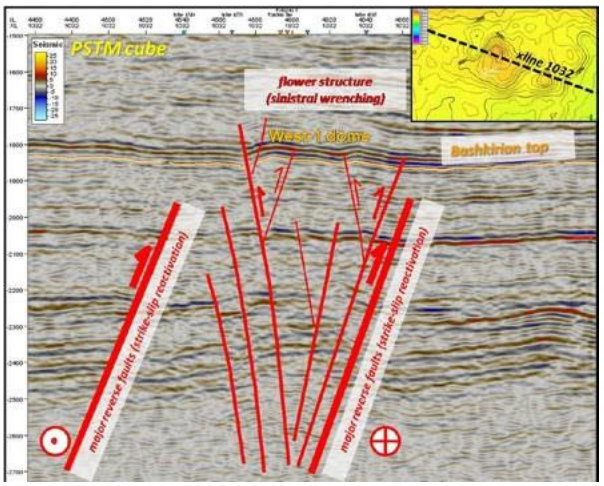
COMMENCEMENT: June 2013

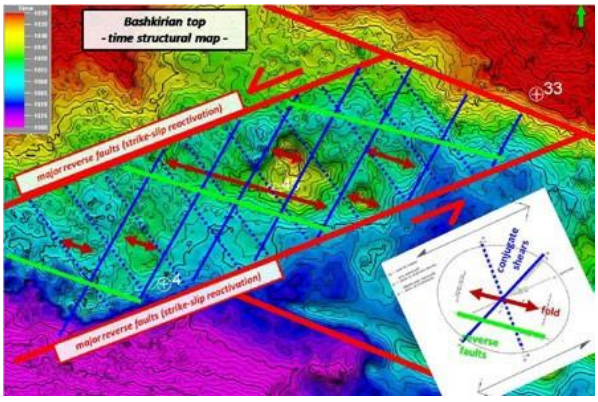
COMPLETION: July 2013

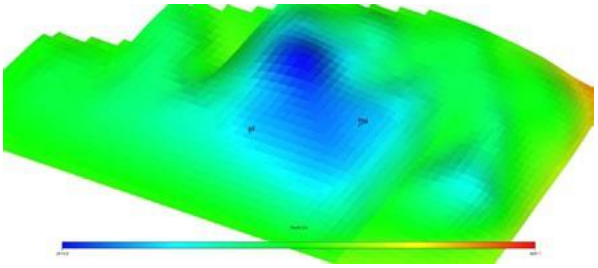
RESERVOIR STUDY INCLUDED:

1) Regional Stratigraphy of Lower Visean
2) Sequence Stratigraphy Analysis of Lower Visean
3) Determination of Depositional Environment in Bobrikovski horizon
4) Seismic Interpretation
5) 3D Structural Modeling
6) 3D Petrophysical Modeling
7) Volumetrics









PROJECT:

RESERVOIR STUDY- BASHKIRIAN OIL RESERVOIR (WEST POOL)

CLIENT: ZhaikMunai LLP, Kazakhstan

SERVICES: 3D Geological Model Building, History Matching, 3D Dynamic Modelling and Recovery Factor and Production Profile Estimation for Different Scenarios for Bashkirian Reservoir, Chinarevskoe Oil Field, West Pool

COMMENCEMENT: April 2013

COMPLETION: June 2013

RESERVOIR STUDY INCLUDED:

1) The geological model construction (structural and petrophysical modeling) based on available information (well data, well testing, pilot production data, pressure transient data)
2) OOIP calculation based on 3D model
3) Calibration of the model by satisfactory matching between calculated and observation data (production and pressure data)
4) In simulation was used ECLIPSE 100
5) Establishing a basic scenario, which served for comparison of all the other field development cases
6) Working out prediction scenarios that reflected different development options and operating conditions in the field
7) Natural water inflow and natural pressure support were considered as the main development approach

PROJECT:

RESERVOIR STUDY UP-DATE OF GAS-CONDENSATE RESERVOIR T1 (SOUTH BLOCK OF CHINAREVSKOE GAS-OIL FIELD)

CLIENT: ZhaikMunai LLP, Kazakhstan

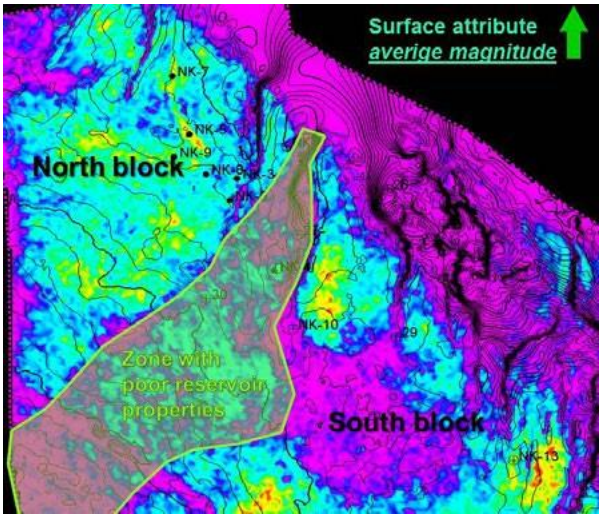
SERVICES: 3D Geological Model Re-Building and Dynamic Modelling and Recovery Factor and Production Profile Re-Estimation for Different Scenarios, Influence of New Well Data on Production Forecast of The Existing Wells

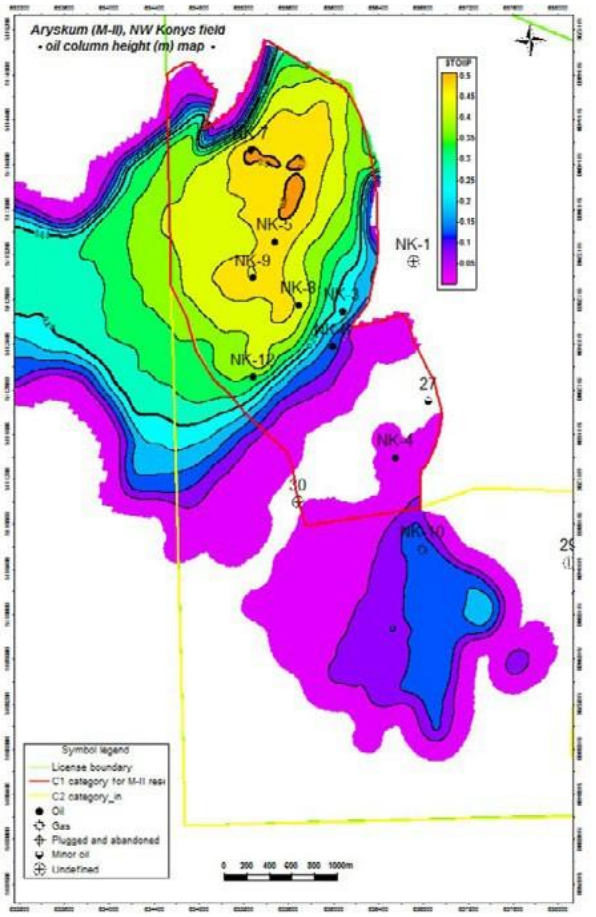
COMMENCEMENT: April 2013

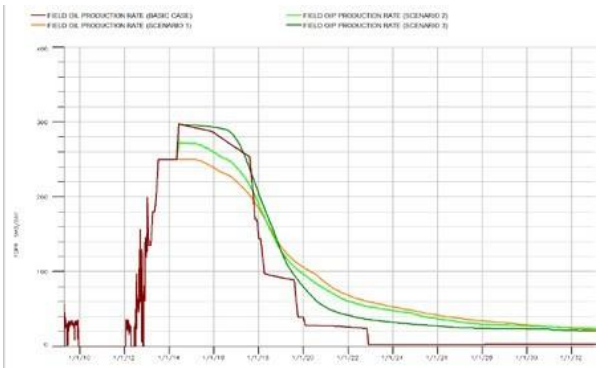
COMPLETION: May 2013

RESERVOIR STUDY INCLUDED:

1) The geological model updating-construction (structural and petrophysical) based on available information (new wells, production data, pressure transient data, PLT interpretation data)
2) Model up-scaling was done, respecting all reliable data
3) OOIP calculation based on new-updated 3D model
4) In simulation was used ECLIPSE 300
5) Old Calibration of the model was applied
6) Establishing a basic scenario, which served for comparison of all the other field development cases
7) Working out prediction scenarios that reflected influence of different development options on production forecast of the projected wells and the reservoir as a whole







PROJECT:

RESERVOIR STUDY OIL RESERVOIRS M-II (N-W KONYS OIL FIELD)

CLIENT: Galaz and Company LLP

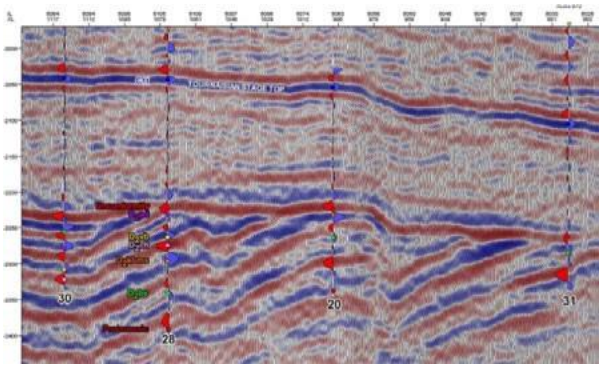
SERVICES: 3D Geological Model Building, History Matching and Dynamic Modelling and Recovery Factor and Production Profile Estimation for Different Scenarios for M-II Reservoir (Ariskum Formations)

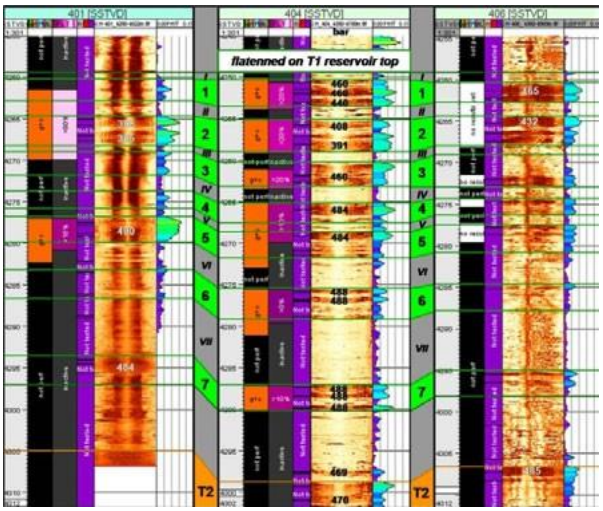
COMMENCEMENT: November 2012

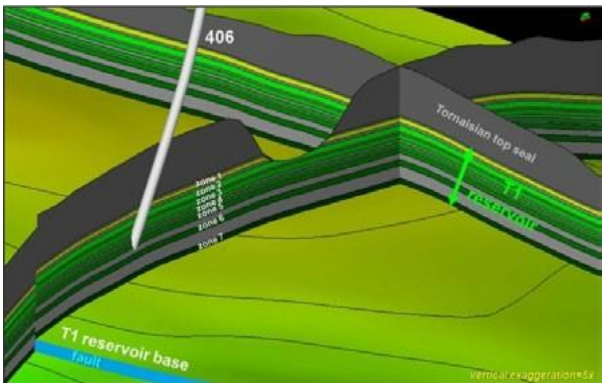
COMPLETION: December 2012

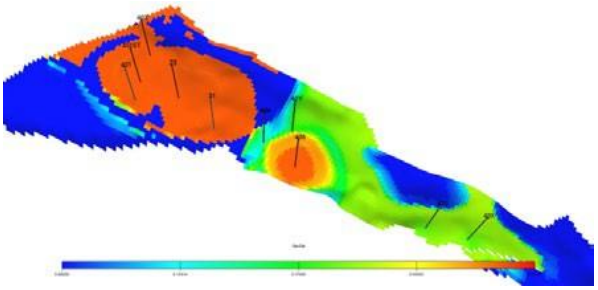
RESERVOIR STUDY INCLUDED:

1) The geological model construction (structural and petrophysical) based on available information (new wells, well testing, pilot production data, pressure transient data, PLT interpretation data)
2) OOIP calculation based on new 3D model
3) Calibration of the model by satisfactory matching between calculated and observation data (production and pressure data)
4) In simulation was used ECLIPSE 100
5) Establishing a basic scenario, which served for comparison of all the other field development cases
6) Working out prediction scenarios that reflected different development options and operating conditions in the field
7) Water flooding efficiency and pressure maintenance were considered as the main development approach









PROJECT:

RESERVOIR STUDY OF GAS-CONDENSATE RESERVOIR T1 (SOUTH BLOCK OF CHINAREVSKOE GAS-OIL FIELD)

CLIENT: ZhaikMunai LLP, Kazakhstan

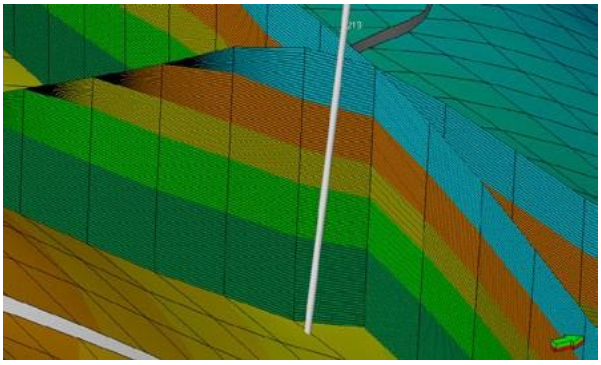
SERVICES: 3D Geological Model Building, History Matching and Dynamic Modelling and Recovery Factor and Production Profile Estimation for Different Scenarios

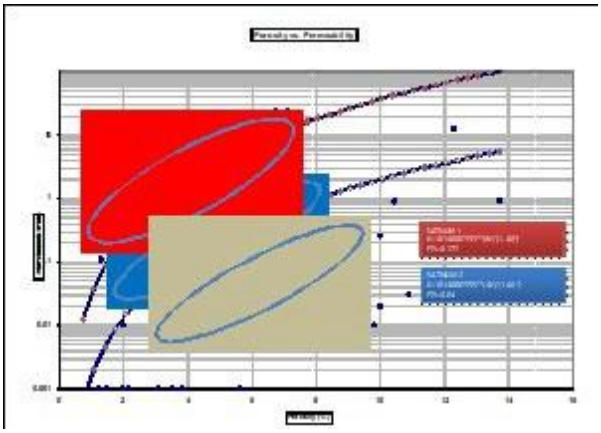
COMMENCEMENT: September 2012

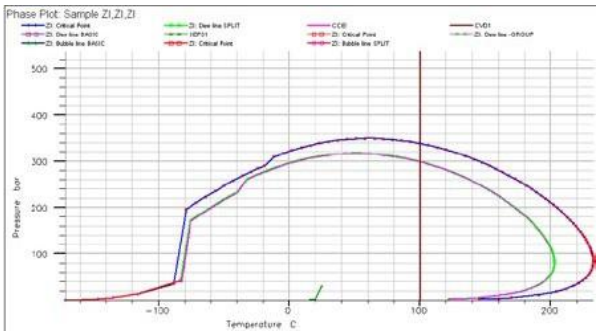
COMPLETION: November 2012

RESERVOIR STUDY INCLUDED:

1) The geological model construction (structural and petrophysical) based on available information (new wells, production data, pressure transient data, PLT interpretation data)
2) Model up-scaling was done, respecting all reliable data
3) OOIP calculation based on new 3D model
4) Calibration of the model by satisfactory matching between calculated and observation data (production and pressure data)
5) In simulation was used ECLIPSE 300
6) Establishing a basic scenario, which served for comparison of all the other field development cases
7) Working out prediction scenarios that reflected different development options and operating conditions in the field







PROJECT:

RESERVOIR STUDY OF GAS-CONDENSATE RESERVOIR AR-DATOVSKI (NORTH-EAST BLOCK OF CHINAREVSKOE GAS-OIL FIELD)

CLIENT: ZhaikMunai LLP, Kazakhstan

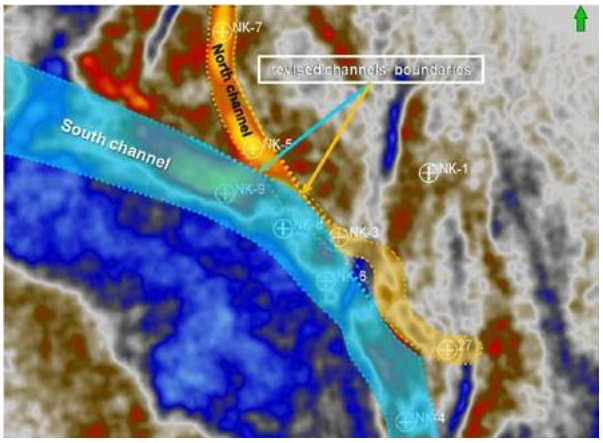
SERVICES: 3D Dynamic Modelling Based on Geological Model Done 2011, Using New Production Data (New Production Allocation was Done) and Recovery Factor and Production Profile (Recoverable Reserves Calculation for Different Scenarios) were Predicted

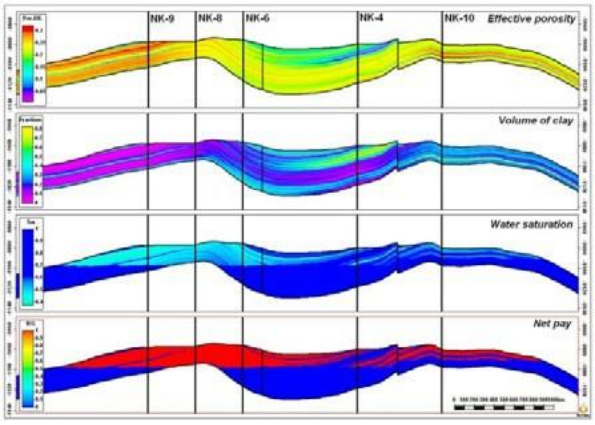
COMMENCEMENT: June 2012

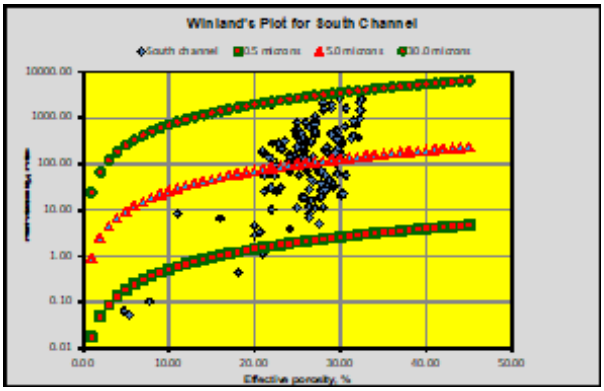
COMPLETION: August 2012

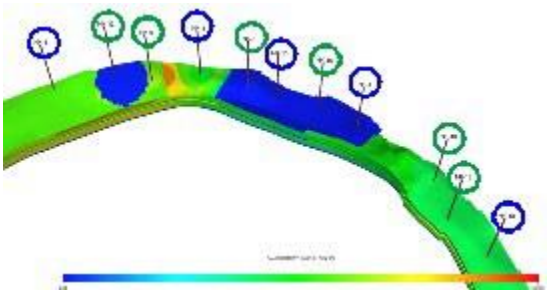
RESERVOIR STUDY INCLUDED:

1) The reservoir simulation model constructions, based on the geological model previously completed by a third party and updating the model by new production data (2nd data set)
2) Calibration of the model so as to satisfactorily reflect available pressure and fluid production allocation
3) Establishing a basic scenario, which served as a benchmark for comparison of all the other field development cases
4) Working out a prediction scenarios that reflected different operating conditions in the field
5) Provided a range of forecast results that will be used in further economic calculations to determine the best field development plan









PROJECT:

RESERVOIR STUDY OIL RESERVOIRS J-0-1 (N-W KONYS OIL FIELD)

CLIENT: Galaz and Company LLP

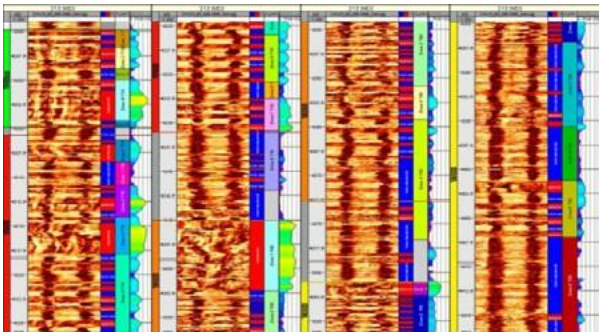
SERVICES: 3D Geological Model Building, History Matching and Dynamic Modelling and Recovery Factor and Production Profile Estimation for Different Scenarios for South and North Channel of Akshabulak Formations

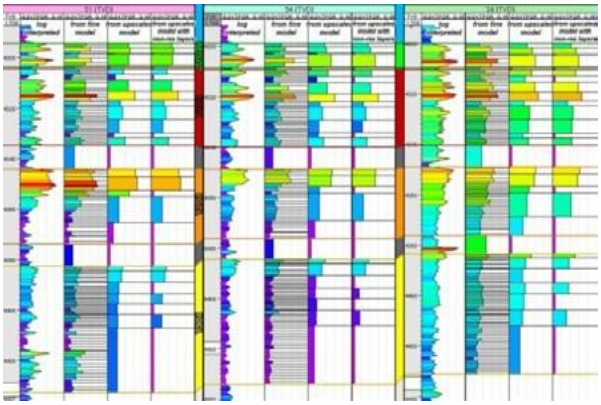
COMMENCEMENT: June 2012

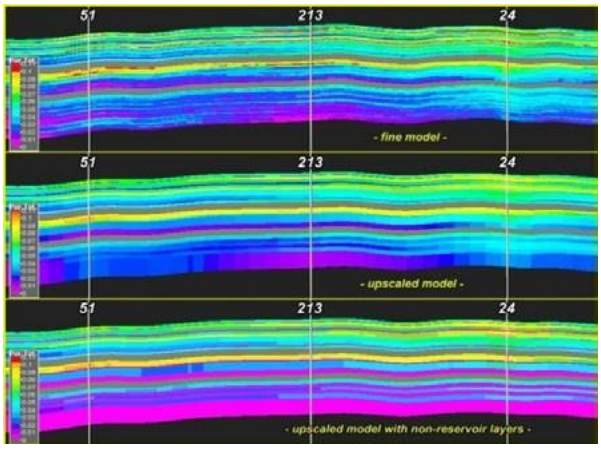
COMPLETION: November 2012

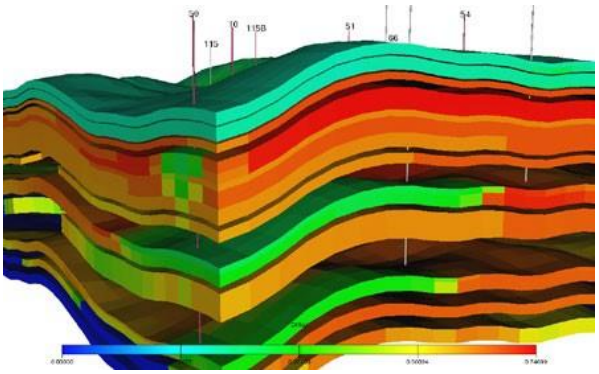
RESERVOIR STUDY INCLUDED:

1) The geological model construction (structural and petrophysical) based on available information (new wells, pilot production data, pressure transient data, PLT interpretation data)
2) OOIP calculation based on new 3D model
3) Calibration of the model by satisfactory matching between calculated and observation data (production and pressure data)
4) In simulation was used ECLIPSE 100
5) Establishing a basic scenario, which served for comparison of all the other field development cases
6) Working out prediction scenarios that reflected different development options and operating conditions in the field
7) Water flooding and gas re-injection were considered









PROJECT:

RESERVOIR PRESSURE MAINTENANCE AND DISPLACEMENT EFFICIENCY BY WATER-FLOODING (CHINAREVSKOE GAS-OIL FIELD, TOURNAISIAN FORMATION, NORTH-EAST BLOCK)

CLIENT: ZhaikMunai LLP, Kazakhstan

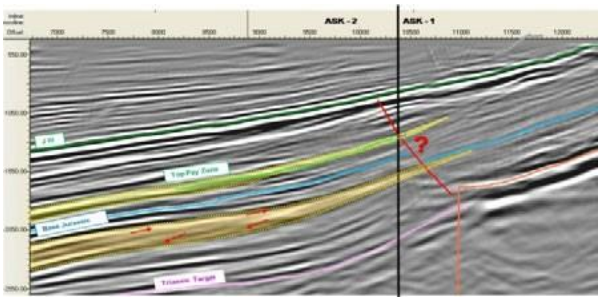
SERVICES: 3D Geological Model Up-grading, History Matching and Dynamic Modelling for Tournaisian Formation, North-East Block

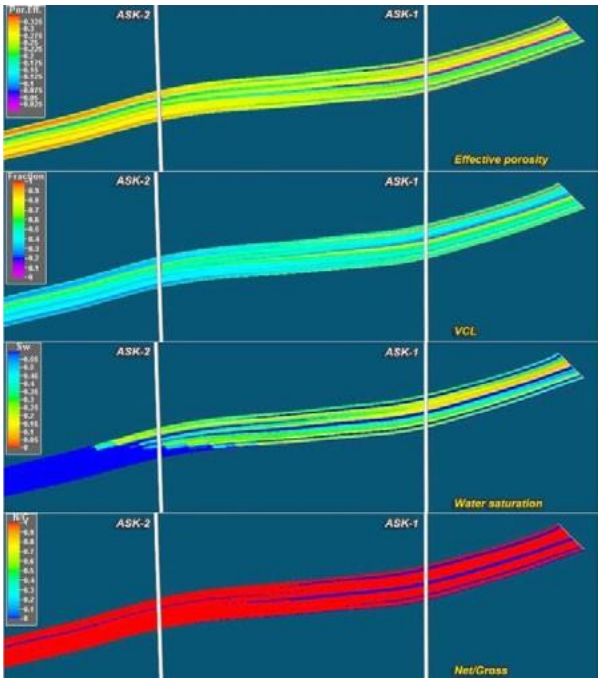
COMMENCEMENT: December 2011

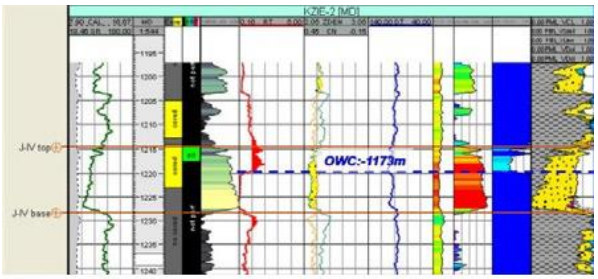
COMPLETION: May 2012

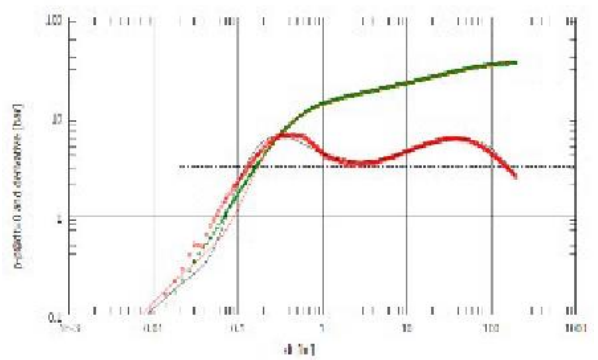
RESERVOIR STUDY INCLUDED:

1) The geological model construction (structural and petrophysical) based on new information (new wells, production data, pressure transient data, PLT interpretation data)
2) New up-scaling approach was applied
3) OOIP calculation based on new 3D model
4) Calibration of the model by satisfactory matching between calculated and observation data (production and pressure data)
5) In simulation was used ECLIPSE 300 and all wells were considered as unique systems (commingled production)
6) Establishing a basic scenario, which served for comparison of all the other field development cases
7) Working out prediction scenarios that reflected different development options and operating conditions in the field
8) Providing a range of forecast results that will be used in further economic calculations to define the best development plan









PROJECT:

EXPLORATION OF THE GROUP OF RESERVOIRS IN MANGISTAU REGION (ASANKETKEN, BORKYLDAKTY, KYZYLZHAR EAST, SAGIZ WEST AND ZHANA MAKAT)

CLIENT: PROBELL

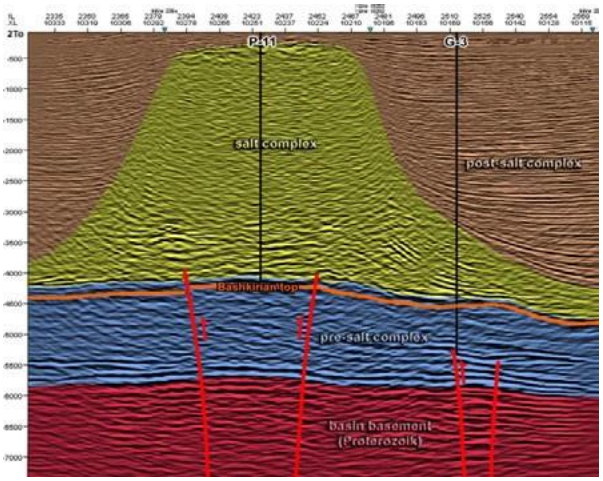
SERVICES: OOIP Assessment of the Exploration License Blocks Area

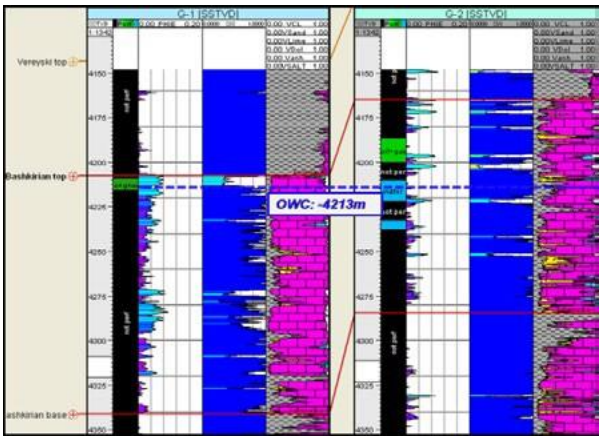
COMMENCEMENT: June 2012

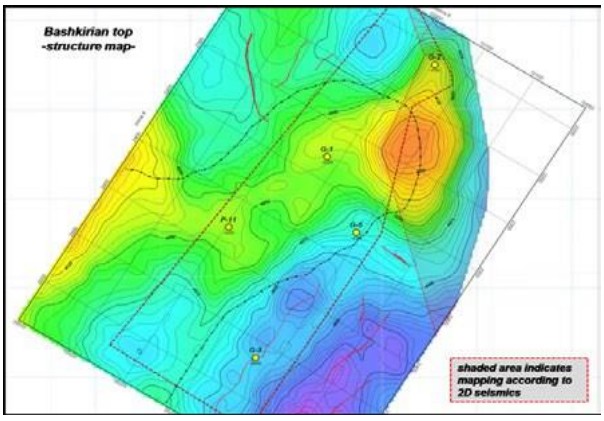
COMPLETION: July 2012

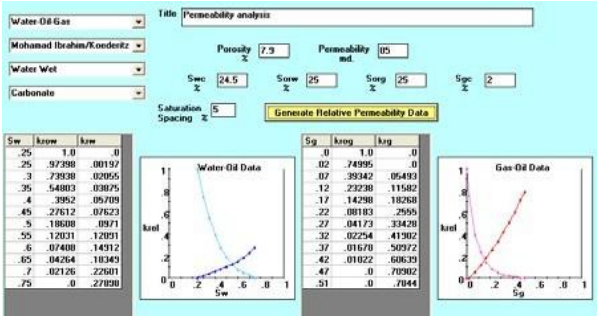
RESERVOIR STUDY INCLUDED:

1) Geological Data Overview and Analysis
2) Tectonic Style
3) Well Log Data Correlations
4) Structural Models Definition
5) Reservoir Rocks
6) Oil-Water Contact Definition
7) Volumetric Calculations
8) Well Testing Analysis
9) Recovery Factor Calculation
10) Production Forecast Evaluation









PROJECT:

EXPLORATION OF DARINSKOE LICENSE BLOCK (BASHKIRIAN)

CLIENT: PM Lucas

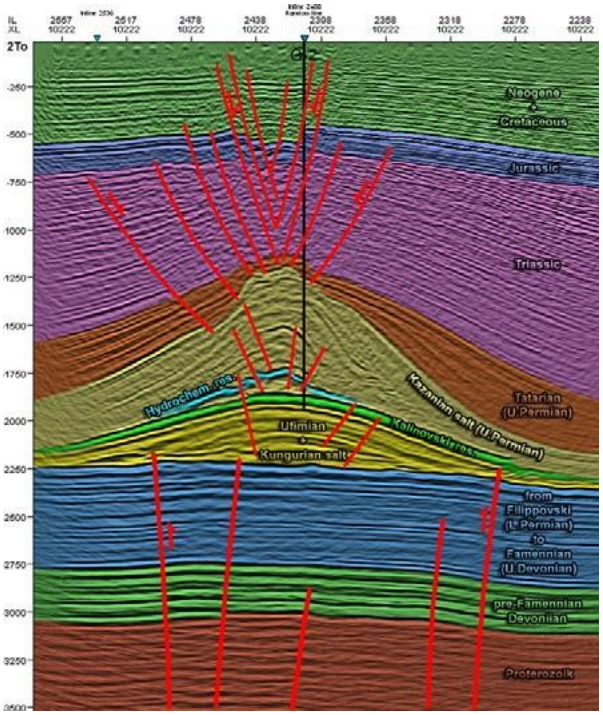
SERVICES: 00IP Assessment of the Exploration License Block Area

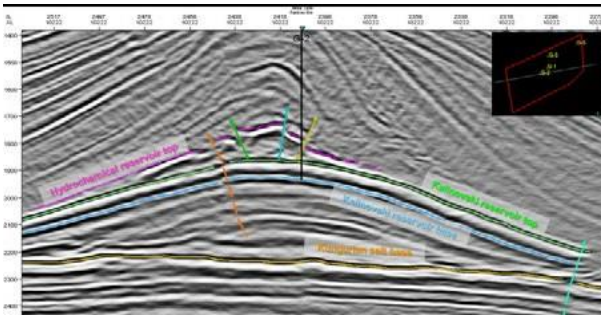
COMMENCEMENT: March 2012

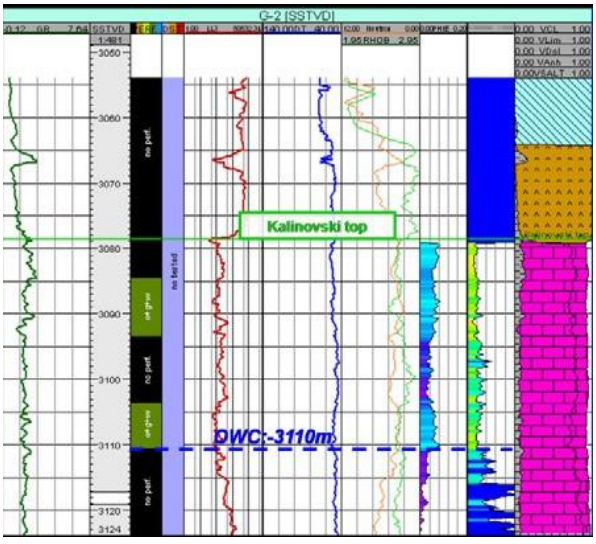
COMPLETION: April 2012

RESERVOIR STUDY INCLUDED:

1) Geological Data Overview and Analysis
2) Tectonic Style
3) Well Log Data Correlations
4) Structural Models Definition
5) Reservoir Rocks
6) Oil-Water Contact Definition
7) Volumetric Calculations
8) PVT Analysis
9) Well Testing Analysis
10) Permeability and Inflow Characteristics
11) Recovery Factor Calculation







PROJECT:

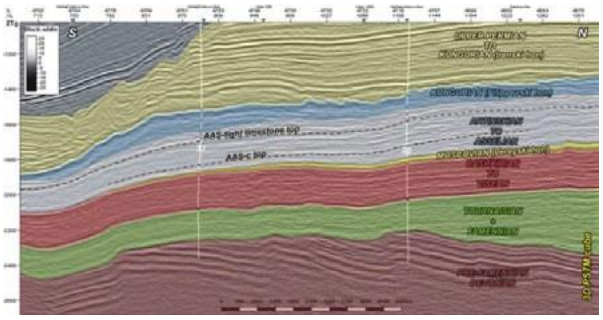
EXPLORATION OF GREMYACHINSKOE LICENSE BLOCK (UPPER PERMIAN)

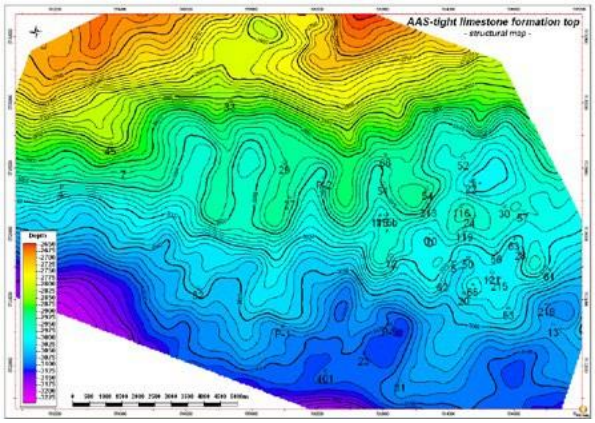
CLIENT: PM Lucas
SERVICES: OOIP Assessment of the Exploration License Block Area

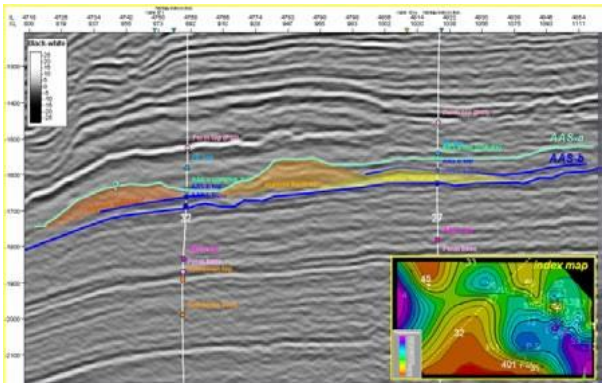
COMMENCEMENT: February 2012
COMPLETION: March 2012

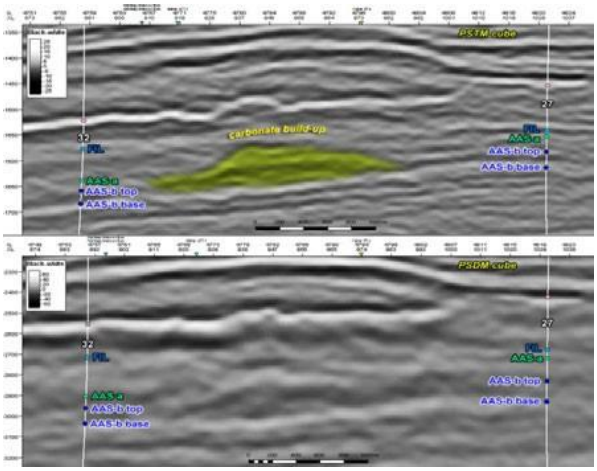
RESERVOIR STUDY INCLUDED:

1) Geological Data Overview and Analysis
2) Well Log Data Correlation and Interpretation
3) Seismic Data Overview
4) Tectonic Style
5) Reservoir Rocks
6) Seismic Data Interpretation
7) 3D Structural modeling
8) Oil-Water Contacts
9) 3D Petrophysical modeling
10) Volumetric Calculations
11) PVT Analysis
12) Well Testing Analysis
13) Permeability and Inflow Characteristics
14) Recovery Factor Calculation









PROJECT:

EXPLORATION OF ARTINSKIAN-ASSELIAN FORMATIONS OF THE CHINAREVSKOE GAS-OIL FIELD

CLIENT: ZhaikMunai LLP, Kazakhstan

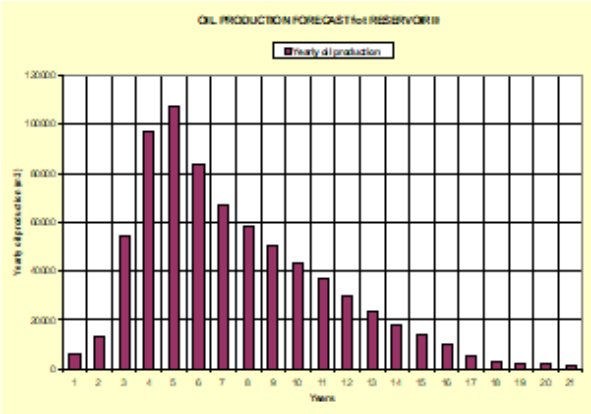
SERVICES: Definition of Exploration Strategy and the Main Uncertainties Related to the Exploration of Artinskian-Asselian Formations

COMMENCEMENT: January 2012

COMPLETION: February 2012

RESERVOIR STUDY INCLUDED:

1) Reservoir Geology Consideration (Structural and Petrophysical Model)
2) OGIP Calculation by Volumetrics
3) The Main Uncertainties Definition
4) Appraisal Drilling Strategy
5) Appraisal Drilling Program



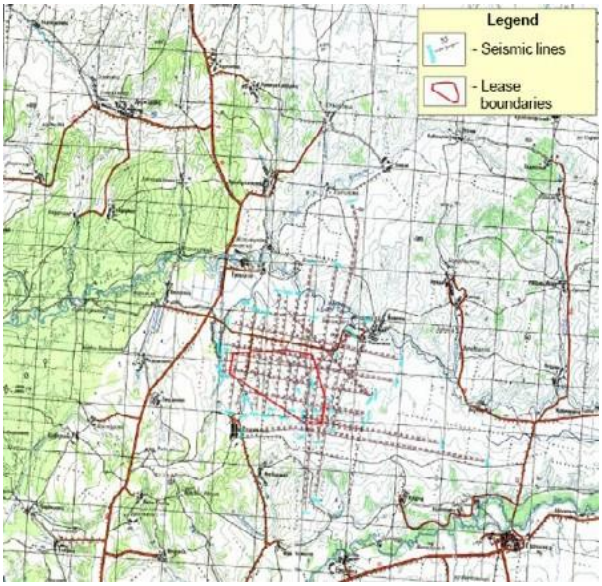
PROJECT:

PROJECT DEVELOPMENT -SCOUTING

CLIENT: Eriston- KMG-PM Lucas
SERVICES: Pogromenskoe Oil Field Development Program Overview

COMMENCEMENT: October 2011
COMPLETION: December 2012

RESERVOIR STUDY INCLUDED:
1) Scouting Report
2) Data Collection and Data Analysis
3) G&G Consideration
4) Well Integrity Assessments
5) Project Development Review
6) Investment Estimation



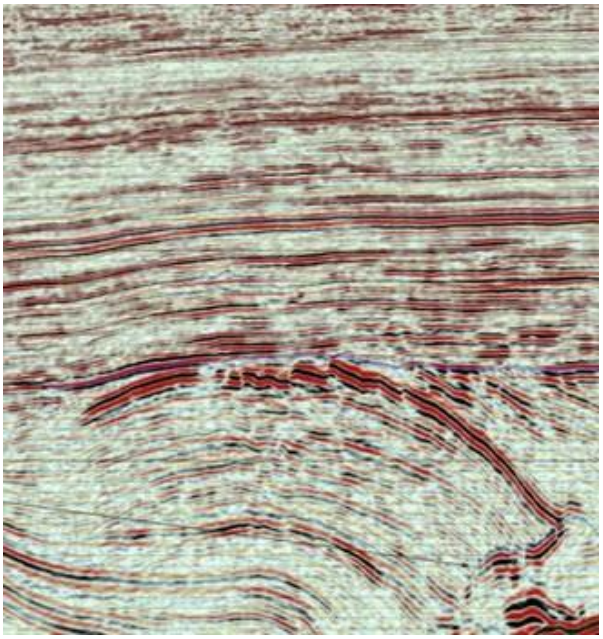
PROJECT:

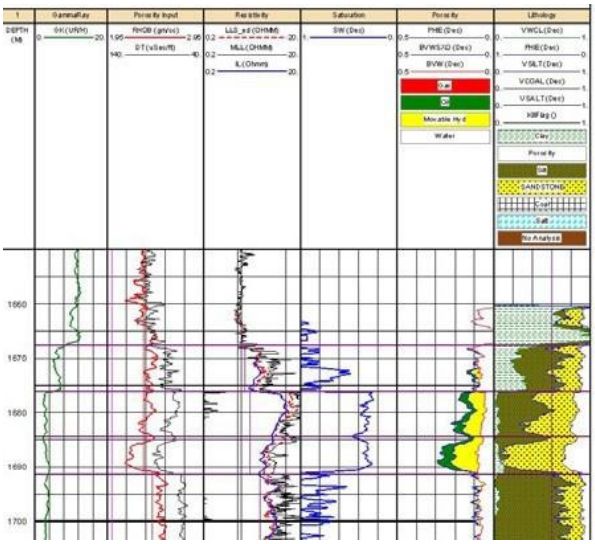
BROWN FIELD PROJECT DEVELOPMENT -SCOUTING

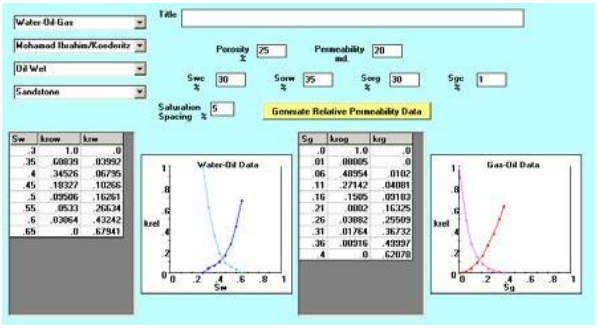
CLIENT: Eriston- KMG-PM Lucas, Kazakhstan
SERVICES: Tverdilovskoe Oil Field Development Program Overview

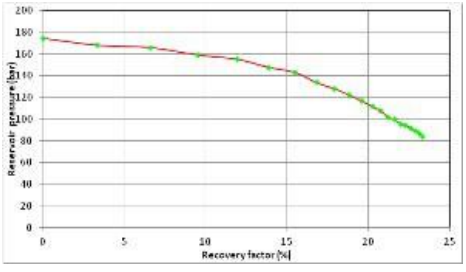
COMMENCEMENT: October 2011
COMPLETION: December 2011

RESERVOIR STUDY INCLUDED:
1) Scouting Report
2) Data Collection and Data Analysis
3) G&G Consideration
4) Well Integrity Assessments
5) Project Development Review
6) Investment Estimation









PROJECT:

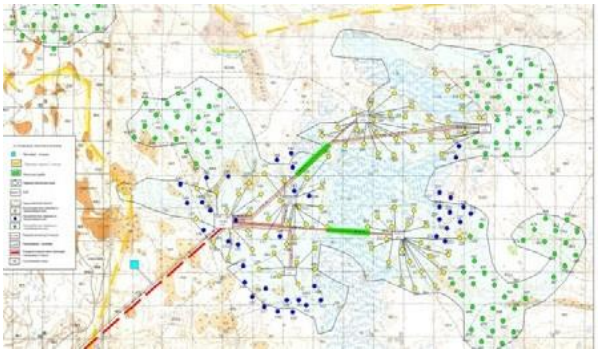
TABINAY PROJECT ASSESSMENT

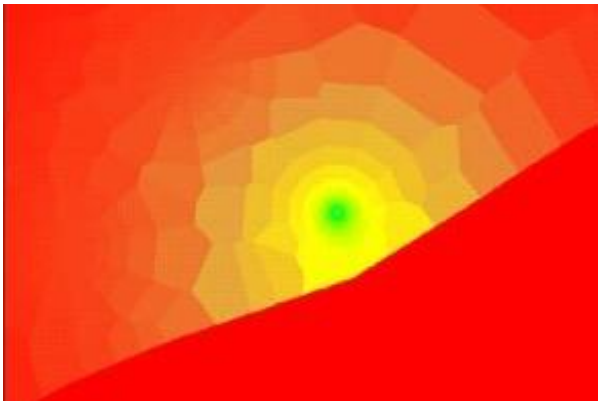
CLIENT: Tabinay-PM Lucas, Kazakhstan
SERVICES: Data Overview, Data Analysis, OOIP and Reserves Estimation

COMMENCEMENT: October 2011
COMPLETION: December 2012

RESERVOIR STUDY INCLUDED:

1) Data Overview
2) Geological Settings
3) Well Log Re-interpretation
4) Well Testing Data Analysis
5) Well Integrity Assessments
6) Production Analysis
7) Volumetric Data Review
8) OOIP Calculations
9) Preliminary Reserves Calculation by Material Balance Calculations
10) Reservoir Development Strategy
11) Investment Estimation





PROJECT:

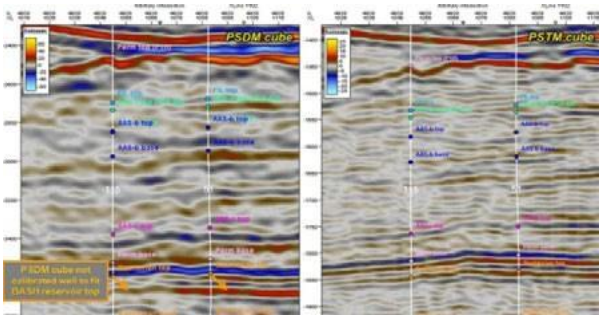
SHAGIRLY-SHOMSHITY GAS FIELD

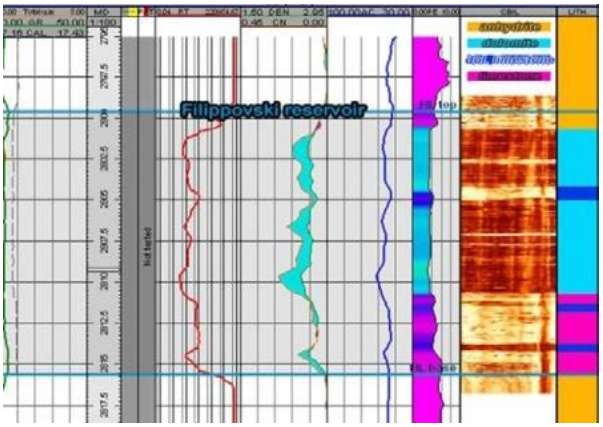
CLIENT: Eriston-KMG-PM Lucas, Kazakhstan
SERVICES: Project Review-Investment Opportunities

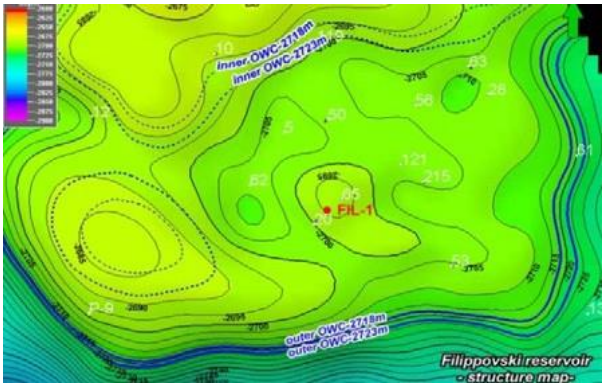
COMMENCEMENT: September 2011
COMPLETION: November 2011

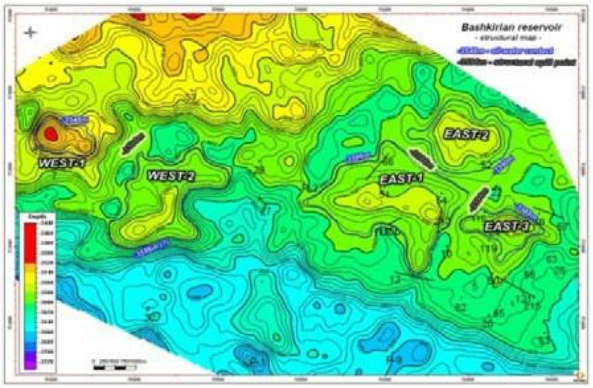
RESERVOIR STUDY INCLUDED:

1) Data Overview
2) Transient Pressure Analysis
3) Well Log Re-interpretation
4) Well Testing Data Analysis
5) Well Integrity Assessments
6) Volumetric Data Review
7) Phased Development Options Considerations









PROJECT:

EXPLORATION OF FILIPOVSKI AND BASHKIRIAN FORMATIONS OF THE CHINAREVSKOE GAS-OIL FIELD

CLIENT: ZhaikMunai LLP, Kazakhstan

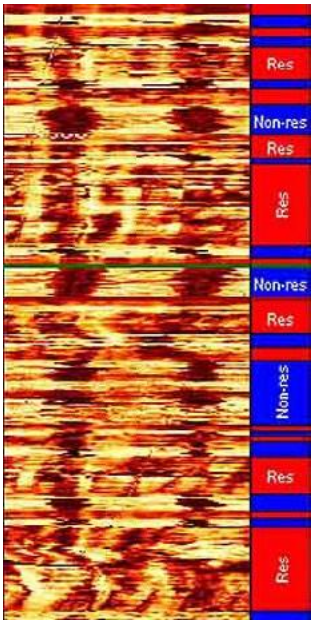
SERVICES: Definition of Exploration Strategy and the Main Uncertainties Related to the Filippovski and Bashkirian Formations

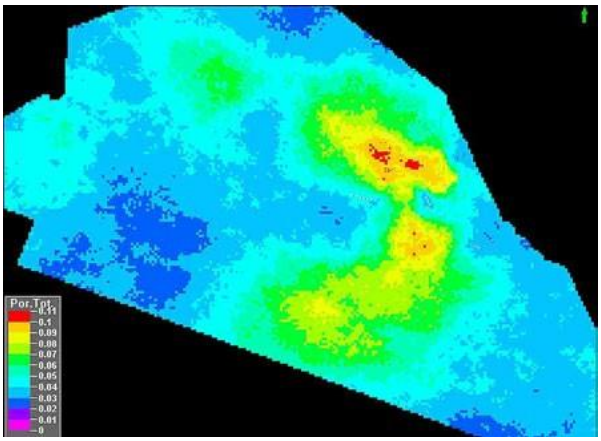
COMMENCEMENT: November 2011

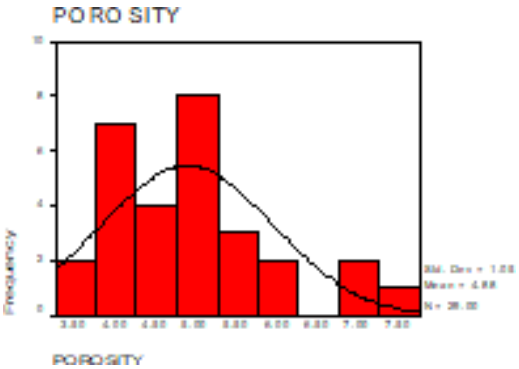
COMPLETION: December 2011

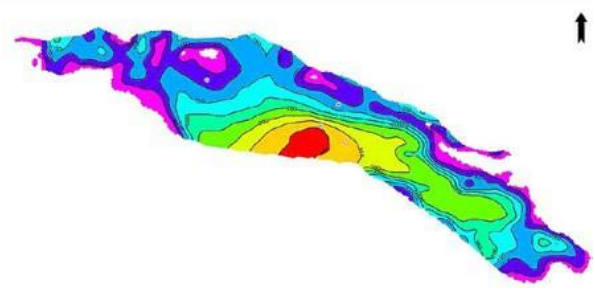
RESERVOIR STUDY INCLUDED:

1) Reservoir Geology Consideration (Structural and Petrophysical Model)
2) OGIP Calculation by Volumetrics
3) The Main Uncertainties Definition
4) Appraisal Drilling Strategy
5) Appraisal Drilling Program









PROJECT:

RESERVOIR EVALUATION OF THE TOURNAISISN FORMATIONS (SOUTH BLOCK OF THE CHINAREVSKOE GAS-OIL FIELD)

CLIENT: ZhaikMunai LLP, Kazakhstan

SERVICES: Reservoir Evaluations of The South Tournaisian Block, 3D Geological Modelling, Reservoir Engineering Considerations, and Summary Report

COMMENCEMENT: January 2011

COMPLETION: March 2011

RESERVOIR STUDY INCLUDED:

1) Reservoir Geology Consideration (Structural and Petrophysical Model)

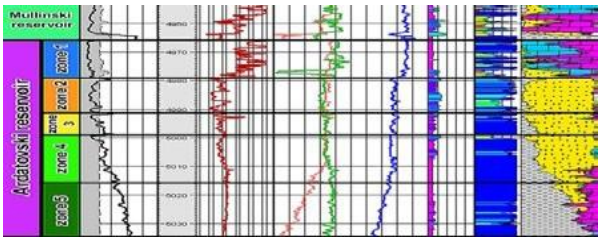
2) OGIP Calculation by:

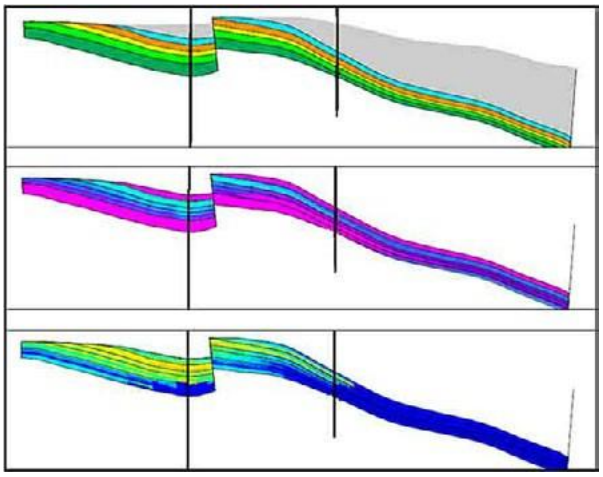
- Volumetrics
- Material Balance Calculations
- Probabilistic Approach

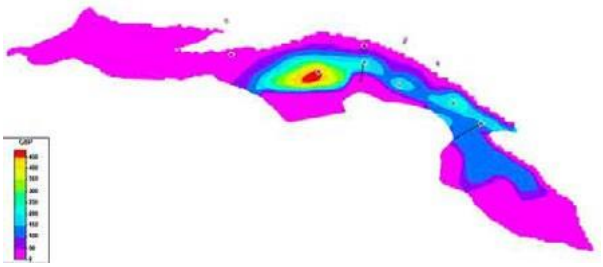
3) The Main Uncertainties Definition

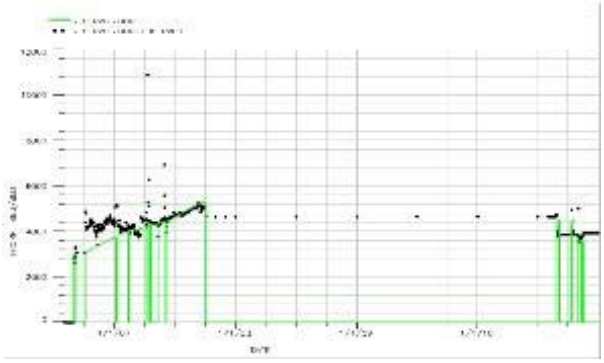
4) Appraisal Drilling Program:

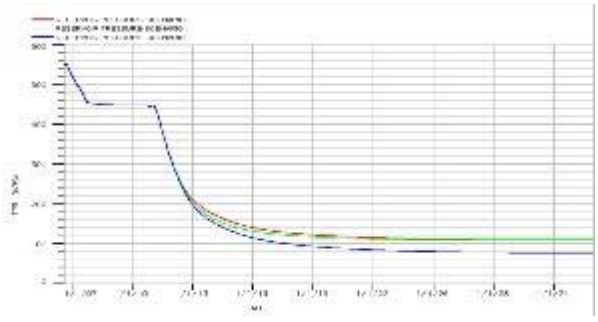
- Appraisal Drilling Strategy
- Operation Practice in The Well Testing/Stimulation and Obtaining Results from Key Wells
- Well Drilling and Completion
- Testing and Well Stimulation











PROJECT:

RESERVOIR STUDY OF GAS-CONDENSATE RESERVOIR ARDATOVSKY (NORTH-EAST BLOCK OF CHINAREVSKOE GAS-OIL FIELD)

CLIENT: ZhaikMunai LLP, Kazakhstan

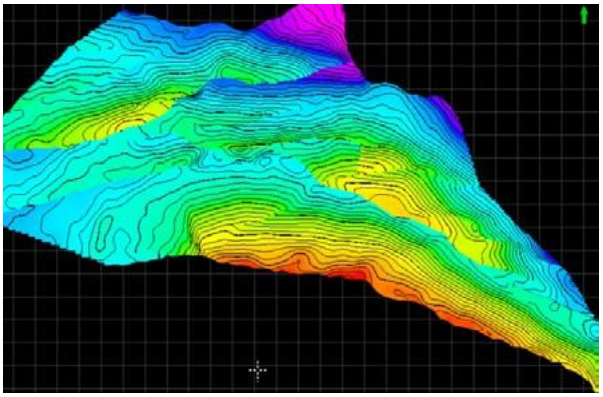
SERVICES: 3D Geological Modelling (Structural and Property Modelling), OGIP/OCIP Estimation and Recovery Factor (Recoverable Reserves Calculation for Different Scenarios)

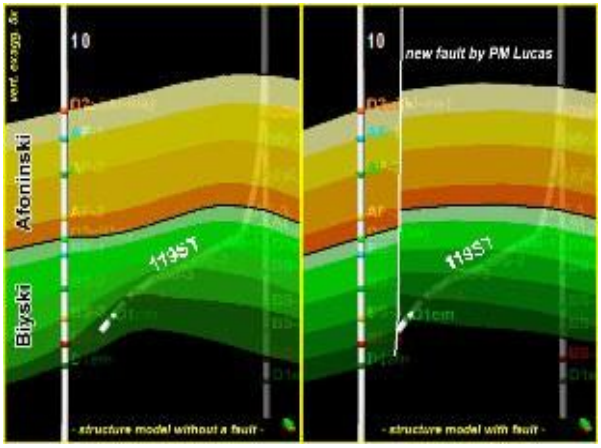
COMMENCEMENT: January 2011

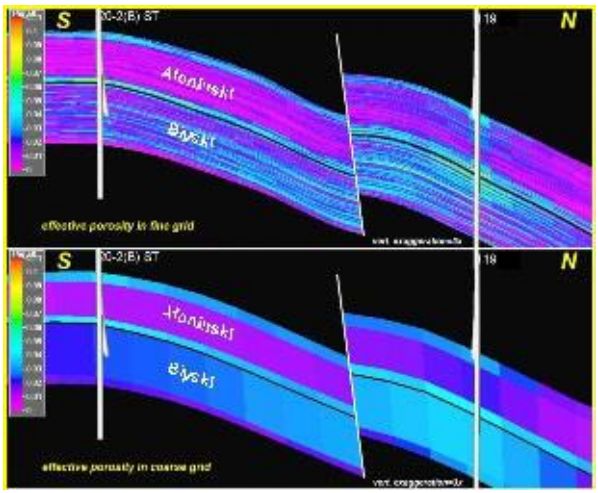
COMPLETION: May 2011

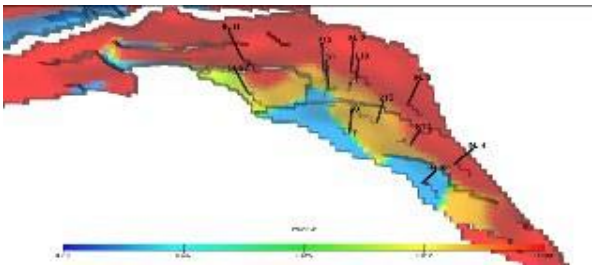
RESERVOIR STUDY INCLUDED:

1) The reservoir simulation model constructions, based on the geological model previously completed by a third party and updating the model by new well data
2) Calibration of the model so as to satisfactorily reflect available pressure and fluid production measurements
3) Establishing a basic scenario, which served as a benchmark for comparison of all the other field development cases
4) Working out a prediction scenarios that reflected different operating conditions in the field
5) Provided a range of forecast results that will be used in further economic calculations to determine the best field development plan









PROJECT:

RESERVOIR STUDY OF GAS-CONDENSATE RESERVOIR BIYSKI/AFONINSKI (NORTH-EAST BLOCK OF CHINAREVSKOE GAS-OIL FIELD)

CLIENT: ZhaikMunai LLP, Kazakhstan

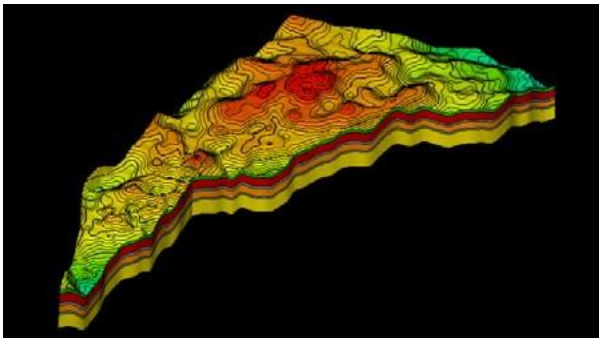
SERVICES: 3D Geological Modelling (Structural and Property Modelling), OGIP/OCIP Estimation and Recovery Factor (Recoverable Reserves Calculation for Different Scenarios)

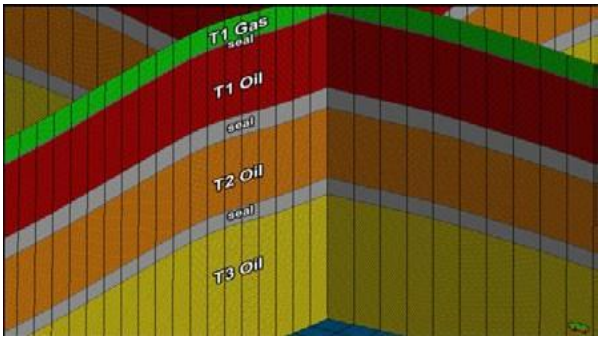
COMMENCEMENT: November 2010

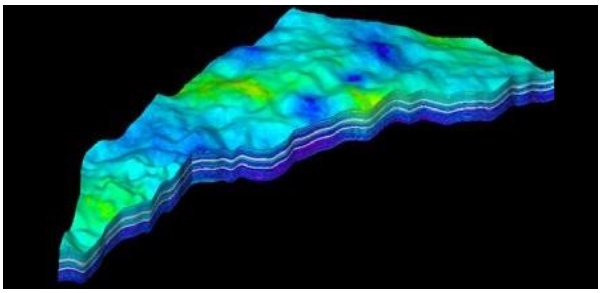
COMPLETION: January 2011

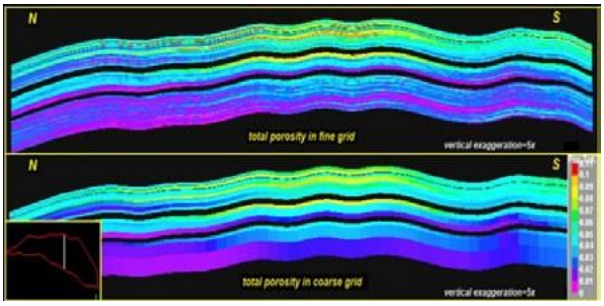
RESERVOIR STUDY INCLUDED:

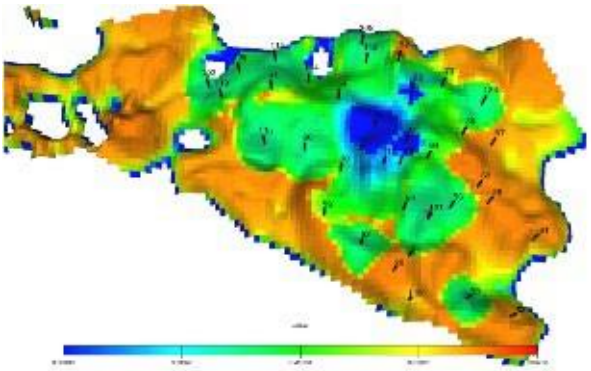
1) Construction of the reservoir simulation model based on the geological model previously completed by a third party
2) The model up-data, using new well data
3) The model calibration to reflect good matching between calculated and available observation data (production and pressure data)
4) The base scenario prediction, which served for comparison of all the other field development cases
5) Working out a prediction scenarios that reflected different operating conditions in the field
6) Providing a range of forecast results that will be used in further economic calculations to determine the best field development plan











PROJECT:

RESERVOIR PRESSURE MAINTENANCE AND DISPLACEMENT EFFICIENCY BY WATERFLOODING (CHINAREVSKOE GAS-OIL FIELD, TOURNAISIAN FORMATION, NORTH-EAST BLOCK)

CLIENT: ZhaikMunai LLP, Kazakhstan

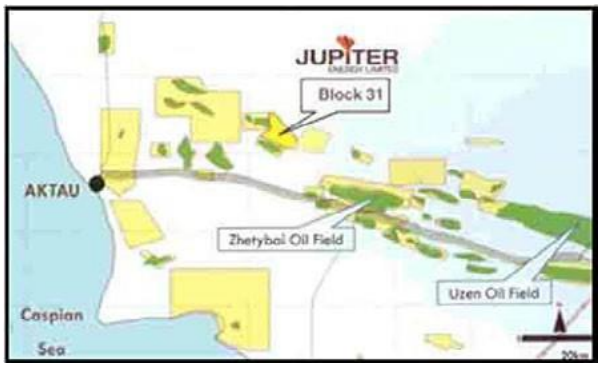
SERVICES: 3D Geological Model Up-grading, History Matching and Dynamic Modelling for Tournaisian Formation, North-East Block

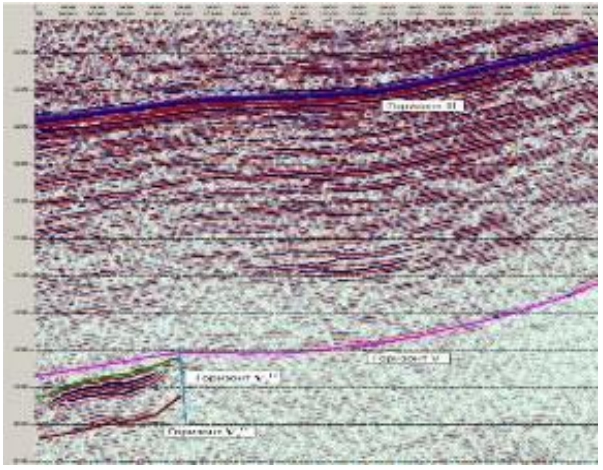
COMMENCEMENT: April 2010

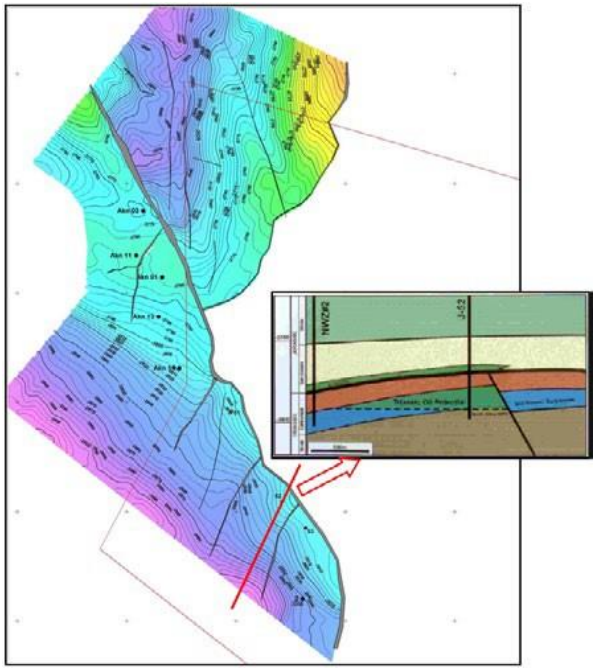
COMPLETION: July 2010

RESERVOIR STUDY INCLUDED:

1) The geological model construction (structural and petrophysical) based on new information (new wells, production data, pressure transient data, PLT interpretation data)
2) OOIP calculation based on new 3D model
3) Calibration of the model by satisfactory matching between calculated and observation data (production and pressure data)
4) Simulation using ECLIPSE 300 and all wells were considered as unique systems (commingled production)
5) Establishing a basic scenario, which served for comparison of all the other field development cases
6) Working out prediction scenarios that reflected different development options and operating conditions in the field
/) Providing a range of forecast results that will be used in further economic calculations to determine the best field development plan







PROJECT:

EXPLORATION BLOCK 31

CLIENT: Jupiter Energy LTD-PM Lucas, Kazakhstan

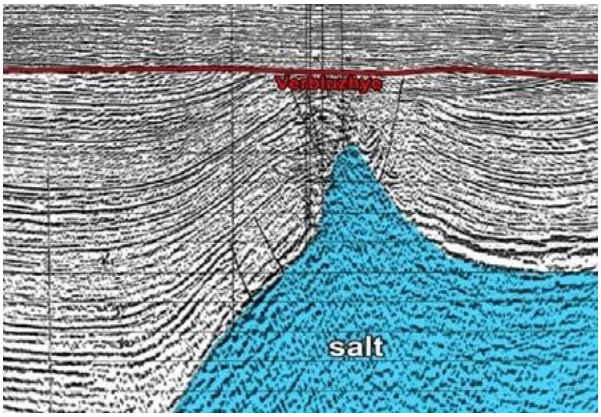
SERVICES: Geological Evaluation and Geological Report Using: Seismic Data, Well Log Data, Well Testing Data, Drilling Data, Pressure Transient Data, Well Integrity

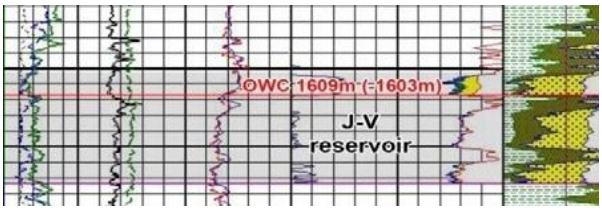
COMMENCEMENT: March 2011

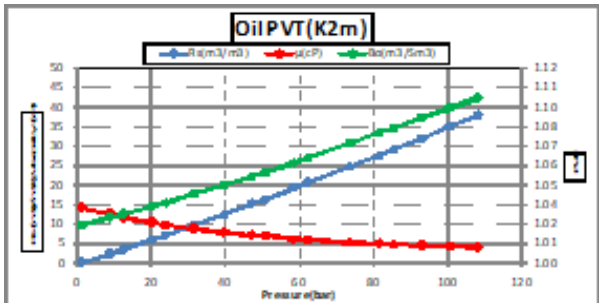
COMPLETION: April 2011

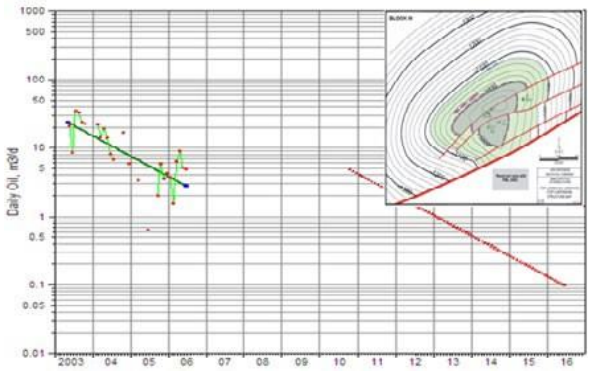
RESERVOIR STUDY INCLUDED:

1) Data overview and quality control
2) Geological settings considerations and analysis
3) Core data analysis and well log re-interpretations
4) Well testing data review and analysis
5) Volumetric data review
6) OOIP checking
7) Material balance calculations









PROJECT:

RESERVOIR EVALUATION STUDY OF THE VERBLUZJE OIL FIELD

CLIENT: Astrahan Oil Co-PM Lucas, RF

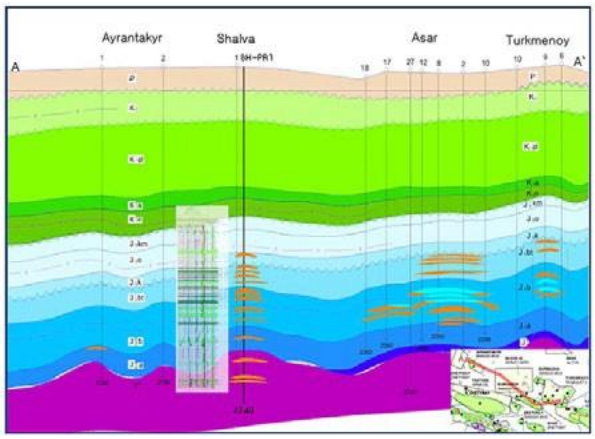
SERVICES: Verbluzje Licence Area Evaluations Based on: Geological Studies-Reports, Geological Data, Seismic Data, Well data

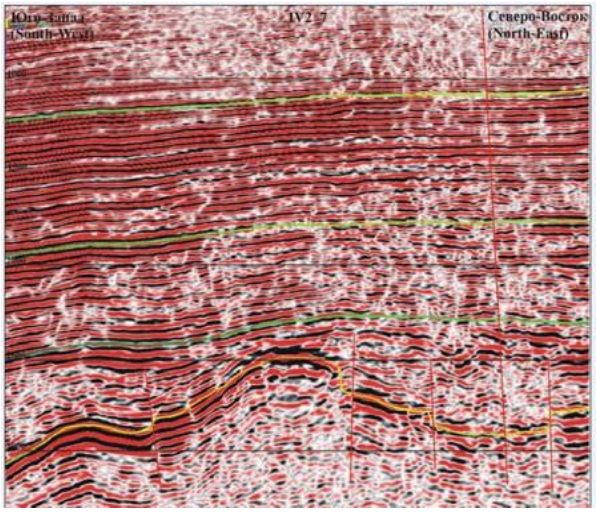
COMMENCEMENT: September 2010

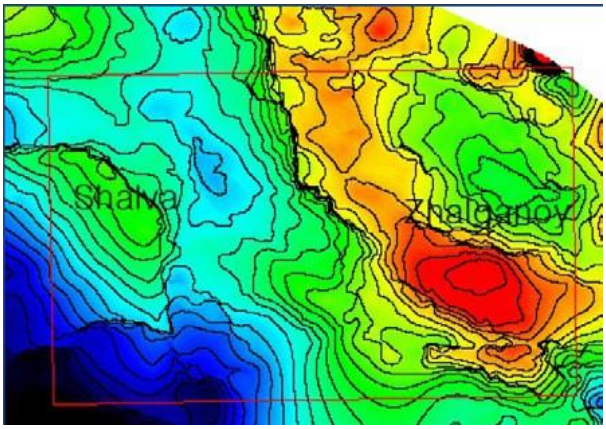
COMPLETION: November 2010

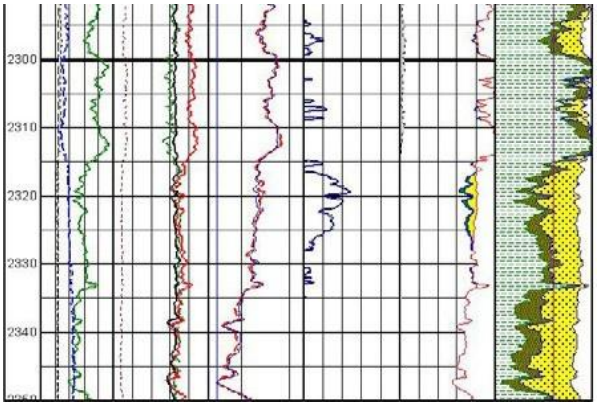
RESERVOIR STUDY INCLUDED:

1) Geological settings of the area
2) Discovered and proved oil reservoirs
3) Seismic data overview
4) Well data analysis
5) Workover data analysis
6) Well log data interpretation
7) Core data interpretation
8) Well testing data review
9) Volumetric data review
10) Dual porosity system analysis
11) Water contact estimations
12) PVT data analysis
13) Production data decline analysis
14) Hydrocarbon reserves
15) Recovery factor calculations
16) Upside (exploration) potential









PROJECT:

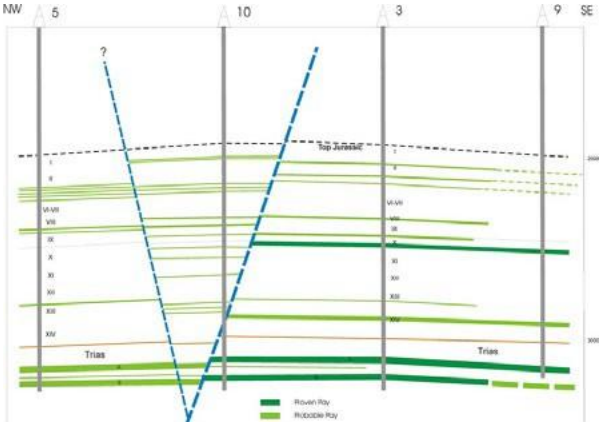
EXPLORATION BLOCK SHALVA-ZHALGONAY

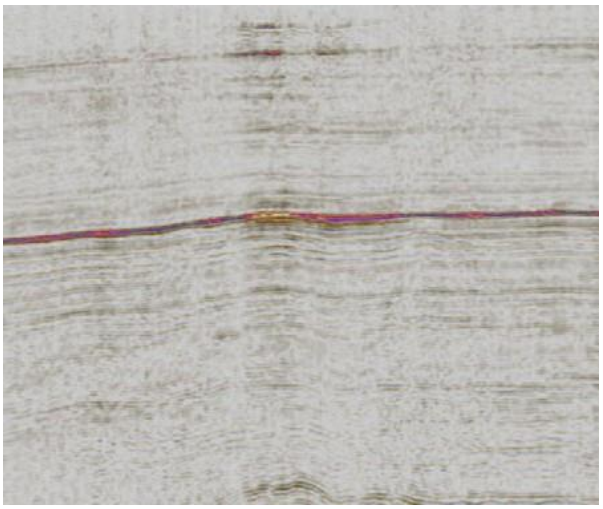
CLIENT: TOO Munai Service-PM Lucas, Kazakhstan
SERVICES: Geological Evaluations of the Oil Field Shalva-Zhalganoy

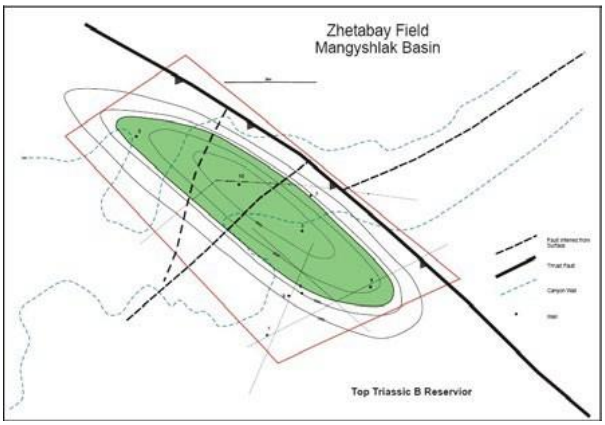
COMMENCEMENT: November 2010
COMPLETION: Dec 2010

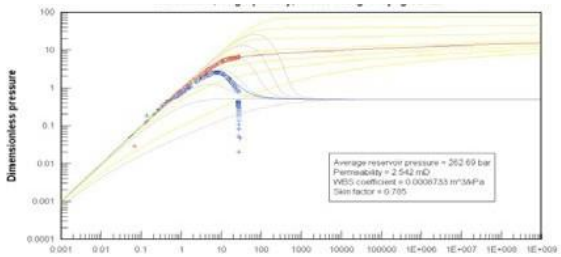
RESERVOIR STUDY INCLUDED:

1) Data overview, history of the field
2) Geological and petroleum system analysis
3) 3D seismic data acquisition analysis
4) 3D seismic data processing (PSDM) analysis
5) 3D seismic data interpretation analysis
6) Potential prospects proposals
7) Volumetrics and OOIP estimation









PROJECT:

CONCESSION BLOCK NORTHWEST ZHETYBAY

CLIENT: KOR-TAZH LLP-PM Lucas

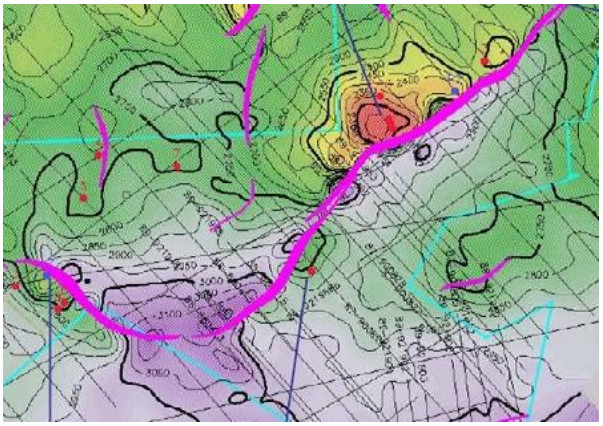
SERVICES: Geological Evaluations of the Oil Field Northwest Zhetiby

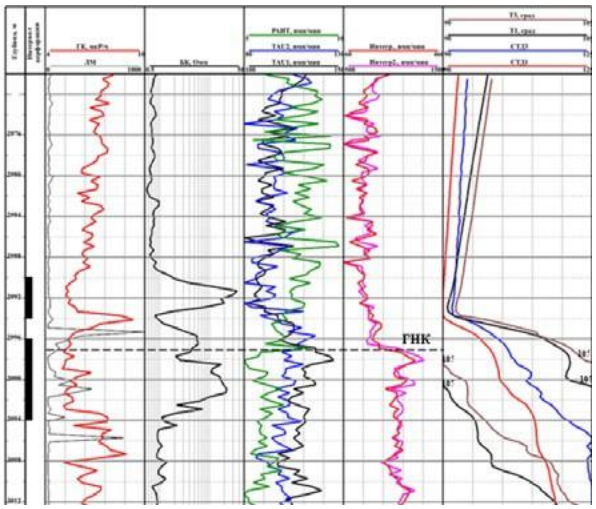
COMMENCEMENT: April 2010

COMPLETION: May 2010

RESERVOIR STUDY INCLUDED:

1) Reservoir geology
2) Seismic data analysis
3) Reservoir petrophysics
4) Structural model
5) Petrophysical results
6) OOIP estimation (applied methodology)
7) Future development of the field
8) Investment estimation





PROJECT:

EXPLORATION BLOCK XXIX-15-16 METKEN, INVESTMENT ESTIMATION

CLIENT: Almas International Trading Co-PM Lucas
SERVICES: Geological Data Overview and Block Preliminary OOIP Estimation and Economical Analysis

COMMENCEMENT: November 2010
COMPLETION: December 2010

RESERVOIR STUDY INCLUDED:

1) Reservoir geology
2) Neighboring oil fields
3) Petrophysical results
4) Well integrity risk assements
5) Metken geological structures
6) OOIP estimation
7) Block development strategy
8) Investments estimation

PROJECT:

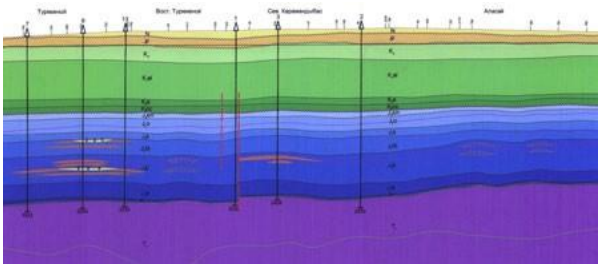
KAMENISTOYE OIL FIELD-INVESTMENT ESTIMATION

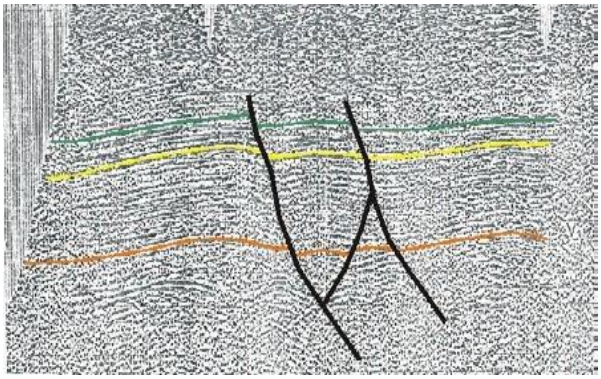
CLIENT: Kamenistoye LLP-PM Lucas
SERVICES: Kamenistoye Oil Field-Reserve and Geological Evaluations

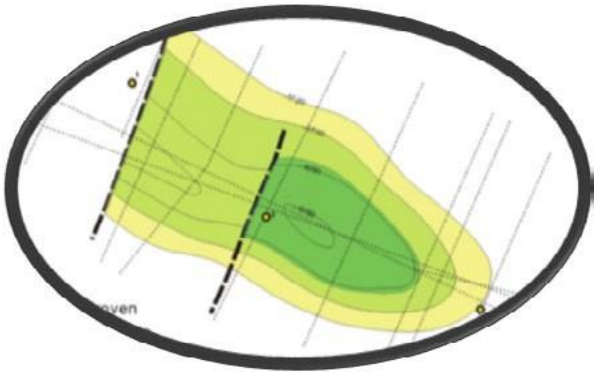
COMMENCEMENT: May 2009
COMPLETION: June 2009

RESERVOIR STUDY INCLUDED:

1) Exploration history
2) Geology
3) Log analysis
4) Reserves
5) Well workover history
6) Well Integrity assessment
7) ALS selection and design
8) Early production system consideration







PROJECT:

NORTH KARAMANDYBAS-INVESTMENT ESTIMATION

CLIENT: Dala Geo-PM Lucas, Kazakhstan

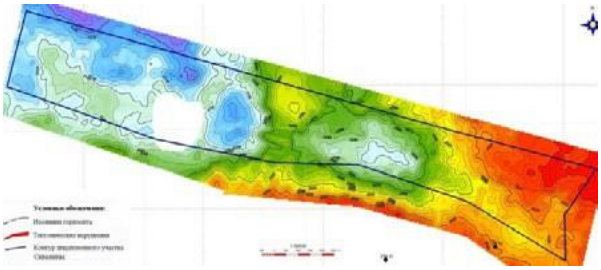
SERVICES: Geological Data Overview, Preliminary OOIP Estimation and Investment Estimation

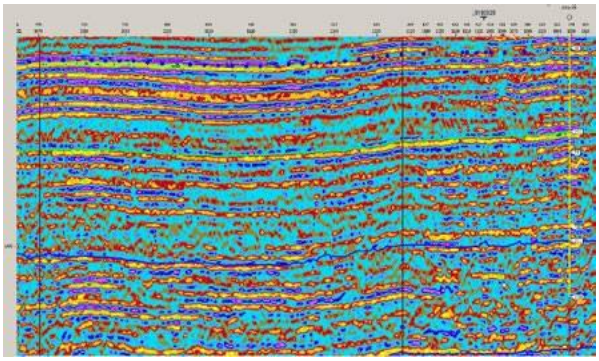
COMMENCEMENT: March 2010

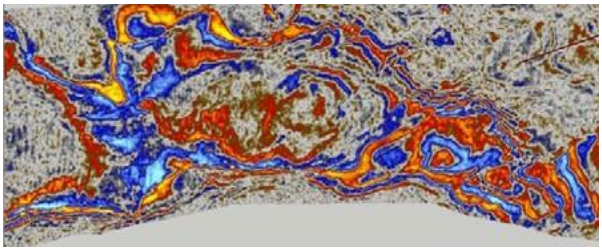
COMPLETION: April 2010

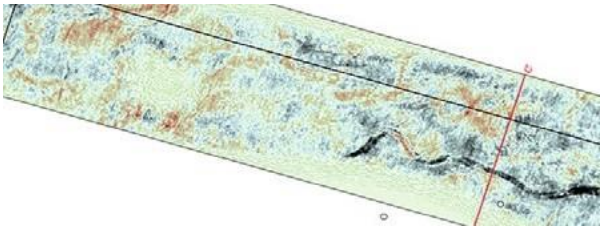
RESERVOIR STUDY INCLUDED:

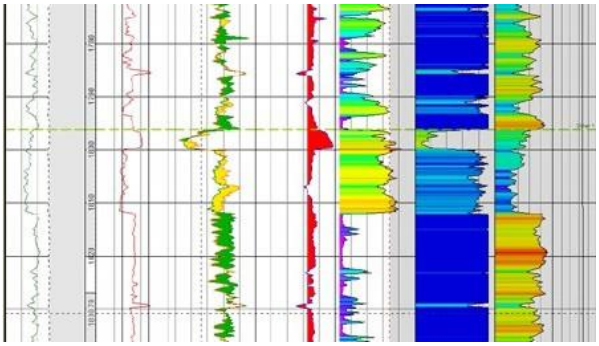
1) Reservoir geology
2) Neighboring oil fields
3) Petrophysical results
4) North Karamandybas geological structures
5) OOIP estimation
6) Block development strategy
7) Investments estimation











PROJECT:

TASTOBE OIL FIELD, EXPLORATION OPPORTUNITIES ASSESSMENT

CLIENT: Arna Petroleum, Kazakhstan

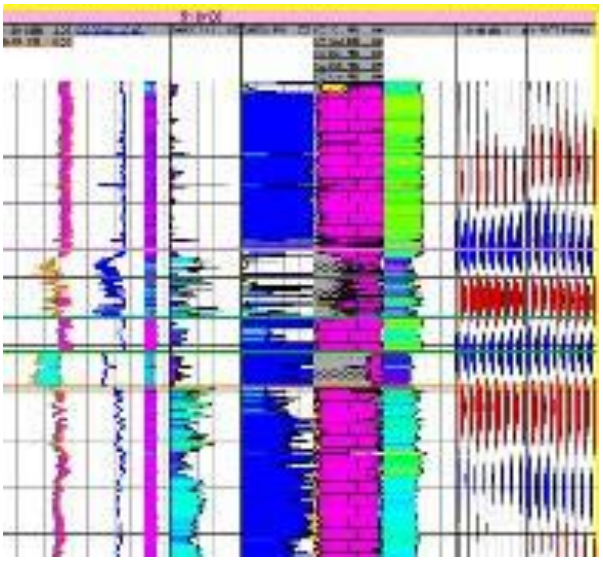
SERVICES: Geological Data Overview, Preliminary OOIP Estimation and 3D Seismic Data Interpretation Overview, Data Analysis and OOIP Estimation

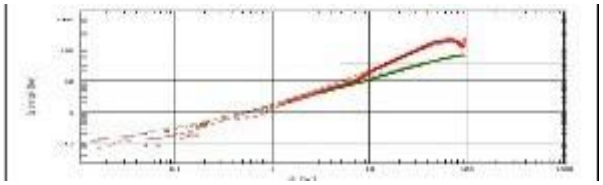
COMMENCEMENT: April 2010

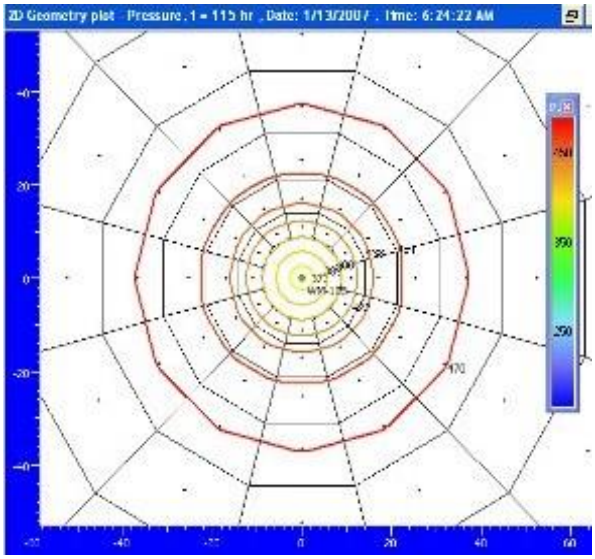
COMPLETION: May 2010

RESERVOIR STUDY INCLUDED:

1) Data Overview
2) Geological Settings
3) Seismic Acquisition Parameters Overview
4) Seismic Data processing Overview
5) Seismic Data Interpretation Overview and Analysis
6) Well Log Re-interpretation for exploration well
7) OOIP Estimations
8) Prospective Objects
9) Recommendations for Further Activities







PROJECT:

RESERVOIR EVALUATION STUDY OF THE WEST MEDVEDJE

CLIENT: Victoria Oil, RF

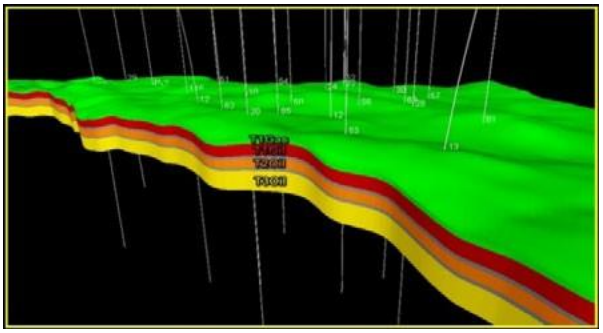
SERVICES: Geological Data Overview and Reservoir Engineering Calculations

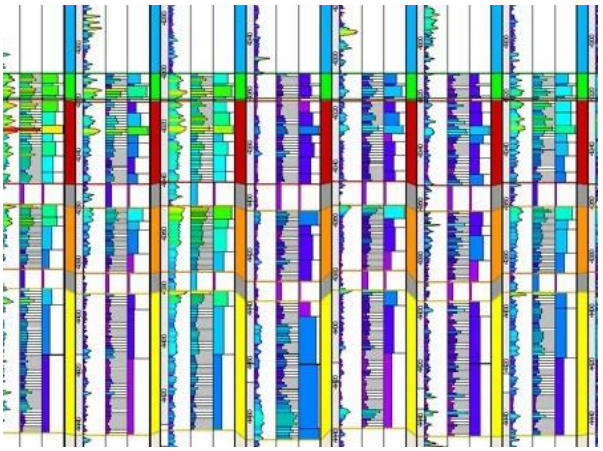
COMMENCEMENT: July 2009

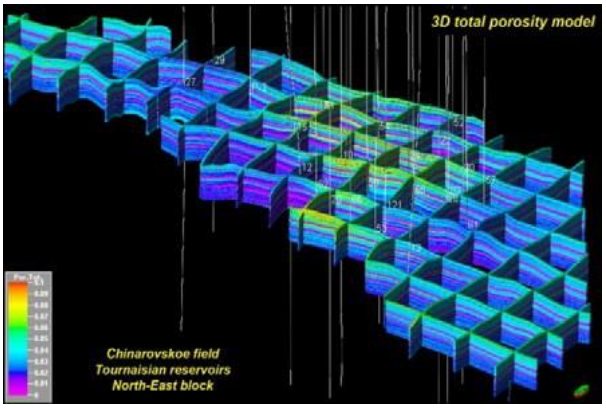
COMPLETION: August 2009

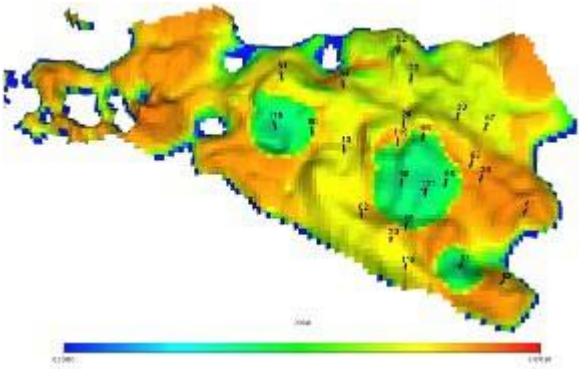
RESERVOIR STUDY INCLUDED:

1) Reservoir geology overview
2) Petrophysical analysis
3) OOIP-volumetric calculations
4) Pressure transient analysis
5) Well integrity assessments
6) Material balance calculations









PROJECT:

WATER INJECTION STUDY (CHINAREVSKOE GAS-OIL FIELD, TOURNAISIAN FORMATIONS, NORTH-EAST BLOCK)

CLIENT: ZhaikMunai LLP, Kazakhstan

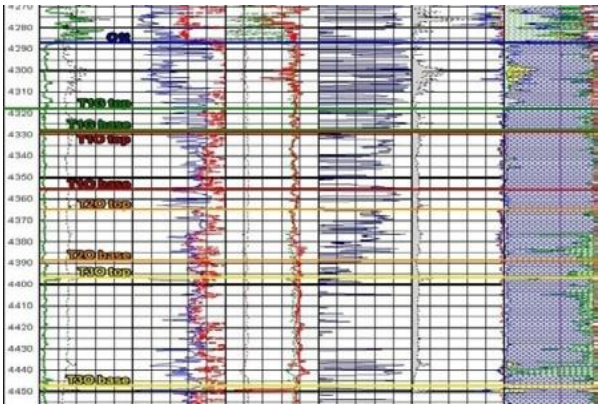
SERVICES: 3D Geological Model Up-grading, History Matching and Dynamic modelling for Tournaisian Formations, North-East Block

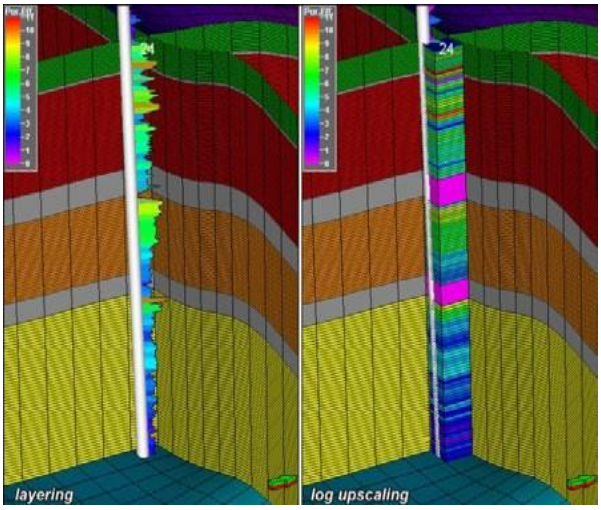
COMMENCEMENT: May 2009

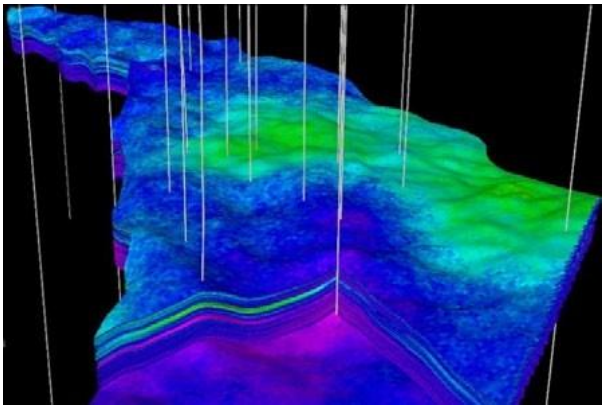
COMPLETION: September 2009

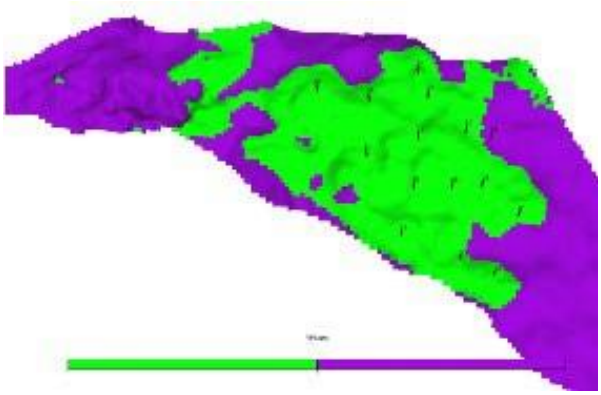
RESERVOIR STUDY INCLUDED:

1) The geological model updating (structural and petrophysical) based on new information (new wells, production data, pressure transient data, PLT interpretation data)
2) OOIP calculation based on new 3D model
3) Calibration of the model by satisfactory matching between calculated and observation data (production and pressure data)
4) Simulation ECLIPSE 100 for oil reservoirs and ECLIPSE 300 for gas condensate reservoir
5) Oil wells were considered as unique systems (commingled production), and production from gas-condensate reservoir was simulated separately
6) Establishing a basic scenario, which served for comparison of all the other field development cases
7) Working out prediction scenarios that reflected different development options and operating conditions in the field
8) Well integrity assessments
9) Providing a range of forecast results that will be used in further economic calculations to define the best development plan









PROJECT:

3D RESERVOIR MODELING STUDY (CHINAREVSKOE GAS-OIL FIELD, TOURNAISIAN FORMATIONS, NORTH-EAST BLOCK)

CLIENT: ZhaikMunai LLP, Kazakhstan

SERVICES: 3D Geostatic Model Upgrading, and 3D Dynamic modelling for Tournaisian Formations, North-East Block

COMMENCEMENT: June 2008

COMPLETION: October 2008

RESERVOIR STUDY INCLUDED:

1) The geological model construction (structural and petrophysical) based on new information (new wells, production data, pressure transient data, PLT interpretation data)
2) OOIP calculation based on new 3D model
3) Calibration of the model by satisfactory matching between calculated and observation data (production and pressure data)
4) In simulation was used ECLIPSE 100 for oil reservoirs and ECLIPSE 300 for gas condensate reservoir
5) Oil wells were considered as separate systems (no-commingled production)
6) Establishing a basic scenario, which served for comparison of all the other field development cases
7) Working out prediction scenarios that reflected different development options and operating conditions in the field
8) Providing a range of forecast results that will be used in further economic calculations to define the best development plan

PROJECT:

KARATON OIL FIELD, TECHNO-ECONOMICAL STUDY

CLIENT: KazMunaiGas-Eriston-PM Lucas, Kazakhstan

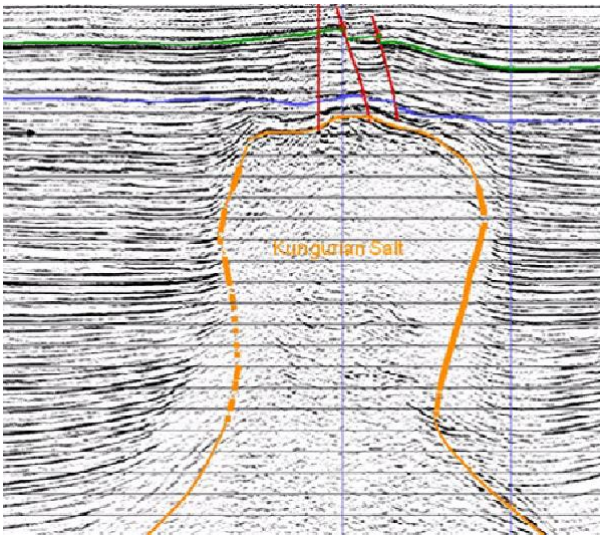
SERVICES: Geological and Production Data Collection, Data QC, Field Re-development Planning, Recoverable Reserves Estimation and Economic Analysis

COMMENCEMENT: July 2007

COMPLETION: June 2009

SERVICES INCLUDED:

1) Geological and petrophysical overview
2) Reservoir fluid characterization and PVT analysis
3) OOIP and reserves overview
4) Well integrity studies
5) Production and development history of the field and current development status
6) Production forecast
7) Economical evaluations



PROJECT:

KULSARY OIL FIELD, TECHNO-ECONOMICAL STUDY

CLIENT: KazMunaiGas-Eriston-PM Lucas, Kazakhstan

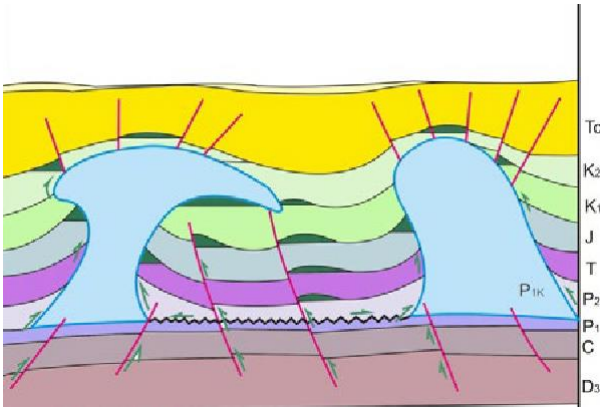
SERVICES: Geological and Production Data Collection, Data QC, Field Re-development Planning, Recoverable Reserves Estimation and Economic Analysis

COMMENCEMENT: July 2007

COMPLETION: June 2009

SERVICES INCLUDED:

1) Geological and petrophysical overview
2) Reservoir fluid characterization and PVT analysis
3) OOIP and reserves overview
4) Well integrity studies
5) Production and development history of the field and current development status
6) Production forecast
7) Economical evaluations



PROJECT:

DOSSOR OIL FIELD, TECHNO-ECONOMICAL STUDY

CLIENT: KazMunaiGas-Eriston-PM Lucas, Kazakhstan

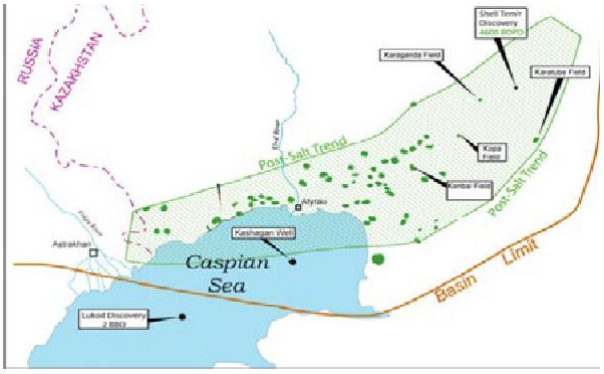
SERVICES: Geological and Production Data Collection, Data QC, Field Re-development Planning, Recoverable Reserves Estimation and Economic Analysis

COMMENCEMENT: July 2007

COMPLETION: June 2009

SERVICES INCLUDED:

1) Geological and petrophysical overview
2) Reservoir fluid characterization and PVT analysis
3) OOIP and reserves overview
4) Well integrity studies
5) Production and development history of the field and current development status
6) Production forecast
7) Economical evaluations



PROJECT:

BAYCHUNAS OIL FIELD, TECHNO-ECONOMICAL STUDY

CLIENT: KazMunaiGas-Eriston-PM Lucas, Kazakhstan

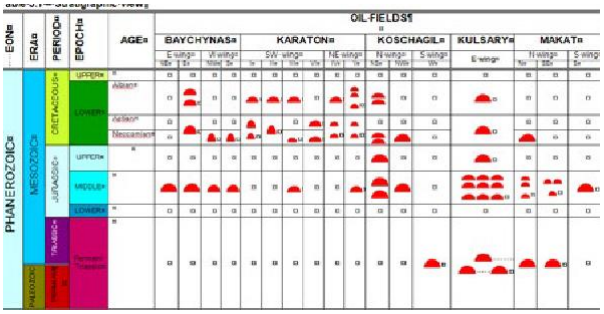
SERVICES: Geological and Production Data Collection, Data QC, Field Re-development Planning, Recoverable Reserves Estimation and Economic Analysis

COMMENCEMENT: July 2007

COMPLETION: June 2009

SERVICES INCLUDED:

1) Geological and petrophysical overview
2) Reservoir fluid characterization and PVT analysis
3) OOIP and reserves estimation
4) Well integrity studies
5) Production and development history of the field and current development status
6) Production forecast
7) Economical evaluations



PROJECT:

MAKAT OIL FIELD, TECHNO-ECONOMICAL STUDY

CLIENT: KazMunaiGas-Eriston-PM Lucas, Kazakhstan

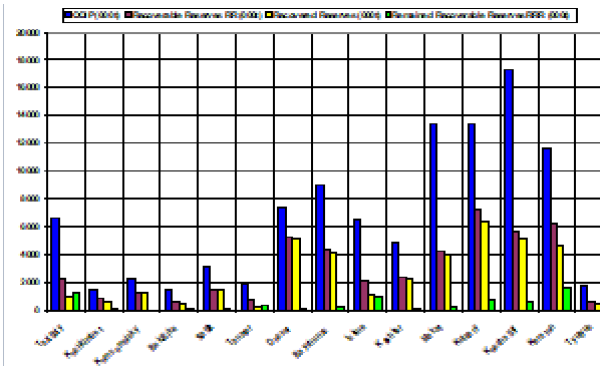
SERVICES: Geological and Production Data Collection, Data QC, Field Re-development Planning, Recoverable Reserves Estimation and Economic Analysis

COMMENCEMENT: July 2007

COMPLETION: June 2009

SERVICES INCLUDED:

1) Geological and petrophysical overview
2) Reservoir fluid characterization and PVT analysis
3) OOIP and reserves estimation
4) Well integrity studies
5) Production and development history of the field and current development status
6) Production forecast
7) Economical evaluations



PROJECT:

KOSCHAGIL OIL FIELD, TECHNO-ECONOMICAL STUDY

CLIENT: KazMunaiGas-Eriston-PM Lucas, Kazakhstan

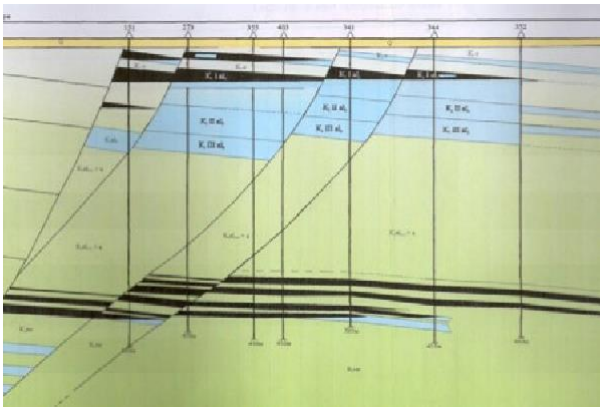
SERVICES: Geological and Production Data Collection, Data QC, Field Re-development Planning, Recoverable Reserves Estimation and Economic Analysis

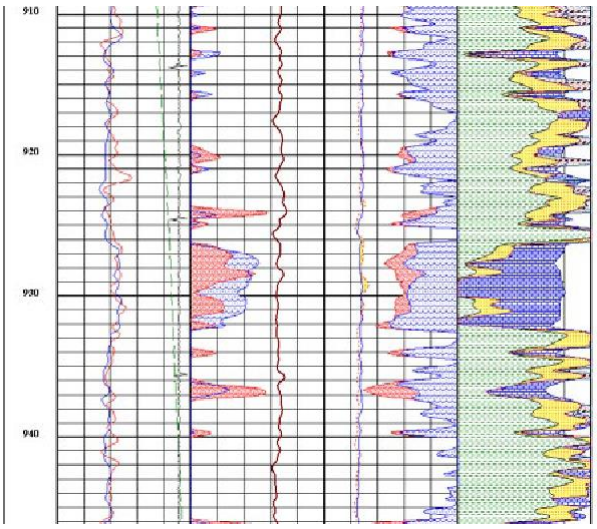
COMMENCEMENT: July 2007

COMPLETION: June 2009

SERVICES INCLUDED:

1) Geological and petrophysical overview
2) Reservoir fluid characterization and PVT analysis
3) OOIP and reserves estimation
4) Well integrity studies
5) Production and development history of the field and current development status
6) Production forecast
7) Economical evaluations





PROJECT:

KOSHKAR OIL FIELD, TECHNO-ECONOMICAL STUDY

CLIENT: KazMunaiGas-Eriston-PM Lucas, Kazakhstan

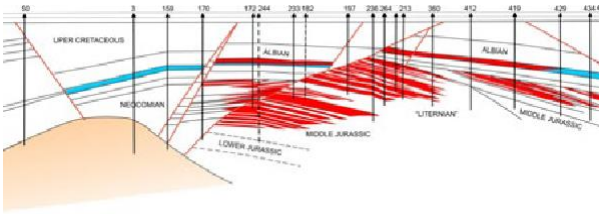
SERVICES: Geological and Production Data Collection, Data QC, Field Re-development Planning, Recoverable Reserves Estimation and Economic Analysis

COMMENCEMENT: July 2007

COMPLETION: June 2009

SERVICES INCLUDED:

1) Geological and petrophysical overview
2) Reservoir fluid characterization and PVT analysis
3) OOIP and reserves overview
4) Well integrity studies
5) Production and development history of the field and current development status
6) Production forecast
7) Economical evaluations



PROJECT:

TULIUS OIL FIELD, TECHNO-ECONOMICAL STUDY

CLIENT: KazMunaiGas-Eriston-PM Lucas, Kazakhstan

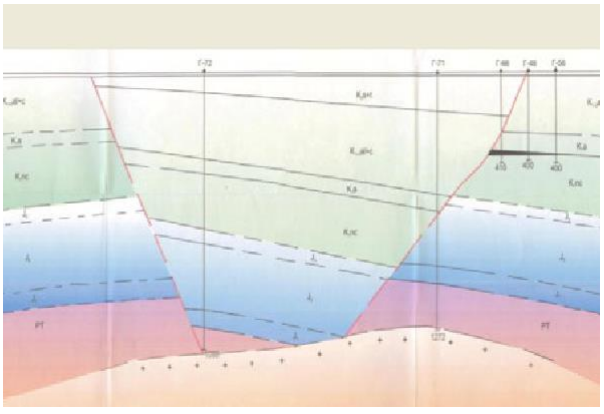
SERVICES: Geological and Production Data Collection, Data QC, Field Re-development Planning, Recoverable Reserves Estimation and Economic Analysis

COMMENCEMENT: July 2007

COMPLETION: June 2009

SERVICES INCLUDED:

1) Geological and petrophysical overview
2) Reservoir fluid characterization and PVT analysis
3) OOIP and reserves overview
4) Well integrity studies
5) Production and development history of the field and current development status
6) Production forecast
7) Economical evaluations



PROJECT:

ISKENE OIL FIELD, TECHNO-ECONOMICAL STUDY

CLIENT: KazMunaiGas-Eriston-PM Lucas, Kazakhstan

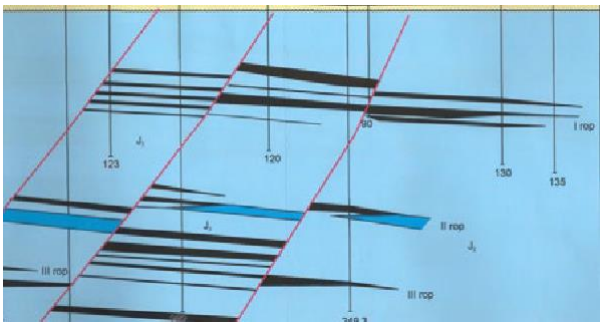
SERVICES: Geological and Production Data Collection, Data QC, Field Re-development Planning, Recoverable Reserves Estimation and Economic Analysis

COMMENCEMENT: July 2007

COMPLETION: June 2009

SERVICES INCLUDED:

1) Geological and petrophysical overview
2) Reservoir fluid characterization and PVT analysis
3) OOIP and reserves overview
4) Well integrity studies
5) Production and development history of the field and current development status
6) Production forecast
7) Economical evaluations



PROJECT:

TANATAR OIL FIELD, TECHNO-ECONOMICAL STUDY

CLIENT: KazMunaiGas-Eriston-PM Lucas, Kazakhstan
SERVICES: Geological and Production Data Collection, Data QC, Field Re-development Planning, Recoverable Reserves Estimation and Economic Analysis
COMMENCEMENT: July 2007
COMPLETION: June 2009

SERVICES INCLUDED:

1) Geological and petrophysical overview
2) Reservoir fluid characterization and PVT analysis
3) OOIP and reserves overview
4) Well integrity studies
5) Production and development history of the field and current development status
6) Production forecast
7) Economical evaluations

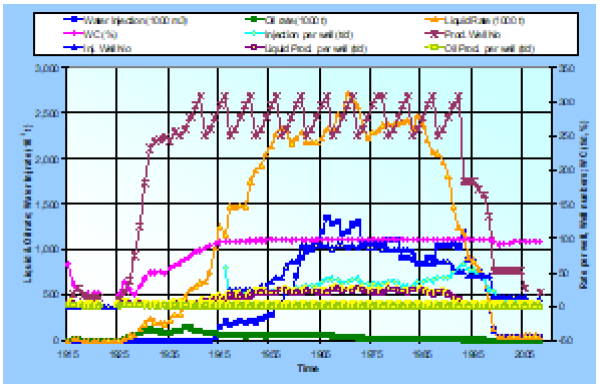
PROJECT:

TAZIGALI OIL FIELD, TECHNO-ECONOMICAL STUDY

CLIENT: KazMunaiGas-Eriston-PM Lucas, Kazakhstan
SERVICES: Geological and Production Data Collection, Data QC, Field Re-development Planning, Recoverable Reserves Estimation and Economic Analysis
COMMENCEMENT: July 2007
COMPLETION: June 2009

SERVICES INCLUDED:

1) Geological and petrophysical overview
2) Reservoir fluid characterization and PVT analysis
3) OOIP and reserves overview
4) Well integrity studies
5) Production and development history of the field and current development status
6) Production forecast
7) Economical evaluations



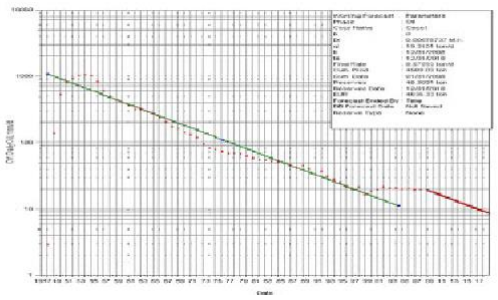
PROJECT:

BEKBIKE OIL FIELD, TECHNO-ECONOMICAL STUDY

CLIENT: KazMunaiGas-Eriston-PM Lucas, Kazakhstan
SERVICES: Geological and Production Data Collection, Data QC, Field Re-development Planning, Recoverable Reserves Estimation and Economic Analysis
COMMENCEMENT: July 2007
COMPLETION: June 2009

SERVICES INCLUDED:

1) Geological and petrophysical overview
2) Reservoir fluid characterization and PVT analysis
3) OOIP and reserves overview
4) Well integrity studies
5) Production and development history of the field and current development status
6) Production forecast
7) Economical evaluations



PROJECT:

SAGIZ OIL FIELD, TECHNO-ECONOMICAL STUDY

CLIENT: KazMunaiGas-Eriston-PM Lucas, Kazakhstan

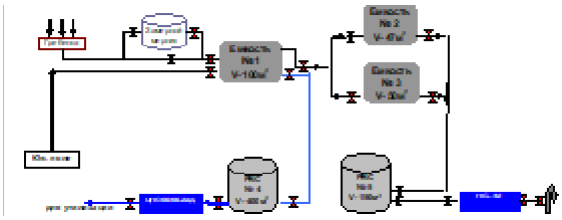
SERVICES: Geological and Production Data Collection, Data QC, Field Re-development Planning, Recoverable Reserves Estimation and Economic Analysis

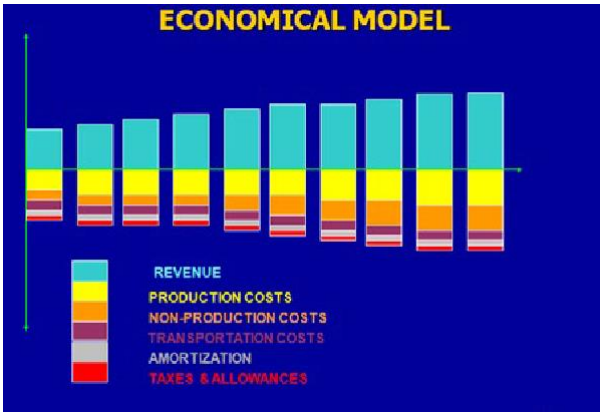
COMMENCEMENT: July 2007

COMPLETION: June 2009

SERVICES INCLUDED:

1) Geological and petrophysical overview
2) Reservoir fluid characterization and PVT analysis
3) OOIP and reserves overview
4) Well integrity studies
5) Production and development history of the field and current development status
6) Production forecast
7) Economical evaluations





PROJECT:

KOSHKIMBET OIL FIELD, TECHNO-ECONOMICAL STUDY

CLIENT: KazMunaiGas-Eriston-PM Lucas, Kazakhstan

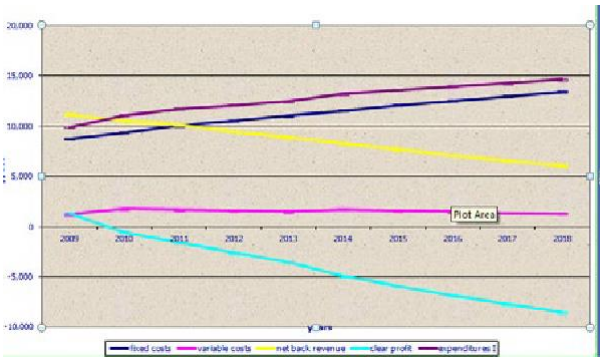
SERVICES: Geological and Production Data Collection, Data QC, Field Re-development Planning, Recoverable Reserves Estimation and Economic Analysis

COMMENCEMENT: July 2007

COMPLETION: June 2009

SERVICES INCLUDED:

1) Geological and petrophysical overview
2) Reservoir fluid characterization and PVT analysis
3) OOIP and reserves overview
4) Well integrity studies
5) Production and development history of the field and current development status
6) Production forecast
7) Economical evaluations



PROJECT:

KOMSOMOLSKOE OIL FIELD, TECHNO-ECONOMICAL STUDY

CLIENT: KazMunaiGas-Eriston-PM Lucas, Kazakhstan

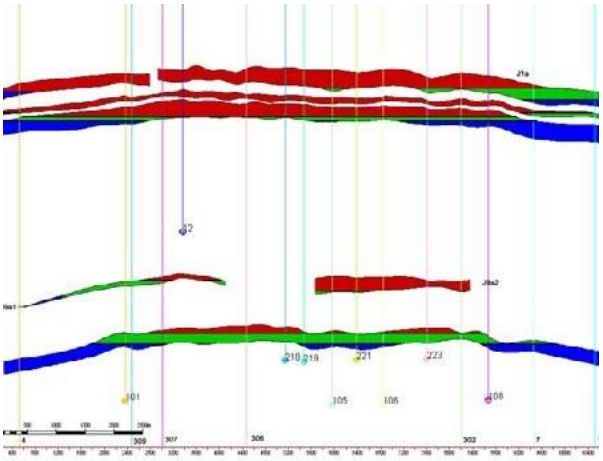
SERVICES: Geological and Production Data Collection, Data QC, Field Re-development Planning, Recoverable Reserves Estimation and Economic Analysis

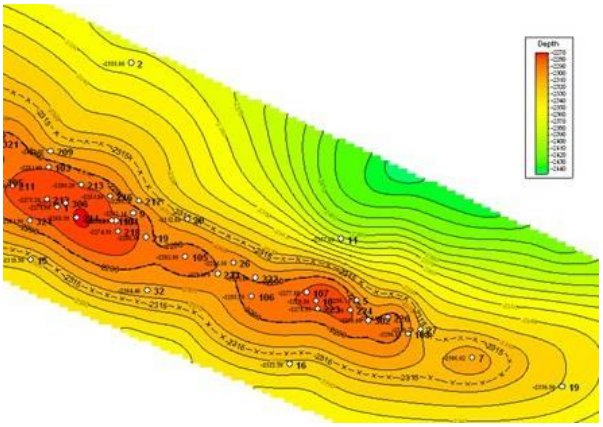
COMMENCEMENT: July 2007

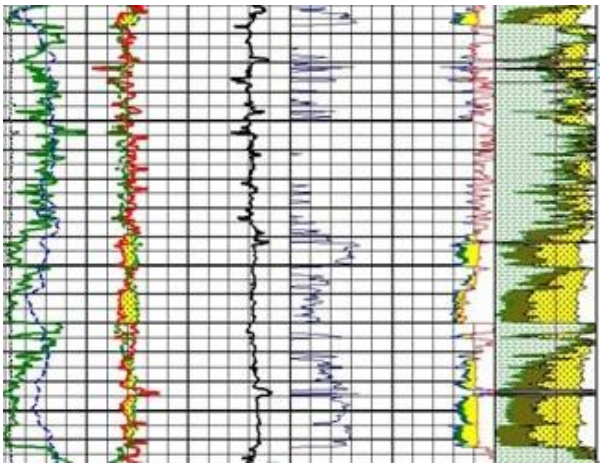
COMPLETION: June 2009

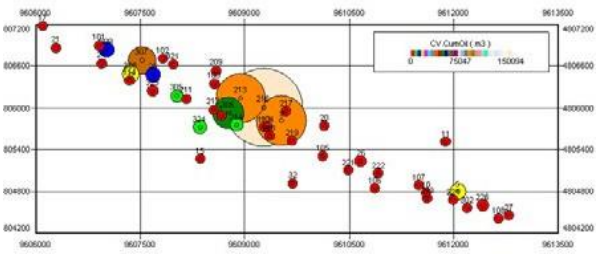
SERVICES INCLUDED:

1) Geological and petrophysical overview
2) Reservoir fluid characterization and PVT analysis
3) OOIP and reserves overview
4) Well integrity studies
5) Production and development history of the field and current development status
6) Production forecast
7) Economical evaluations









PROJECT:

OPERATIONS AND PETROLEUM ENGINEERING SUPPORT

CLIENT: OMV-TOC LLP, Kazakhstan

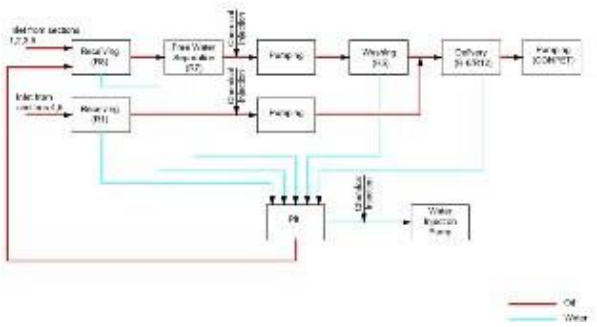
SERVICES: Monitoring, Analysis and Production Optimization of The Tasbulat, Turkmenoi and Aktas Oil Field

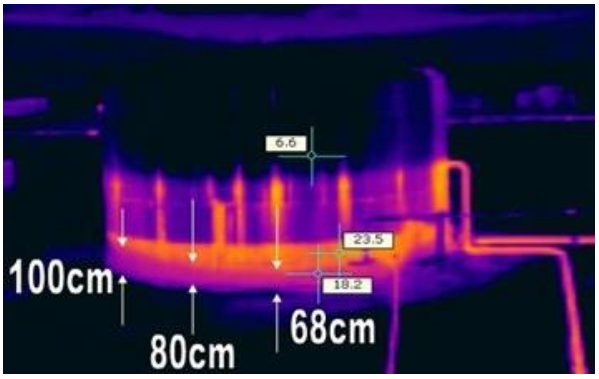
COMMENCEMENT: November 2007

COMPLETION: December 2008

RESERVOIR STUDY INCLUDED:

1) Daily production wells performance analysis
2) Daily water wells performance analysis
3) Daily production reporting
4) Well test supervising
5) Well test interpretation
6) Well log interpretation
7) Well flow performance analysis
8) Well problem & Integrity analysis, diagnosis and recommended options
9) Artificial lift system design, monitoring, analysis and optimization
10) WO planning
11) WO well end reports





PROJECT:

PRODUCTION OPERATION PRACTICE AUDITING

CLIENT: OMV Petrom , Romania

SERVICES: Production Operation Practice & Well Integrity Auditing for 9 The Biggest Oil Fields in Romania:

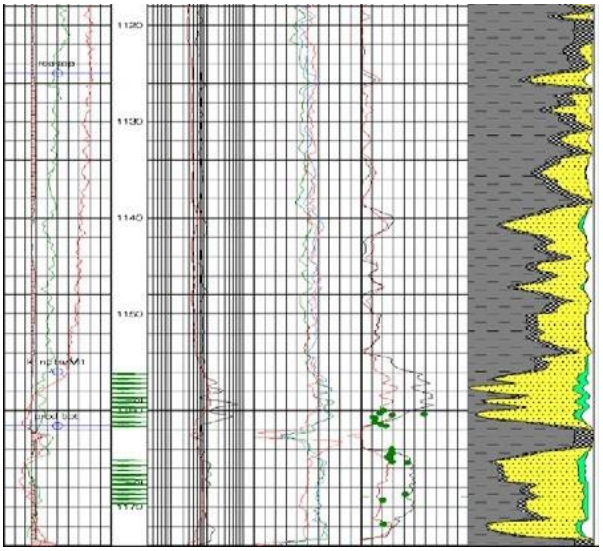
- Suplac
- Videle
- Ticleni
- Madulari
- Poiana Lacului
- Indipendenta
- Albotesti -Moinesti
- Poeni
- Margita

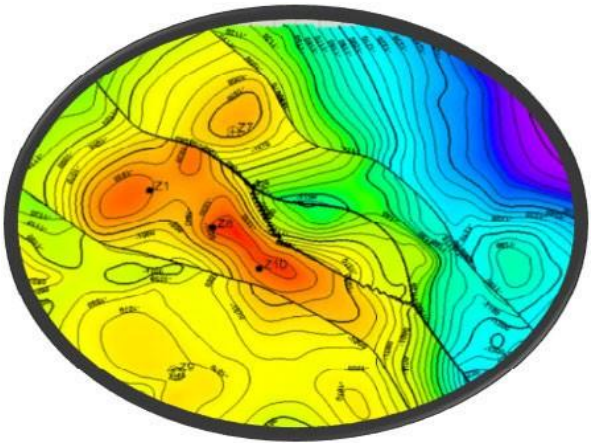
COMMENCEMENT: 2007

COMPLETION: 2008

RESERVOIR STUDY INCLUDED:

1) Operations MS and Practice Review
2) Gathering and Crude Oil Treatment System
   - Field Metering Practice
   - Production Rate Testing
   - Differences in Production
3) Flow Process Control
4) Production Operation Practice
5) Quality System Implementation
6) ALS Overview
7) Well Problem & Integrity





PROJECT:

OPERATIONS AND PETROLEUM ENGINEERING SUPPORT

CLIENT: OMV-TOC LLP, Kazakhstan

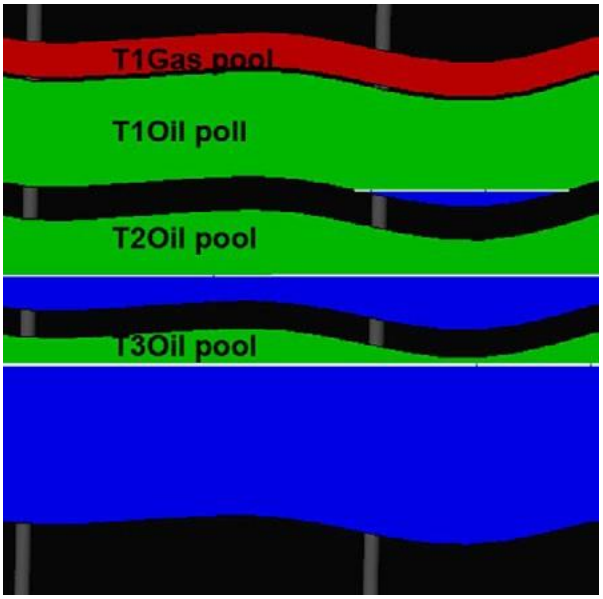
SERVICES: Monitoring, Analysis and Production Optimization of The Zhilankir Oil Field

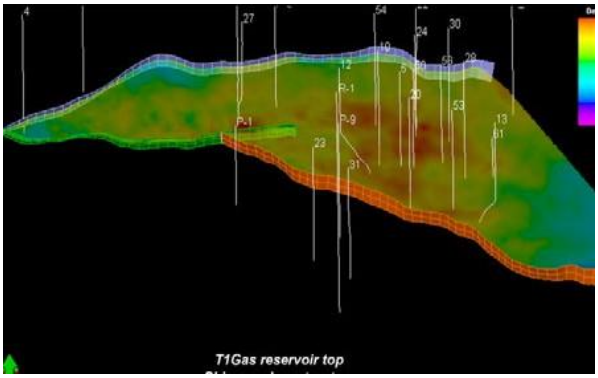
COMMENCEMENT: November 2008

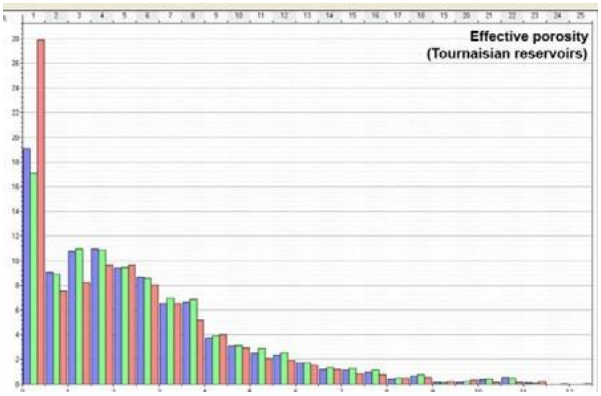
COMPLETION: December 2009

RESERVOIR STUDY INCLUDED:

1) Daily production performance monitoring
2) Well problem analysis
3) Artificial lift system design
4) WO planning
5) Well integrity







PROJECT:

3D RESERVOIR MODELING STUDY (CHINAREVSKOE GAS-OIL FIELD, TOURNAISIAN FORMATIONS, NORTH-EAST BLOCK)

CLIENT: ZhaikMunai LLP, Kazakhstan

SERVICES: 3D Geostatic Model Review and 3D Dynamic Modelling for Tournaisian Formations, North-East Block

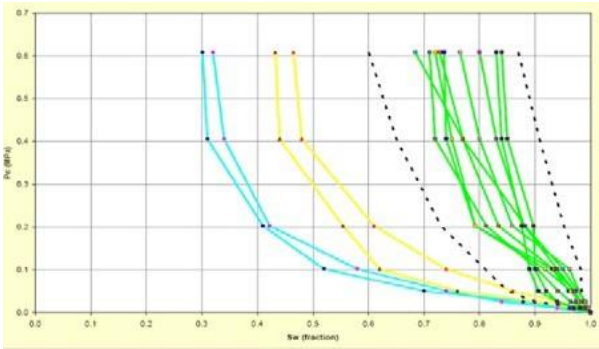
COMMENCEMENT: May 2007

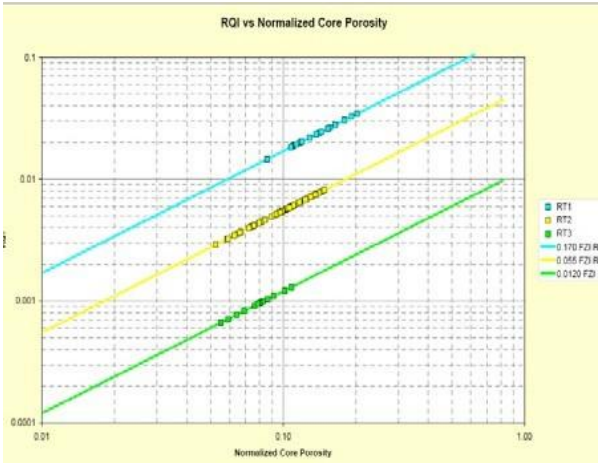
COMPLETION: August 2007

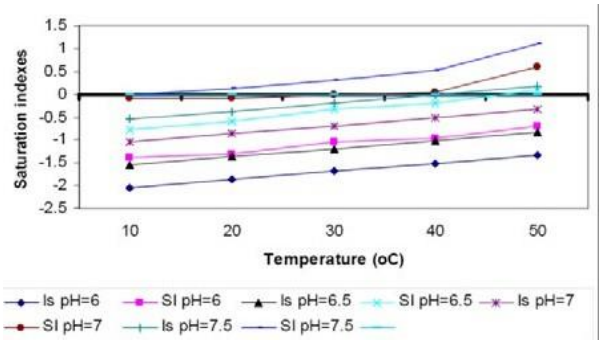
RESERVOIR STUDY INCLUDED:

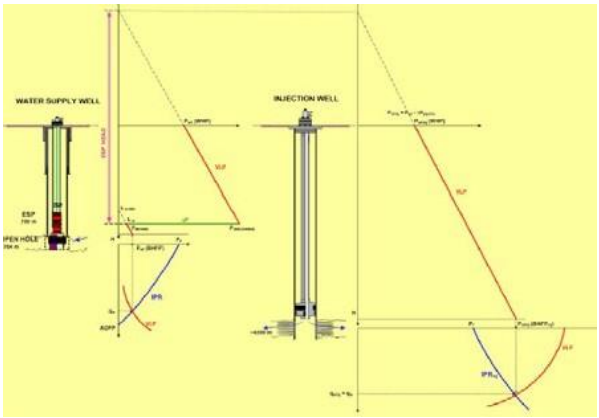
1) The 3D geological model checking (done by third party)
2) Calibration of the model
3) In simulation was used ECLIPSE 100 for oil reservoirs and ECLIPSE 300 for gas condensate reservoir
4) Oil wells were considered as separate systems (no-commingled production)
5) Basic scenario establishing which served for comparison of all the other field development cases
6) Working out prediction scenarios that reflected different development options and operating conditions in the field (edge and pattern waterflooding)

Providing a range of forecast results that will be used to define the best development plan









PROJECT:

WATERFLOODING FEASIBILITY STUDY FOR TOURNAISIAN FORMATIONS (NORTH EAST BLOCK OF THE CHINAREVSKOE GAS-OIL FIELD)

CLIENT: ZhaikMunai LLP, Kazakhstan

SERVICES: Study of Preparation, Treatment of Ground Water and Process Water for Injection in Tournaisian Formations of the Chinarevskoe Gas-Oil Field and Reservoir Engineering Aspects of Waterflooding

COMMENCEMENT: February 2007

COMPLETION: March 2007

RESERVOIR STUDY INCLUDED:

1) Source water considerations
   - Water supply sources
   - Water analysis
2) Ground water production system performance:
   - Well completion
   - Well flow performance
3) Injection system performance
4) Project definition and execution plan
5) Water quality monitoring
6) Reservoir engineering aspects of waterflooding:
   - Reservoir rock properties
   - Fluid properties and PVT data
   - Fractional flow calculations
   - Displacement efficiency calculations
   - Material balance calculations
   - Improved water flooding opportunity-screening criteria
   - Well integrity

PROJECT:

EOR PILOT TEST FACILITY CONCEPTUAL ENGINEERING STUDY, THE OIL FIELD WIDELE VADU-LAT, BLOCK G2 (ROMANIA)

CLIENT: OMV Petrom, Romania

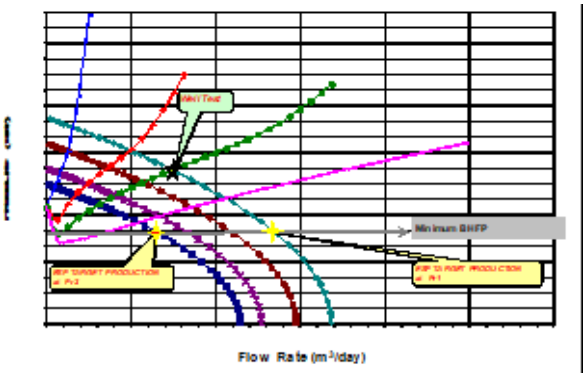
SERVICES: Conceptual Engineering Study, The Oil Field Widele Vadu-Lat, Block G2 (Romania) for Polymer and Hot Water Injection

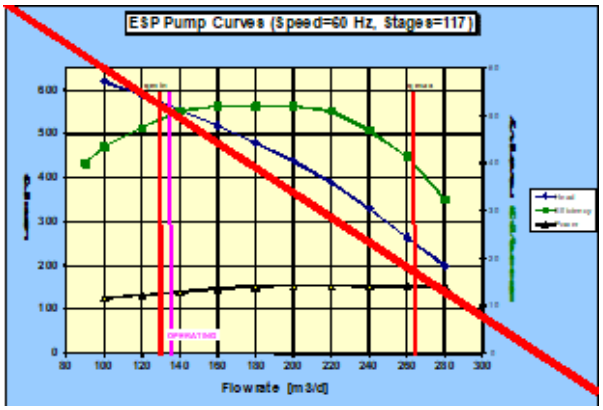
COMMENCEMENT: February 2007

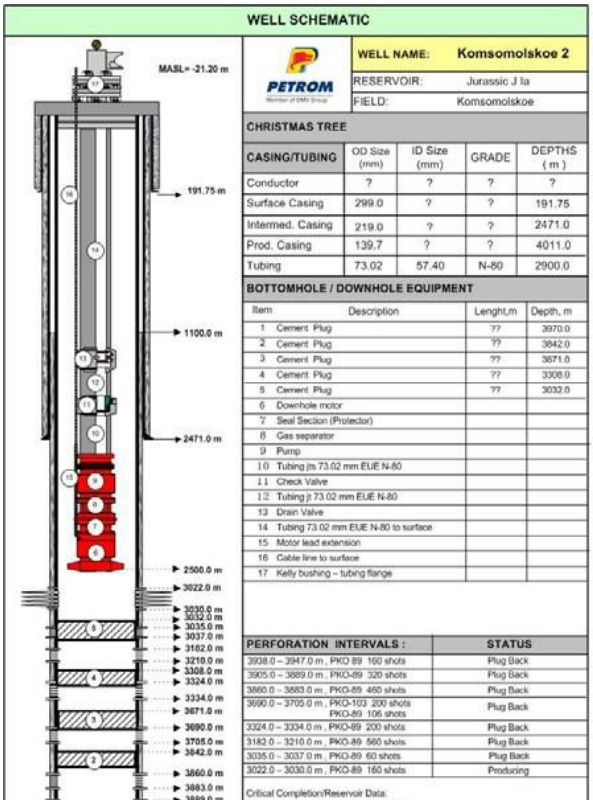
COMPLETION: June 2007

SERVICES INCLUDED:

1) The main aim of the study
2) Design conditions
3) Site design conditions
   - Source water, and water treatment design rates
   - Process design data
   - Electrical area classification
4) Process description:
   - Hot water system
   - Polymer system
   - Flare system
5) Major equipment packages and utility system:
   - Foundations
   - Process buildings
   - Electrical power
   - Control systems
   - Communications
   - Measurements
   - Gas detection and instrument air
   - Fuel system
   - Drain tank
   - Camp
6) General considerations (piping, civil work, instrumentation, electrical, buildings, isolations, heat tracing
7) Well Integrity of existing wells
8) Regulatory requirements, design codes, standards and specifications







WELL SCHEMATIC

MASL= -21.20 m

191.75 m
1100.0 m
2471.0 m
2500.0 m
3022.0 m
3030.0 m
3032.0 m
3035.0 m
3037.0 m
3182.0 m
3210.0 m
3308.0 m
3324.0 m
3334.0 m
3671.0 m
3690.0 m
3705.0 m
3842.0 m
3860.0 m
3883.0 m

PETROM

WELL NAME:	Komsomolskoe 2
RESERVOIR:	Jurassic J Ia
FIELD:	Komsomolskoe

CHRISTMAS TREE

CASING/TUBING	OD Size (mm)	ID Size (mm)	GRADE	DEPTHS (m)
Conductor	?	?	?	?
Surface Casing	299.0	?	?	191.75
Intermed. Casing	219.0	?	?	2471.0
Prod. Casing	139.7	?	?	4011.0
Tubing	73.02	57.40	N-80	2900.0

BOTTOMHOLE / DOWNHOLE EQUIPMENT

Item	Description	Lenght,m	Depth, m
1	Cement Plug	??	3970.0
2	Cement Plug	??	3842.0
3	Cement Plug	??	3671.0
4	Cement Plug	??	3308.0
5	Cement Plug	??	3032.0
6	Downhole motor		
7	Seal Section (Protector)		
8	Gas separator		
9	Pump		
10	Tubing jts 73.02 mm EUE N-80		
11	Check Valve		
12	Tubing jt 73.02 mm EUE N-80		
13	Drain Valve		
14	Tubing 73.02 mm EUE N-80 to surface		
15	Motor lead extension		
16	Cable line to surface		
17	Kelly bushing – tubing flange		

PERFORATION INTERVALS :	STATUS
3938.0 – 3947.0 m , PKO-89 160 shots	Plug Back
3905.0 – 3889.0 m , PKO-89 320 shots	Plug Back
3860.0 – 3883.0 m , PKO-89 460 shots	Plug Back
3690.0 – 3705.0 m , PKO-103 200 shots PKO-89 106 shots	Plug Back
3324.0 – 3334.0 m , PKO-89 200 shots	Plug Back
3182.0 – 3210.0 m , PKO-89 560 shots	Plug Back
3035.0 – 3037.0 m , PKO-89 60 shots	Plug Back
3022.0 – 3030.0 m , PKO-89 160 shots	Producing

Critical Completion/Reservoir Data:

PROJECT:

ARTIFICIAL LIFT SYSTEM DESIGN FOR KOMSOMOLSKOE OIL FIELD

CLIENT: Kom Munai LLP Kazakhstan

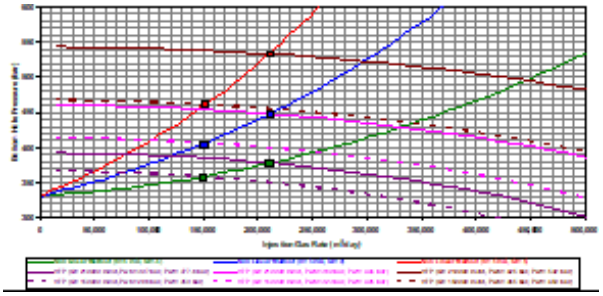
SERVICES: Artificial Lift Selection, Design and Procurement Support (Technical Requisitions-Data Sheets)

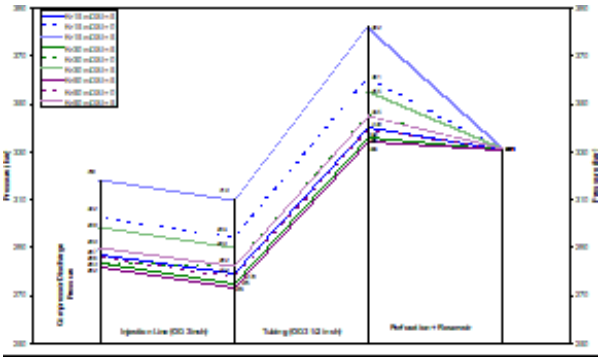
COMMENCEMENT: January 2007

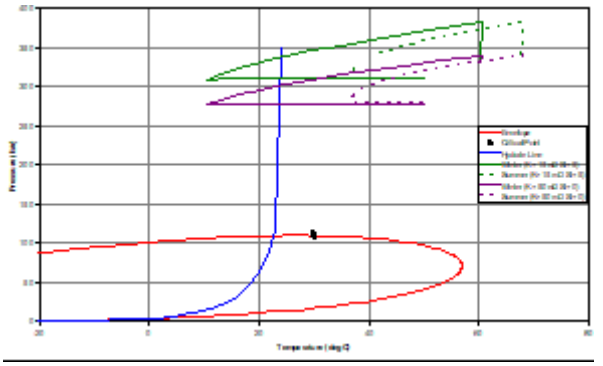
COMPLETION: February 2007

SERVICES AND FACILITIES INCLUDED:

1) Data collection
2) Single well production performance analysis
3) Well integrity
4) Single well test data review (interpretation / re-interpretation - optionally)
5) Single well system (NODAL) analyses - well flow performance:
   - Current IPRs
   - Future IPRs
   - ALS target production definition
6) Single well ALS selection by multi-criteria method
7) Single well ALS design
8) Procurement Support







PROJECT:

KOMSOMOLSKOE OIL FIELD DEVELOPMENT-GAS INJECTION SYSTEM PERFORMANCE

CLIENT: Kom Munai LLP, Kazakhstan

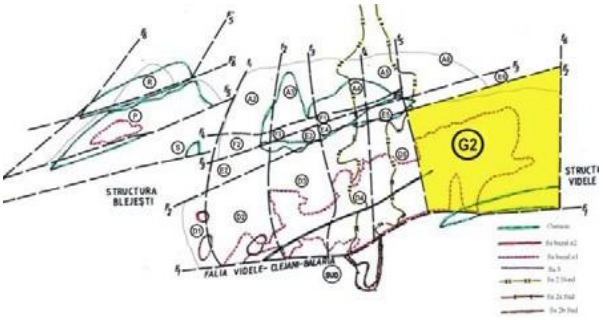
SERVICES: System Analysis and Pressure Profile Calculation across entire System

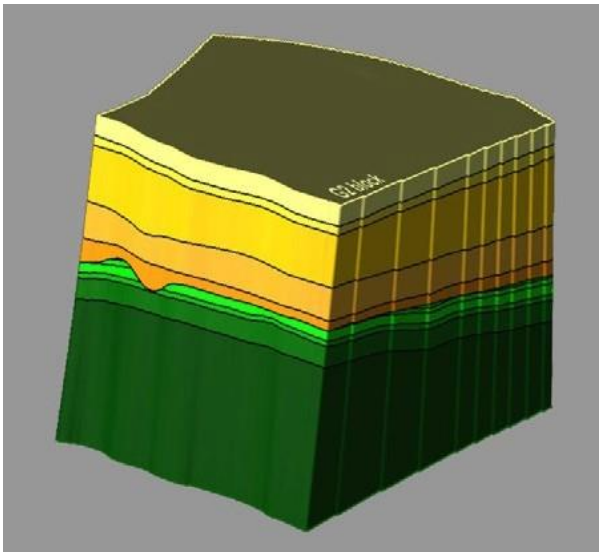
COMMENCEMENT: January 2007

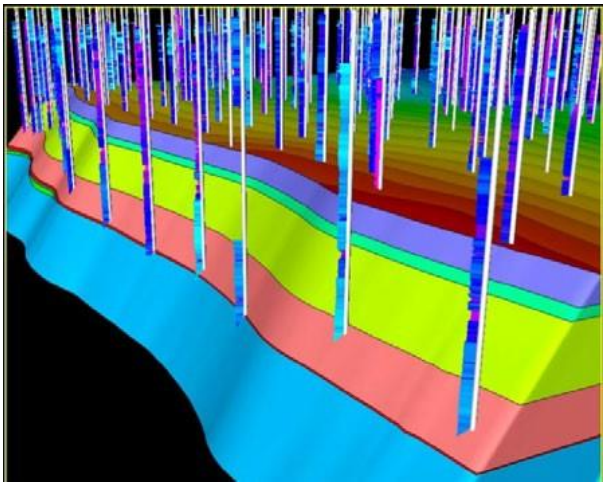
COMPLETION: February 2007

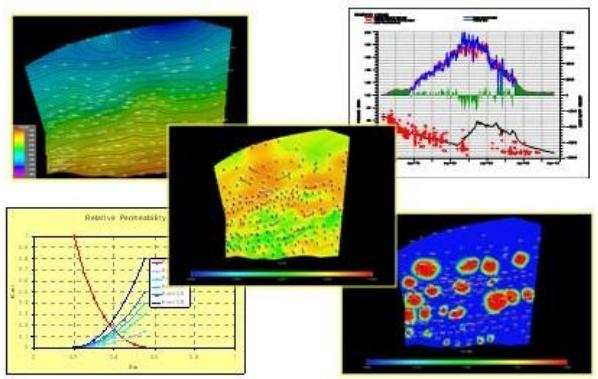
SERVICES AND FACILITIES INCLUDED:

1) Input data collection
2) Fracturing pressure estimation
3) Gas injection IPR curves calculations for different permeability (K) and different formation damages (S)
4) Well integrity
5) Future IPR curves calculations
6) Tubing size calculation
7) Well injection performance analysis
8) P,T Sensitive analysis, PTC envelope and hydrate line definition
9) Pressure drop through the injection system calculation
10) Pressure distribution calculations
11) Compressor discharge pressure determination









PROJECT:

IOR FEASIBILITY STUDY (HOT WATER AND POLYMER INJECTION)

CLIENT: OMV Petrom, Romania

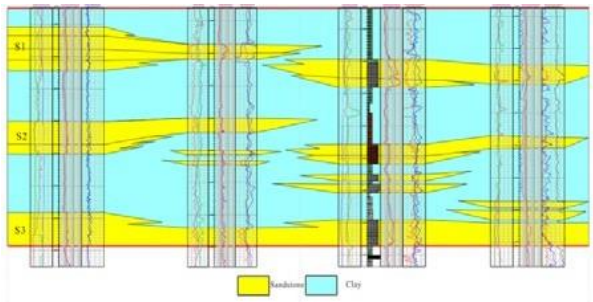
SERVICES: 3D Static Modelling, 3D Dynamic Modelling, Material Balance and Monte Carlo Calculations

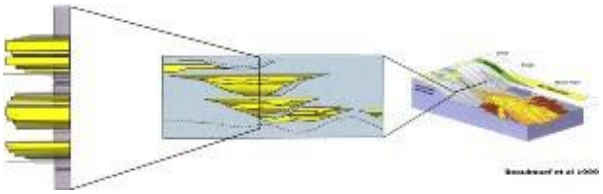
COMMENCEMENT: Sep 2007

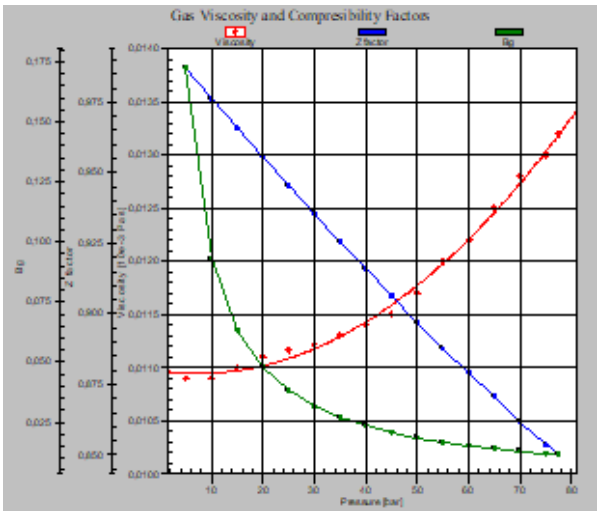
COMPLETION: January 2008

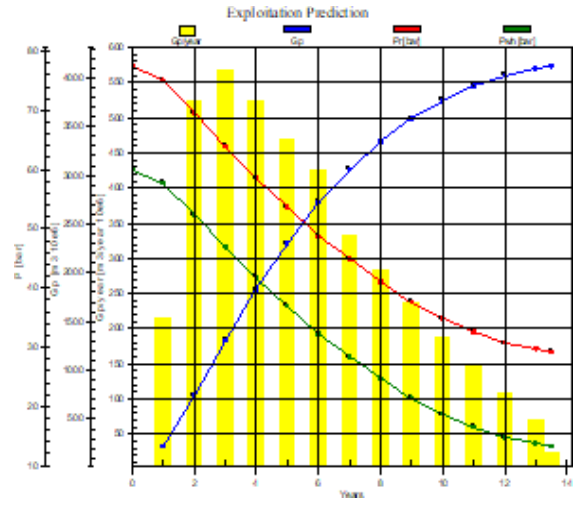
SERVICES AND FACILITIES INCLUDED:

1) Interpretation of data used in geological modeling
2) 3D geological modeling
   - Structural modeling
   - Petrophysical modeling
   - 3D geological model up-scaling
3) Volumetric calculations
4) Reservoir simulation model construction
5) Model calibration (history matching)
6) Well Integrity of existing wells
7) Forecast cases
   - Polymer injection
   - Hot water injection
8) The best cases recommendations









PROJECT:

SARIBULAK GAS FIELD DEVELOPMENT SCENARIOS (MATERIAL BALANCE CALCULATIONS)

CLIENT: TarbagatayMunay, East Kazakhstan

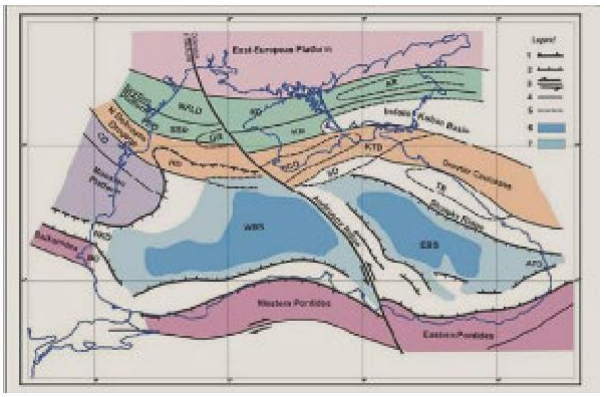
SERVICES: Geological Characterization, Reservoir Rock and Fluid Properties, Development Scenarios by material Balance

COMMENCEMENT: November 2007

COMPLETION: December 2007

SERVICES INCLUDED:

1) The main geological features definition
2) General well data consideration
3) Petrophysical characterization of the reservoir rocks
4) Reservoir fluid characterization
5) Production characteristics of the wells (well deliverability)
6) Material balance calculations
   - Gas drive
   - Water drive
7) The main uncertainties definition
8) The best development scenario recommendation



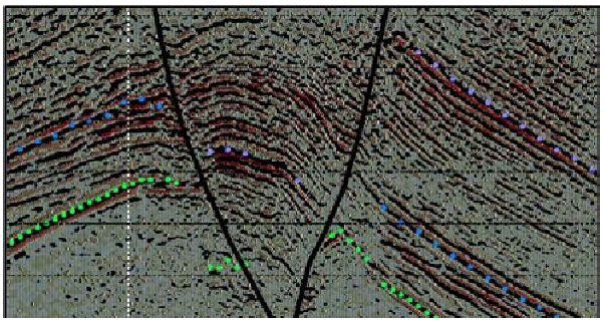
PROJECT:

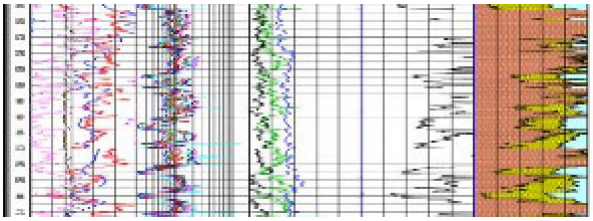
GAS AND OIL PROSPECTS IN UKRAINE (KARCHENSK SHELF AT BLACK SEE, PRIDOROZNA PLOSHA, ZAGORYANSKA PLOSHA, MONASTIRECKA PLOSHA)

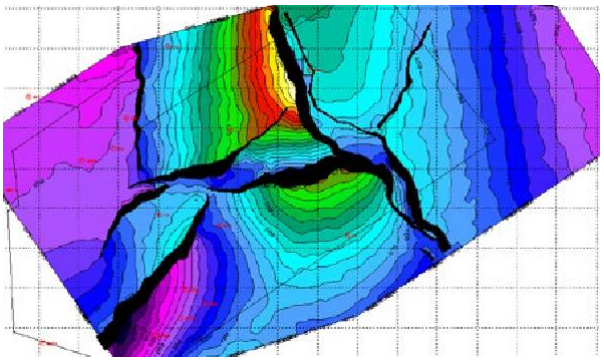
CLIENT: PM Lucas LTD, Cyprus
SERVICES: Geological Evaluations of Oil and Gas Fields
COMMENCEMENT: July 2007
COMPLETION: July 2007

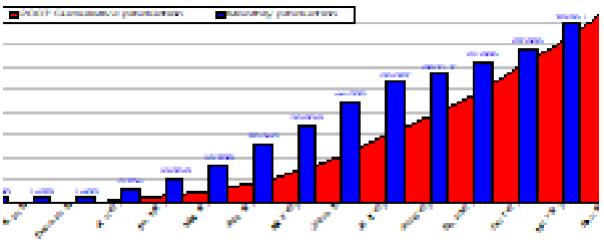
SERVICES INCLUDED:

1) Data overview
2) Summary geological report









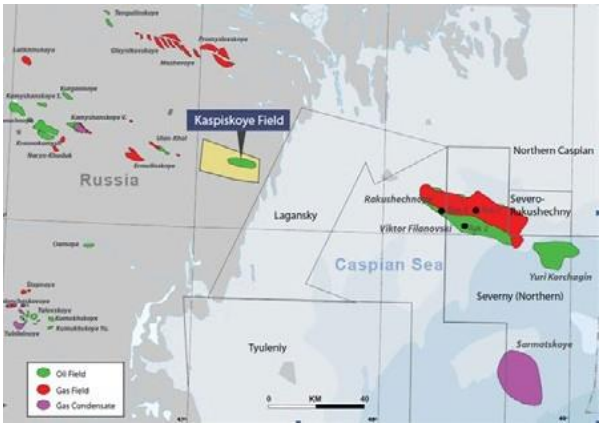
PROJECT:

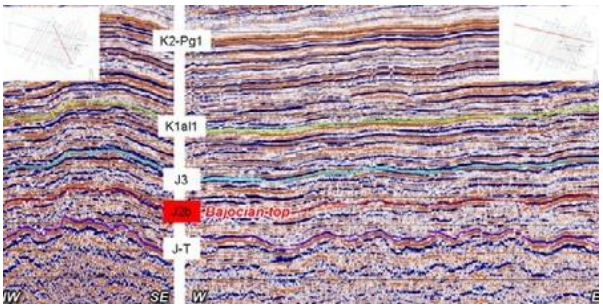
3D SEISMIC SURVEY ASSESSMENT REPORT FOR KEMERKOL AREA

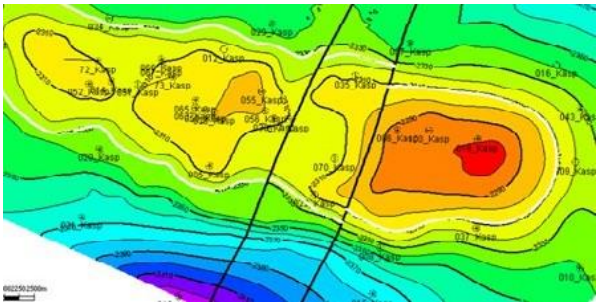
CLIENT: Victoria Oil & Gas
SERVICES: 3D Seismic Data Acquisition, Seismic Data Processing and Seismic Data Interpretation Reports Overview
COMMENCEMENT: November 2007
COMPLETION: December 2007

SERVICES INCLUDED:

1) North Caspian petroleum system data collection and analysis
2) Kemerkol area geological targets
3) 3D seismic data acquisition report overview
4) 3D seismic data processing report overview with recommendations
5) 3D seismic data interpretation report overview with recommendations
6) Interpretation problems analysis
7) Recommendations for work exploration continuation







PROJECT:

KASPISKOE OIL FIELD PRODUCTION OPERATIONS AND PETROLEUM ENGINEERING SUPPORT

CLIENT: Kalmistern, Kalmikiya, RF

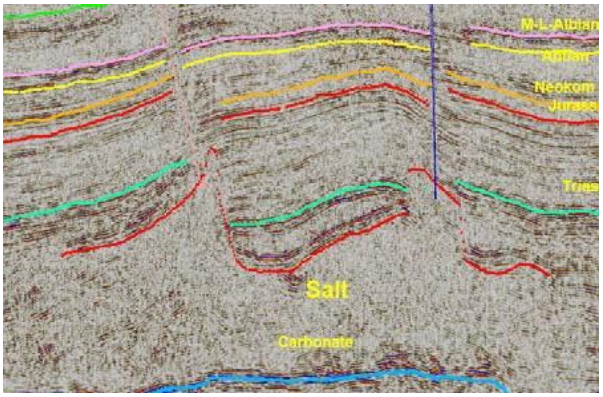
SERVICES: Monitoring, Analysis and Production Optimization of the Kaspiskoe Oil Field

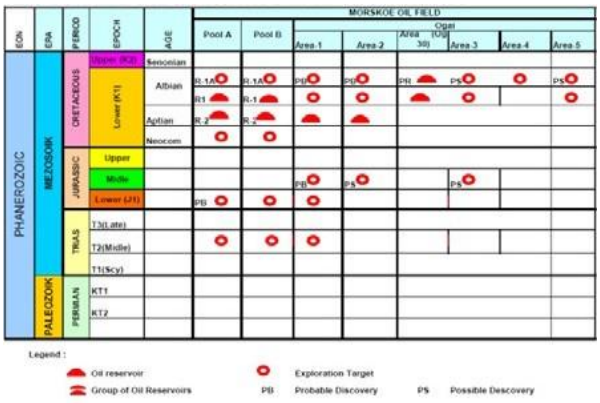
COMMENCEMENT: September 2006

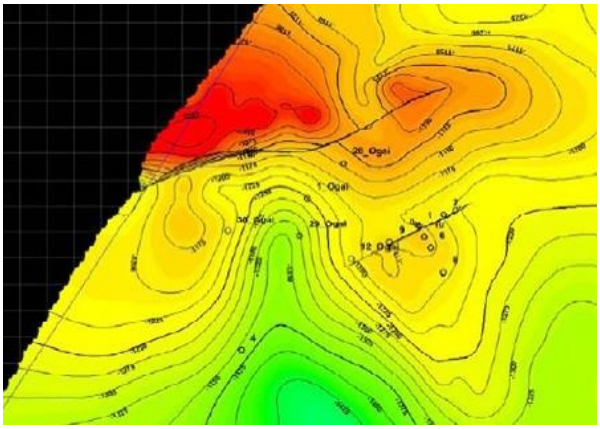
COMPLETION: December 2006

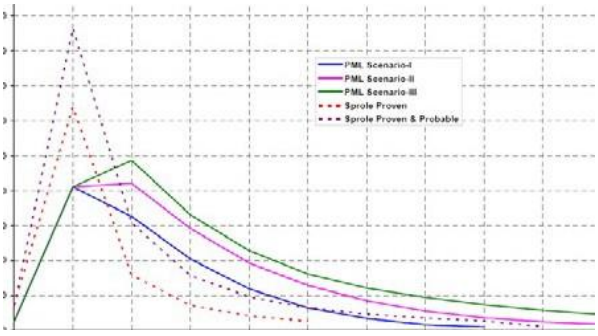
SERVICES INCLUDED:

1) Daily production wells performance analysis
2) Reservoirs and well evaluations
3) Well test supervising
4) Daily production and operations reporting
5) Well servicing planning
6) Pressure transient analysis
7) Well problem & well integrity analysis and diagnosis
8) Artificial lift system selection, design, monitoring, analysis and optimization
9) WO planning and design
10) WO well end reporting









PROJECT:

MORSKOE OIL FIELD, TECHNICAL EVALUATION SUMMARY

CLIENT: Big Sky LLP, Kazakhstan

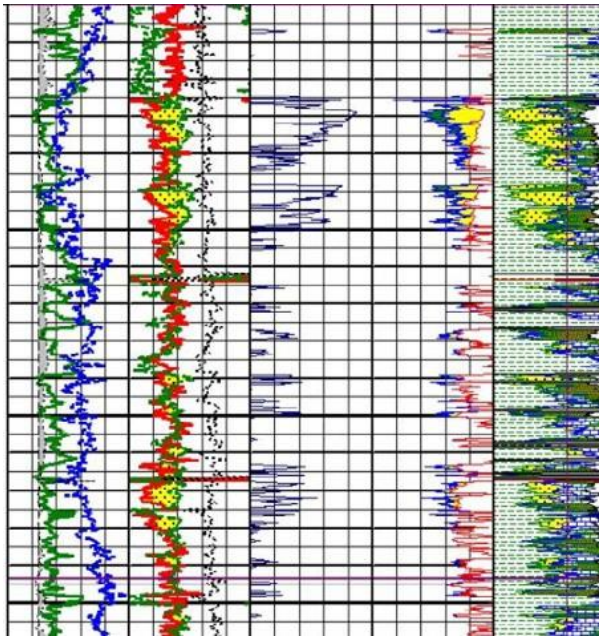
SERVICES: Production Performance Analysis of The Reservoirs, OOIP Estimation and Production Forecasting, Exploration and Development Plan

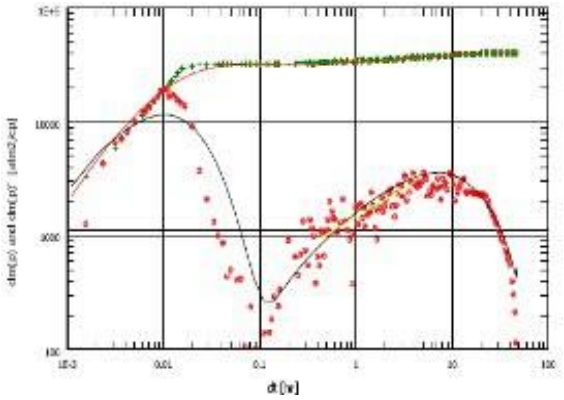
COMMENCEMENT: November 2006

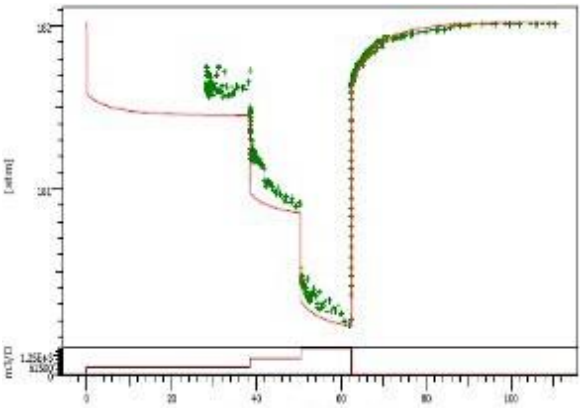
COMPLETION: December 2006

SERVICES AND FACILITIES INCLUDED:

1) Geological data overview
2) OOIP estimation
3) Exploration and development history
4) Well problem & well integrity analysis
5) Production data analysis
6) Recovery factor (RF) and recoverable reserves estimation
7) Forecast production scenarios evaluations
8) Upside potential (exploration opportunities) assessment
9) Main risk in production and exploration phase definition







PROJECT:

SOUTH ROVNAYA GAS FIELD – WELL TESTING OPERATIONS

CLIENT: OMV-TOC

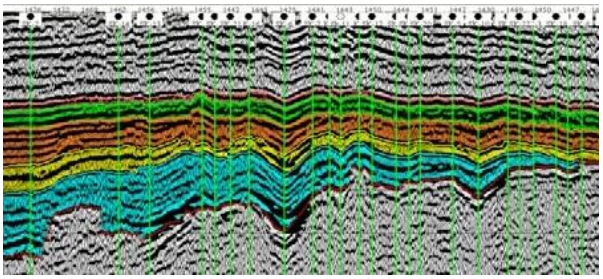
SERVICES: Planning, Design, Management and Realization of Welltesting Activates

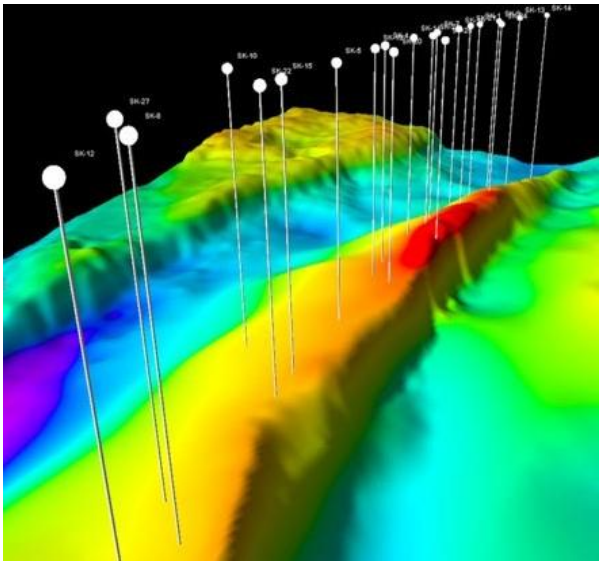
COMMENCEMENT: June 2006

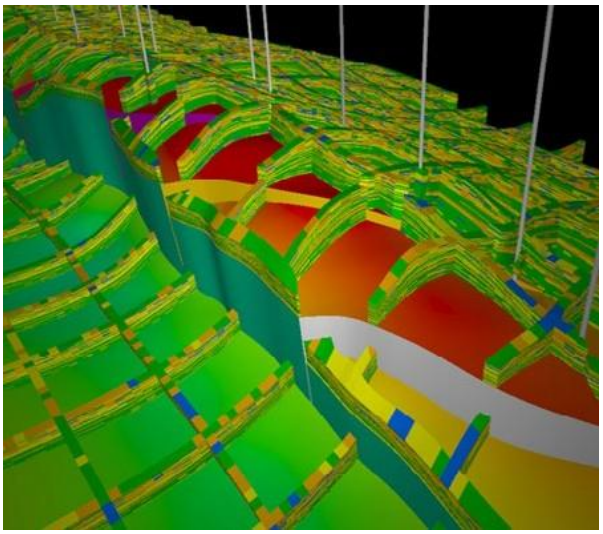
COMPLETION: September 2007

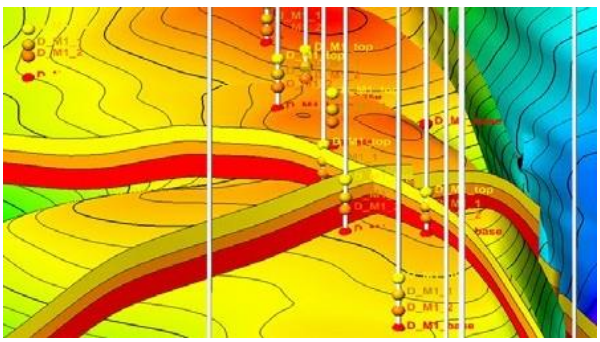
SERVICES AND FACILITIES INCLUDED:

1) Geological data overview
2) Well log data interpretation
3) Well test planning
4) Well test design
5) Well test supervising
6) Well test data interpretation
7) Geological model analysis
8) Recommendations for further activities









PROJECT:

SOUTH KUMKOL G & G STUDY

CLIENT: PetroKazakhstan Kumkol Resources LLP, Kazakhstan

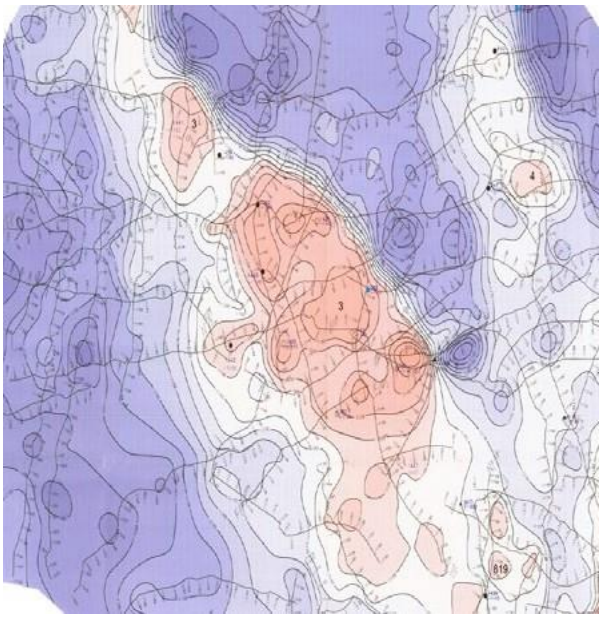
SERVICES: 3D Geological Modelling, Reservoir Engineering and Production Engineering Evaluations

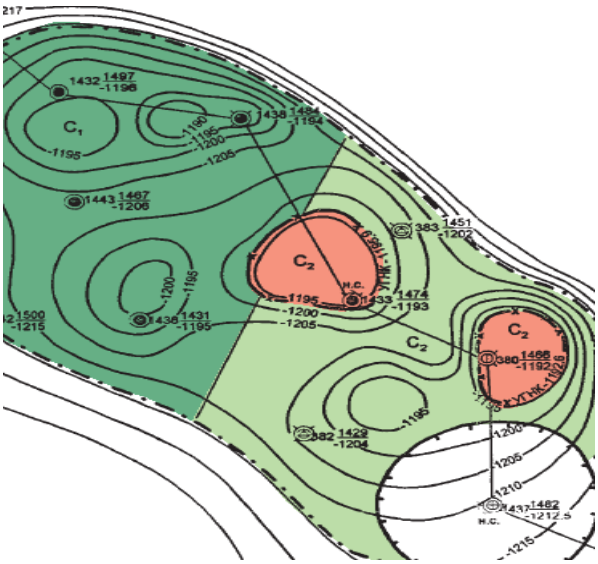
COMMENCEMENT: September 2005

COMPLETION: February 2006

SERVICES AND FACILITIES INCLUDED:

1) 3D seismic data analysis and acoustic impedance
2) 3D Geological modelling:
   - Structural modelling:
     a. Well log correlation
     b. Seismic data interpretation
     c. Structural style and geodynamic evaluation of the structure
     d. Structural model building
   - Building facies modelling
   - Petrophysical modelling:
     a. Well log interpretation
     b. Porosity modelling
     c. Net/Gross modelling
   - Volumetrics
3) Reservoir engineering calculations:
   - PVT data processing/calculation
   - Well testing and pressure transient analysis
   - Material balance calculations (OOIP)
4) Production engineering calculations:
   - Fluid production analysis
   - Decline analysis
   - Well flow performance analysis





PROJECT:

KARSOVAYSKOYE OIL FIELD, DEVELOPMENT OPPORTUNITIES

CLIENT: PM Lucas, RF

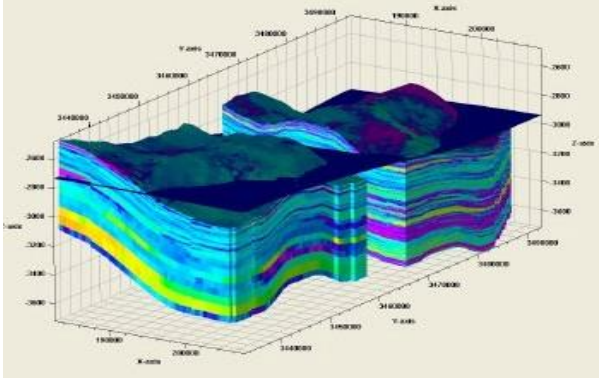
SERVICES: Data Collection, Data QC and Analysis and Development Opportunity Proposal

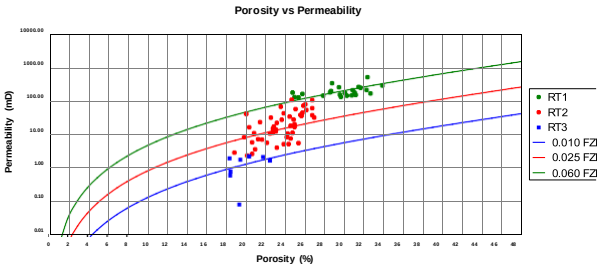
COMMENCEMENT: September 2005

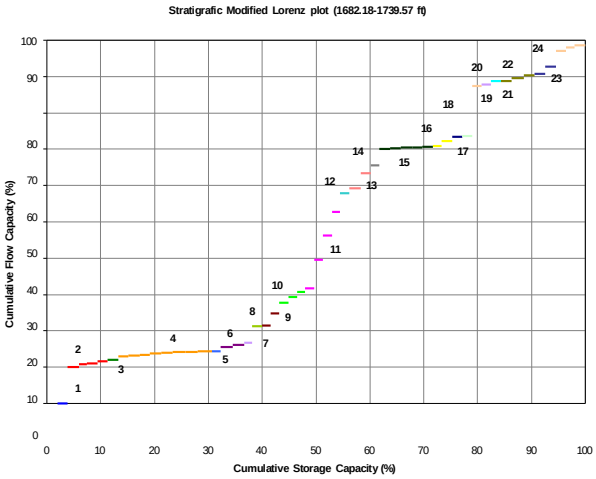
COMPLETION: November 2005

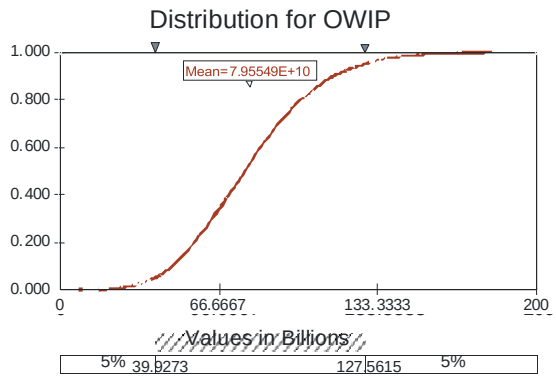
SERVICES INCLUDED:

1) Exploration and appraisal history
2) Geological data overview
3) Reservoir property overview
4) Reservoir fluid characteristics
5) OOIP and reserves overview
6) Well production data-well deliverability
7) Field development plan
8) Field development budget
9) Field economics









PROJECT:

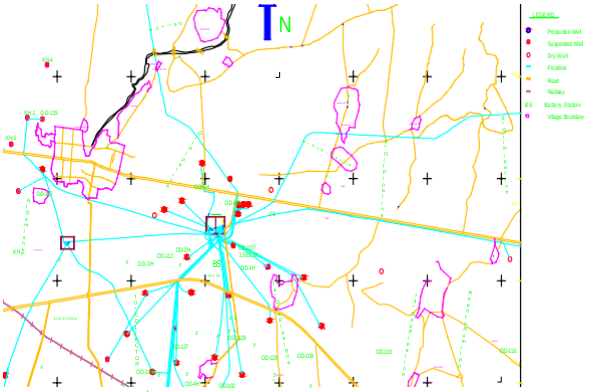
AQUIFER (SOURCE WATER) OWIP EVALUATION, AUGILA OIL FIELD

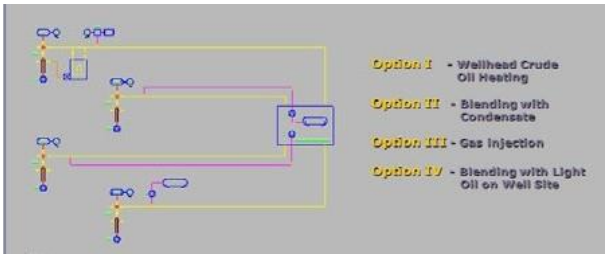
CLIENT: Veba-HOL, Libya

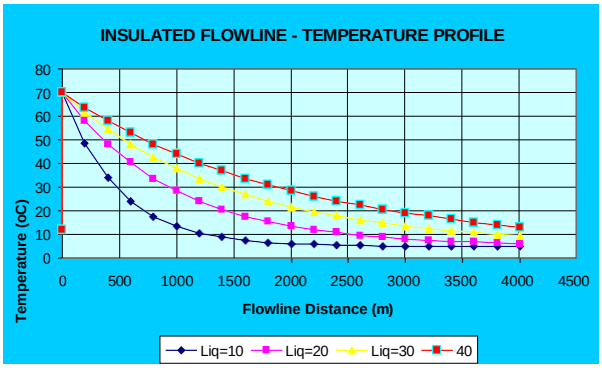
SERVICES: Petrophysical Interpretation, Reservoir and Production Engineering Analysis and Evaluations

SERVICES INCLUDED:

1) PVT analysis for water
2) Pressure test analysis:
   - Initial reservoir pressure
   - RFT data
3) Transient pressure analysis
4) Well Flow Performance:
   - Well Inflow Performance
   - Vertical Lifting Performance
5) Production Performance Analysis:
   - Production Data Analysis
   - Production Decline Analysis
6) Well Log Interpretation
7) Core Analysis:
   - Rock Typing
   - Flow Units
8) Aquifer Description (OWIP):
   - OWIP by Material Balance
   - OWIP by Monte Carlo Simulation







PROJECT:

OUDEH OIL FIELD OPERATION PRACTICE REVIEW AND OPTIMIZATION

CLIENT: Dublin International, Syria

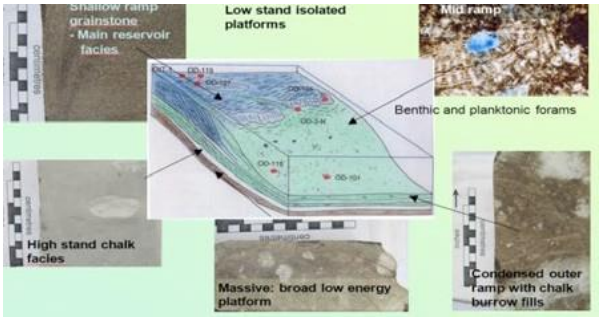
SERVICES: Wells and Facilities Operation Practice Review and Improvements Proposal

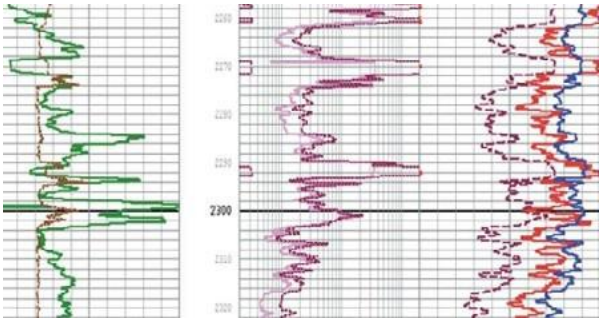
COMMENCEMENT: November 2004

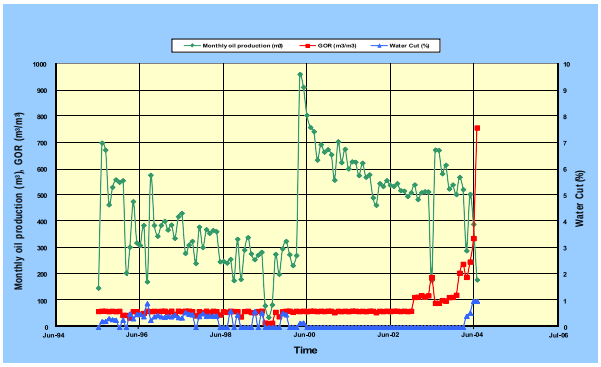
COMPLETION: December 2004

SERVICES INCLUDED:

1) Review of existing facilities
2) Actual problem definitions
3) Heavy oil handling
4) Optimal method(s) definition for crude oil viscosity decreasing
5) Identification options for facility improvements and modifications
6) Basic ideas for detail engineering design
7) Technical program definition







PROJECT:

OUDEH OIL FIELD RE-DEVELOPMENT REVIEW AND PLANNING

CLIENT: Dublin International, Syria

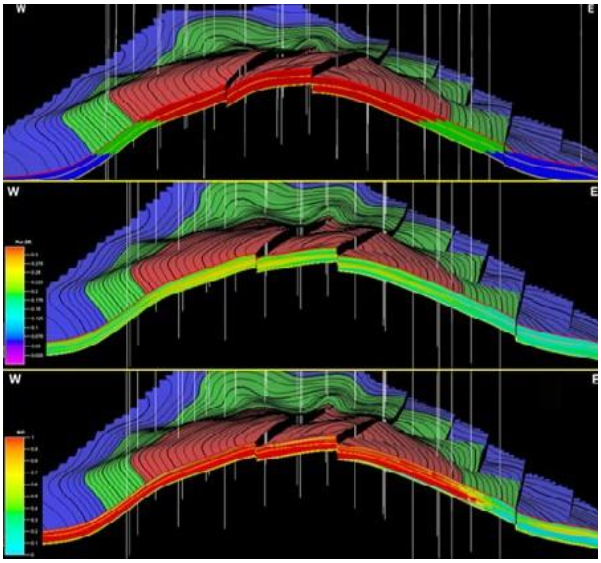
SERVICES: Production History Analysis, Reservoir and Well Evaluation, Workover Planning and Production Optimization Proposals

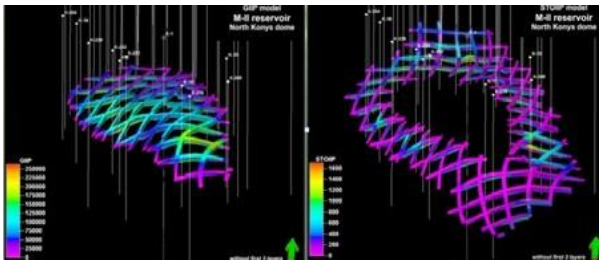
COMMENCEMENT: November 2004

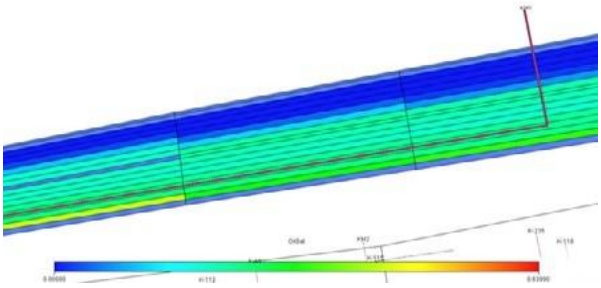
COMPLETION: March 2005

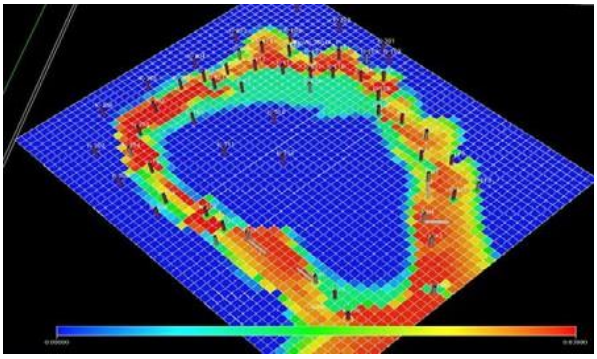
SERVICES INCLUDED:

1) Well production performance
2) Well flow performance analysis
3) Well integrity
4) Reservoir production performance
5) Well log interpretation
6) Well workover history
7) Well production history analysis
8) Production decline analysis
9) Well evaluations
10) ALS analysis and optimization
11) Well problem analysis
12) Workover and re-entry planning
13) Recommendations for wells' problem solution









PROJECT:

KONYS OIL FIELD DEVELOPMENT, RESERVOIR STUDY

CLIENT: Kuatamlon Munai LLP, Kazakhstan

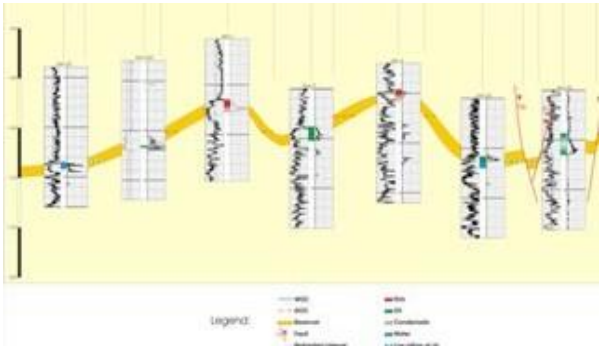
SERVICES: 3D Reservoir Modelling (3D Geostatic Model Building and 3D Dynamic Modelling of The North Dome)

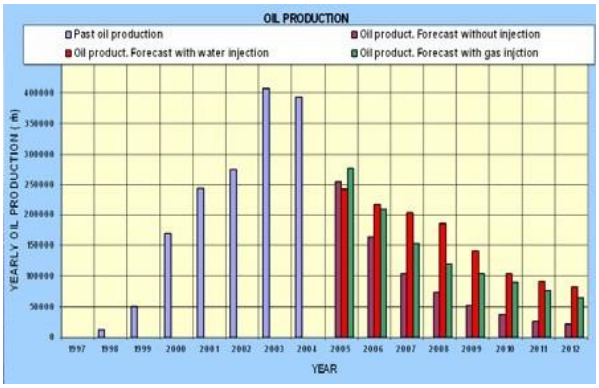
COMMENCEMENT: March 2005

COMPLETION: July 2005

SERVICES INCLUDED:

1) 3D geological modeling of the north dome
2) 3D Seismic interpretation
3) 3D Structural modelling
4) 3D Petrophysical modelling
   - 3D Porosity model
   - 3D Water Saturation model
   - 3D Shale volume
   - 3D Net/gross model
5) Volumetrics
6) Reservoir engineering calculations:
   - Material balance calculations
   - Fractional flow curve definition
   - Displacement efficiency calculations
   - Flooding order estimations
7) 3D Dynamic model building
8) History matching
9) Possible development scenarios:
   - Edge water flooding
   - Gas flooding injection in gas cap
   - Combination, gas and water flooding
   - Vertical and hells





PROJECT:

KONYS FIELD DEVELOPMENT PLAN

CLIENT: KuatamlonMunai LLP, Kazakhstan

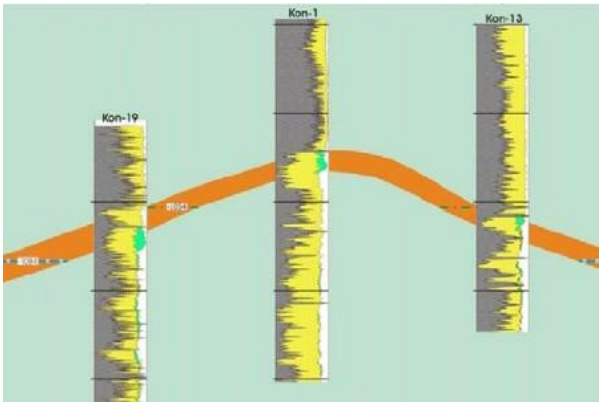
SERVICES: Reservoir and Well Evaluations, OOIP Calculations and Production Forecasting

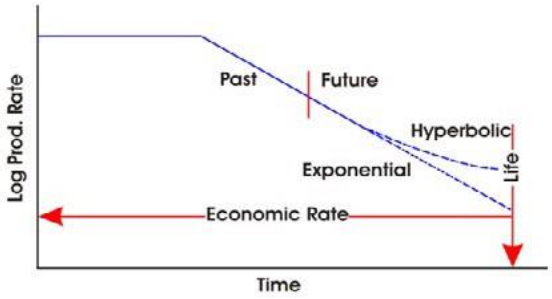
COMMENCEMENT: August 2005

COMPLETION: September 2005

SERVICES INCLUDED:

1) Reservoir and well evaluations
2) OOIP by volumetric and MB calculations
3) Well performance analysis
4) Well problem analysis
5) Well test design and interpretation
6) Well test supervision
7) Well log interpretation
8) Workover and well services planning
9) Workover design
10) Artificial lift system selection, design, monitoring, analysis and optimization
11) WO Well end reports





PROJECT:

BEKTAS FIELD DEVELOPMENT PLAN

CLIENT: KuatamlonMunai LLP, Kazakhstan

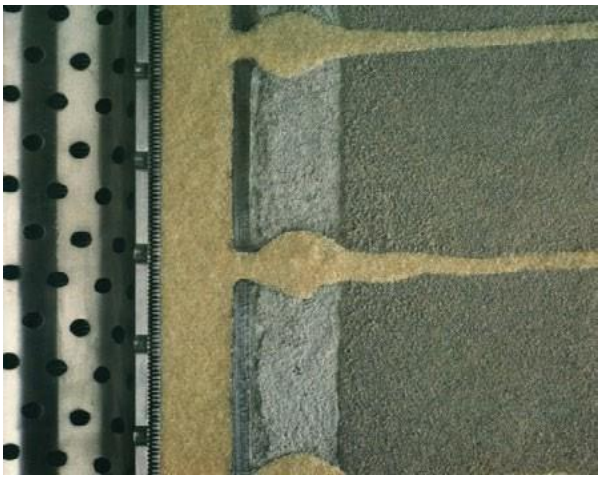
SERVICES: Reservoir and Well Evaluations, OOIP Calculations and Production Forecasting, Water Conning

COMMENCEMENT: August 2005

COMPLETION: September 2005

SERVICES INCLUDED:

1) Reservoir and well evaluations
2) OOIP by volumetric and MB calculations
3) Well Performance Analysis
4) Well problem analysis
5) Well test design and interpretation
6) Well testing supervision
7) Well log interpretation
8) Workover and well services planning
9) Workover design
10) Artificial lift system selection, design, monitoring
11) Analysis and optimization
12) WO well end reports



PROJECT:

AKZHAR OIL FIELD, FIELD DEVELOPMENT

CLIENT: Altius LLP, Kazakhstan

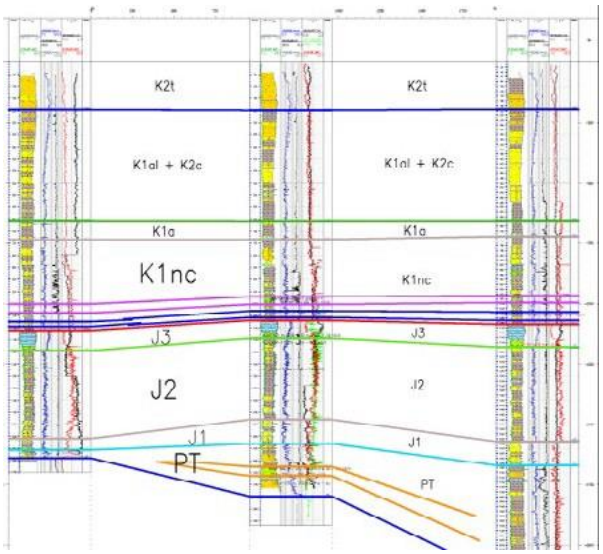
SERVICES: Conceptual Well Design (Well Design, Well Completion, Sand Control Completion)

COMMENCEMENT: August 2004

COMPLETION: September 2004

SERVICES INCLUDED:

1) Detail drilling and completion program
2) Sand problem definition
3) Gravel pack design



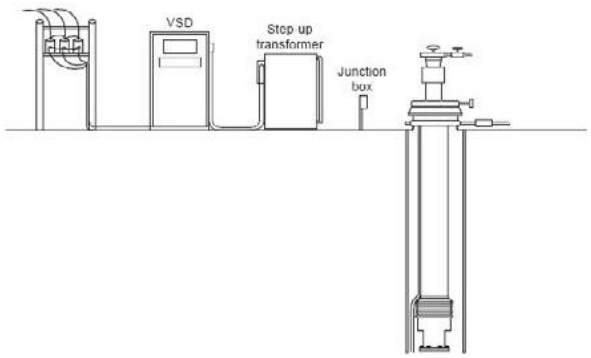
PROJECT:

"KOZHA-SOUTH" GEOLOGICAL AND ENGINEERING OVERVIEW

CLIENT: Eko-Geo-Njefegaz, Kazakhstan
SERVICES: Geological and Engineering Overview Report on Field OOIP and Field Development Opportunities
COMMENCEMENT: June 2003
COMPLETION: July 2003

SERVICES INCLUDED:

1) Data Collection and field visiting
2) Geological characteristics of the reservoirs
3) The main rock properties
4) Discovered reservoirs
5) Wells deliverability's
6) Reservoir fluid characteristics
7) Recoverable reserves and production forecast



PROJECT:

ARTIFICIAL LIFT (ESP) DESIGN FOR (KUMKOL OIL FIELD)

CLIENT: Kumkol Resources LLP
SERVICES: Lift System Selection, Design and Start-Up
COMMENCEMENT: August 2002
COMPLETION: September 2002

SERVICES INCLUDED:

1) Data collection
2) Single well production performance analysis
3) Single well test data review (Interpretation / re-interpretation - optionally)
4) Single well system (NODAL) analyses - well flow performance:
   - Current IPRs
   - Future IPRs
   - ALS target production definition
5) Single well ALS design
6) Procurement support
7) ESP Installation
8) Start-up