

Reservoir Management References

Former Soviet Union (FSU) Experience

TRACS International Ltd. has been providing integrated technical consultancy services to the oil industry in Russia since 1993. In this period we have achieved a significant level of expertise in managing the cultural, technical and commercial challenges facing western oil companies and financial institutions that wish to develop their business in this part of the world. In order to accommodate the increasing demand for work in Russia and the remainder of the FSU, we opened an office in Moscow in 2002. The following is a selection of recent projects undertaken both by our UK and Moscow offices.

Project	Description	Client & Date
Acreage evaluation and pilot production planning in Tomsk region	TRACS conducted an evaluation of discoveries and mature prospect in the Tomsk area for a JV company. The work included proposals for pilot production developments as the last phase of an appraisal programme ahead of full scale production.	Russian Investor 2004
Asset evaluation and notional field development planning, Tomsk area	TRACS Moscow evaluated thirteen fields, being a mixture of producing fields and discoveries. This resulted in the generation of production and expenditure forecasts for future development, and involved regional development planning to ensure efficient use of existing infrastructure. The infrastructure itself was reviewed in the field by TRACS staff. The fields were then ranked for priority in terms of development.	Glencore 2005
Asset Screening for Harvest throughout Russia	TRACS have undertaken multiple field screening and provided evaluation support for Harvest which continues to actively pursue developing a Russian portfolio. An excellent working relationship has been developed between Harvest management and TRACS personnel over this period, which enables a very flexible working relationship.	Russian Investor 2003-Present
Basin and prospect screening for definition of export potential	TRACS used data from several basins and multiple fields for a consortium of clients with interests in developing a Russian portfolio. This activity is ongoing and is developing in terms of details as opportunities for engagement mature.	2003
Casing / Tubing Analysis	Detailed casing and tubing analysis for the large, deep, high pressure offshore Shah Deniz field. Analysis included tubing stress, casing stress, wellhead movements and annular fluid expansion.	2001-2002
Conceptual development of the Bolshekhetsky area	TRACS International, in cooperation with GENESIS Oil and Gas Consultants, carried out a series of conceptual development options for the Bolshekhetsky gas and oil fields north of Urengoy.	Lukoil 2003
Development and Exploration Potential for the Jurassic and Cretaceous Stratigraphic Section of a licence block in Western Siberia	TRACS Moscow was provided with seismic and well data. The seismic data and well logs were interpreted and used to build 3D static and dynamic models which were used to estimate in place volumes and production profiles. The conclusion was that the AC10 reservoir had economic potential but that the Achimov and Jurassic were uneconomic at prevailing oil prices.	Russian Investor Jan 2008
Evaluation of a portfolio of licences and fields in Ukraine	TRACS Moscow evaluated a portfolio of exploration and production licence blocks to support an effort to raise funds for further appraisal and development. This included the technical and commercial evaluations as well as a data gathering plan.	Russian Investor 2005

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Evaluation of licence blocks in Tomsk area	TRACS Moscow evaluated six licence blocks in support of a company valuation, which resulted in a successful additional share issue to raise funds for development. This work extended to operational support for data gathering, including well test planning and fracture design.	Imperial Resources 2005
Field development plan for the Lempinskoye Field	Several key TRACS staff worked on rotation in Nefteyugansk as part of an integrated geoscience and engineering Russian/TRACS review team on the Lempinskoye Field in Western Siberia. The project included full field static and dynamic reservoir model construction for the 280-well field. TRACS was responsible for project management, knowledge transfer of Western methodology and formal training sessions.	1997-1998
Field development review of the Samotlor Field	TRACS International carried out a review of production forecasts and reserves estimation for this "super-giant" oil field in the Tyumen Oblast.	German bank 1996
Field evaluation and management planning	TRACS International conducted detailed and integrated projects to review data of several Western Siberian exploration and production assets acquired by Sibir Energy, ranging from seismic surveys to production data. The project involved reserves determination, production forecasting and economic evaluation in order to construct optimum development plans for the assets. A substantial part of the project was to transfer the study process and methodology to the Russian joint venture partner, Magma, YugraNeft and SSD/SPD.	Sibir Energy 1998-2004
Field Evaluation for Harvest in Tomsk region	TRACS performed a full field model build and development evaluation of the Orenburg field in support of a potential farm in opportunity. The PETREL model for the multi reservoir field was transferred to Eclipse where multiple development scenarios were investigated to provide probabilistic production profiles and reserves.	Russian Investor 2004
Field management for an independent oil company	TRACS International was involved in the management of the development of a carbonate oil field in the Komi region on behalf of an independent oil company. The project involved complete subsurface management, field development planning and supervision of operational and construction work. The work incorporated a full reserves audit and the technical evaluation is being used to support external financing.	Independent oil company 1998-2004
Field Operations in Komi, Western Siberia and Turkmenistan	TRACS International has also a vast amount of Russia and FSU field experience. Since 1993, several project and operations management roles have been successfully undertaken in this difficult environment.	
Field review and production forecasting	On behalf of western private investors, TRACS International performed a two-week study of producing assets in Georgia, making recommendations as to how the field performance could be improved.	1998
Geological and Geophysical Evaluation of the Exploration Potential and Potential Hydrocarbon Resource Estimates for Two Licence Areas in the Republic of Kazakhstan	TRACS Moscow examined the exploration data available for two blocks in western Kazakhstan. The data consisted of seismic and gravity data with no well data being available. Unrisked volumes of oil and gas were estimated and various values of Probability of Success were used to develop risked resources.	British investor Sept 2006

Project	Description	Client & Date
Geological and Geophysical Evaluation of the Exploration Potential and Potential Hydrocarbon Resource Estimates for a Licence Area in the Republic of Kazakhstan	TRACS Moscow examined the exploration data available for a block in western Kazakhstan, Pre-Caspian Basin. The data consisted of seismic and well data. Unrisked and risked volumes of oil and gas were estimated and estimated values of Probability of Success were used to develop risked resources.	Kazakh entrepreneur Oct 2007
Kolgansk Field (Orenburg Region) Evaluation	TRACS Moscow was given a complete data set, including pilot production history over 5 years. Static and dynamic models were built and the latter was history matched and used to forecast production under different field development plans. It was found that the NPV could be significantly increased by reducing the number of development wells.	US based investor Jan 2007
Kyursangya Field development optimisation	TRACS International worked on behalf of a British oil company to study the Kyursangya Field and recommend alternative field development options. The study included significant interaction with SOCAR personnel (the State Oil Company of the Azerbaijan Republic) in order to enable evaluation of the petrophysical parameters used in the estimation of reserves for the field and reservoir simulation. The Kyursangya Field is located onshore Azerbaijan was at that time being developed by SOCAR who were seeking Western investment. As an extension to this work, other fields and prospects in shallow and deeper waters of the Caspian Sea were evaluated.	1998
Licence Block evaluations for a small independent oil company	TRACS Moscow evaluated two licence blocks in Western Georgia, containing a series of well established producing oil fields.	Russian Investor 2005
Oil and Gas Production Forecast for a field in the Republic of Kazakhstan	TRACS Guildford examined the geological and production data available for a block in western Kazakhstan, South Mangyshlak Basin. The data consisted of seismic, log, well test and production data. Oil and gas production forecasts were estimated using gas re-injection and water injection.	Western Investor Oct 2007
Oil Production Forecast for a field in the Republic of Kazakhstan	TRACS Moscow examined 3D seismic, well log and production data available for a sub-salt trap in western Kazakhstan, Pre-Caspian Basin. A geological model was constructed using the well log and seismic data. Oil production forecasts were estimated using water injection.	Kazakh entrepreneur Oct 2007
Opportunity screening for multiple clients	TRACS International participates in many data room and data package evaluations for both local and international clients with interests in developing a Russian portfolio. This is significant ongoing activity which has become effectively a continuous stream of independent jobs.	1998-Present Day
Production Profile and Well Costs for a licence block in Orenburg Region, Russia	TRACS Moscow visited a field office in Samara and used data from exploration wells to construct production profiles which could help plan field development. Drilling costs were estimated from wells in the Volga-Urals province where TRACS had previous experience. The results provided the investor with a first estimate of potential value of the block.	International Investor Apr 2007
Prospect evaluation	TRACS staff evaluated 20 fields in the Middle Tyumen Oblast for Sinco. Sinco used the valuation to approach western fund holders for field development finance.	Sinco 1997

Project	Description	Client & Date
Prospect screening in the Komi region for an international oil company	TRACS evaluated a series of Russian data sets provided by the client to assess and rank a number of licence blocks in the Komi region. This work involved an integrated team of six TRACS personnel and evaluated five large producing fields, along with a number of adjacent discoveries and prospects. The work was performed in the Aberdeen office, with two members of our Moscow office temporarily cross posted for periods of the project. The project was completed on time and on budget.	Russian Investor 2005
Reservoir engineering support for KMOC	TRACS Moscow provided ongoing reservoir engineering support (typically 5 days per month) for the Khanty Mansiisk Oil Company in Moscow. The work is primarily constructing simulation models for field management, reserves estimating and analysis of Russian well tests.	Khanty Mansiisk Oil Company 2003
Severo Kopansky Field Evaluation (Orenburg Region)	TRACS Aberdeen conducted a review of the Severo Kopansky field located in the Orenburg Region of Russia. The field is partially developed and full life cycle forecasts and economics were constructed to advise and the investor on the asset purchase value.	UK Investor Aug 2007
The Geological, Geophysical and quick look Economic Assessment of two Exploration prospects in the Carpathian Overthrust of Western Ukraine	TRACS Moscow used seismic data and information from analogue fields to estimate the Probability of Success and unrisks volumes of oil in place and NPV for two very different prospects in western Ukraine.	British based investor Feb 2007
Field review Talinskoye	Evaluation of russian oil field Talinskoye.	Scandic Petroleum 2007/8
Reservoir modelling West Chumpass field in Westerb Siberia	Establish simulation model for development of the West Chumpass field. Make production prognosis for proposed field development scenario	Heritage Oil and Gas Ltd