

Reservoir Management References

Valuations and Reserves Audits

Project	Description	Client & Date
Review of Non-Operated Reserves for Talisman Energy	TRACS provides technical support for the reserves estimation of all of Talisman's non-operated North Sea assets (The Braes, Braemar, Beinn, Alba, Caledonia, Stirling, Balmoral, Wytch Farm, Andrew and Dutch assets operated by TFE and Wintershall). The work includes a review of the operators' technical evaluations and project proposals, and the generation of life-of-field proven, probable and possible hydrocarbon production forecasts as the basis of the reserves estimates. In addition to the reserves estimation, advice is given on development alternatives and the reserves evaluation procedures. While Talisman has developed its own reserves auditing definitions (based on the SEC and SPE/WPC definitions), TRACS has used these definitions to generate a tailor-made auditing practice. This has proven invaluable in assuring consistency over the years. DeGolyer and McNaughton periodically audit this work, and to date no significant challenges have been made to the reserves carried.	Talisman Energy 1999-2006
Daleel Field Reserves Assessment for Petrogas	TRACS built analytical, sector models and full field models of the Daleel Field in order to investigate future development options. This involved reinterpretation of 3-D seismic, field stratigraphy, and reservoir properties and the construction of multiple deterministic models. The objective of this work was to create a redevelopment plan for the field, upon which the client obtained the funding. TRACS was in this case not the independent reserves auditor, but worked closely with the auditor to establish the acceptable P90 reserves position.	Petrogas 2001-2002
Gas Reserves Study for ATP	TRACS conducted a gas reserves and deliverability study on a small SNS gas discovery for ATP. The technical and economic review was used to help define an appropriate commitment structure for delivery and financing under which the balance between risk and commitment was fully assessed.	ATP 2002
Potential Gas Tie-Back Scheme in the Southern North Sea for EOG	A study of a Southern North Sea prospect performed by TRACS for EOG on a potential gas tie back scheme identified that the seller's reserves distribution and delivery schedule was significantly optimistic and at odds with the gas in place distribution. The TRACS review allowed the client to avoid making an inappropriate acquisition. The work also allowed the client to develop a screening benchmark for subsequent opportunities in the same area.	EOG 2002
Rough Field Gas Storage Study in the Southern North Sea for Deutsche Bank	TRACS performed a technical 'due diligence' review of the Rough Gas Storage for Deutsche Bank in support of their client ahead of the Dynegy sale. The work was focused on identifying how much the field could be pushed beyond its historical production and injectivity envelope, the effect of deplete from neighbouring field and the status and remaining life time of the well stock.	Deutsche Bank 2002
Reserves Audit for RAMCO's Seven Heads Gas Field for Investment Bank	The Seven Heads gas field development plan was audited on behalf of the bank potentially funding RAMCO's development of the Seven Heads gas discovery in the North Celtic Sea Basin, offshore Kinsale Head, Southern Ireland. This resulted in a P90 reserves estimate, used as a basis for potential lending by the bank. Given the recent controversy surrounding this field, it should be pointed out that TRACS's Proven reserves estimate fell far short of the figures presented by RAMCO and that the bank did not proceed with the financing.	RAMCO 2002
Support for the Independent Expert in the Reserves Dispute for the Maui Field, New Zealand	TRACS International provided the reservoir engineering support in a reserves dispute for the gas-condensate Maui Field in New Zealand. This involves analysing the operator's full field simulation model to verify reserves predictions, and providing expert witness statements.	2002

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Independent Advisor on Rabi Field Development for the Gabonese Government	The Gabonese Government selected a consortium to advise on proposals for the next phase of development of the 1.7 billion barrel Rabi oilfield, onshore Gabon. TRACS International provided the subsurface expertise to evaluate the status of the current modelling and the validity of the ongoing development plan, submitted by the operator in an application for a licence extension.	Gabonese Government 2002
Reserves Valuations in the Nenets/Komi Region for AE Resources	TRACS has carried out detailed independent reviews and reserves estimates of approximately 20 producing and non-producing fields in the Nenets/Komi region in Northern Russia.	AE Resources 2002-2004
Audit of Abandonment Security Provisions for Talisman Energy	TRACS act as independent auditors of the contractually required financial security arrangements to be provided by Talisman to cover the decommissioning costs for the majority of their operated UK assets (Piper, Claymore, Tartan, Highlander, Petronella, Clyde, Orion, Beatrice, Buchan and Hannay). This involves an audit of the 2P production and cash flow profiles for determination of decommissioning date and, in some instances, for calculating remaining NPV to offset the expected decommissioning costs.	Talisman Energy 2002-2006
Reserves Audit for a Complex of Gas Fields in South Africa for PetroSA	TRACS International has been auditing the reserves of a complex of gas fields for PetroSA. In addition to independently certifying the reserves, the report recommended a series of activities that could lead to additional proven reserves in subsequent years.	PetroSA 2002-2006
Reserves audit for the Sable, Oryx and Oribi Oil Fields for PetroSA	TRACS International audited the reserves of the Oryx and Oribi oilfields and a complex of gas fields in a number of independent reserves audits for PetroSA. In 2005 the audit also included the Sable field. In addition to certified reserves audits, the reports added recommendations as to future modelling requirements and highlighted a number of development opportunities.	PetroSA 2002-2006
Independent Reserves Audit of the Bhit and Badhra Fields for Eni	An independent reserves audit of SPE/WPC compliant Proven Developed and Proven Undeveloped Reserves for the Bhit and Badhra Fields in Pakistan was carried out. The audit was a regulatory requirement.	ENI 2003
Audit of Abandonment Security Provisions for CNR	Under the same scope of work as above, TRACS act as independent auditors of the contractually required financial security arrangements to be provided by CNR to cover the decommissioning costs for the Murchison, Lyell and T-block fields.	CNR 2003-2006
Independent Reserves Audit and SEC Compliance Test for DONG	TRACS carried out a review of DONG's reserves booking procedures and an alignment of these with SPE/WPC and SEC guidelines. Shortcomings in DONG's reserves booking procedures were identified and rectified in preparation for the 2004 reserves booking effort. In the process, a "post mortem" review of reserves booked in the years 2001 through 2003, for all of DONG's producing assets was carried out.	DONG 2004
Reserves Evaluation for a North Sea Acquisition	TRACS evaluated the remaining reserves for a number of major producing North Sea fields in preparation for the largest acquisition in the North Sea that year.	2004
Independent Reserves Audit of the Bhit Field for Eni	An independent reserves audit of SPE/WPC compliant Proven Plus Probable Reserves for the Bhit Field, located in Pakistan. The audit was required to satisfy partners prior to a major investment decision.	ENI 2004
Annual Reserves Preparation for DONG	TRACS has been tasked with ensuring SPE/WPC and SEC compliance of the annual reserves reported by DONG. This involves a continuous presence at all reserves reviews and assurance that the reserves booking process follows transparent and auditable procedures. DeGolyer and McNaughton periodically audit the work, and to date no significant challenges have been made to the reserves carried.	DONG 2004-2005

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Divestment of Pentex Oil and Gas Limited	TRACS played an integral role in the corporate divestment of the 17 producing onshore UK field portfolio in 2005. After 7 years of managing and undertaking all exploration and development duties for Pentex, TRACS in conjunction with Waterous, created the Information Memorandum and administered the dataroom and due diligence sale process which concluded in the successful divestment of the company.	Pentex Oil & Gas Limited 2005
Competent Persons Report for an AIM Listing for Granby	TRACS prepared a competent persons report for Granby with a view to obtaining an AIM listing. The assets included a fully appraised prospect in the Philippines and a portfolio of North Sea exploration prospects. The listing was successful and it is notable that although the first Granby exploration well came in dry their share price only dropped back to the opening price as the story on the rest of the assets was still strong.	2005
Competent Persons Report on Midmar Energy Assets for Bridewell Ltd	TRACS prepared a competent persons report on the UK exploration prospects for Midmar Energy Ltd in connection with Midmar's intention to raise finance to fund exploration and appraisal activities.	Midmar Energy Ltd 2005
Review of South Coast Gas Development Plan for PetroSA	TRACS carried out a detailed review of the static models, reserves estimates and development plans for the South Coast Gas Development in South Africa. The development complements the existing gas cluster supplying the Moss gas GTL plant with feed gas. The review was successfully used as a basis for internal sanction for funding.	PetroSA 2005-2006
Crosby Resources	Asset valuation in Kazakhstan as part of a portfolio screening exercise	Crosby Resources 2006
Eastern Energy Partners	Review of a heavy oil opportunity in support of fund raising	Eastern Energy Partners 2006
Falkland Oil & Gas	TRACS prepared an investor document to support fund raising by the client for their forward E&A activity	Falkland Oil & Gas 2006
Harvest	Evaluation of a number of Russian assets in support of portfolio building	Harvest 2006
PDIP	TRACS prepared a Independent Review of the PDIP assets which was used to support fund raising and farm-in negotiations	PDIP 2006
Hydrocarbon Reserves Review and Analysis, SE Asian country	TRACS was commissioned by the Government of a major SE Asian oil and gas producing country to review the reserves base of all operators in the country, to prepare a harmonised reserves reporting methodology for all operators and to analyse, evaluate and recommend long term production and investment profiles consistent with the existing reserves and resources base. The study extended to reviewing the fiscal system currently in place, and recommending changes that should be made to accelerate investment by the foreign operators.	2006
Competent Person's Report, Gulf of Guinea	TRACS are in the process of undertaking a detailed technical re-evaluation of a Nigerian field and preparation of a Competent Person's Report which will be used to raise development capital either from a private share placement or from a planned AIM listing.	2006
Competent Person's Report, Cadogan Petroleum Plc	TRACS carried out an extensive review of Cadogan's Ukrainian assets and prepared a Competent Person's Report for Cadogan's impending AIM listing.	Cadogan Petroleum Plc 2006
Cadogan Ukraine	TRACS have classified the Cadogan Ukraine reserves and resources to support financing for both their E&A and development activities	Cadogan Ukraine 2007
Energy Equity Resources	Continued asset review and valuation activity in support of fund raising for the progression of their West African portfolio	Energy Equity Resources 2007

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EOG	TRACS continue to provide reserves and reservoir management support to verify the basis for their decision making	EOG 2007
Ferrexpo	Ongoing reserves and resources valuation and development planning work in support of fund raising for their assets in Ukraine	Ferrexpo 2007
Granby	After preparing a Competent Person Report as part of their successful submission for an AIM listing TRACS continue to conduct due diligence on the regular market updates made by Granby to the market	Granby 2007
Idemitsu	North Sea risk study was prepared for the client as a precursor to asset screening activities	Idemitsu 2007
Sojitz	TRACS performed multiple asset valuations as part of the Sojitz portfolio management activity	Sojitz 2007
Suntera	An extensive and in depth review of Suntera assets was conducted to from a basis for fund raising	Suntera 2007
TransAtlantic Petroleum	Valuation of Romanian assets to support fund raising for E&A and development activity.	TransAtlantic Petroleum 2007
Evaluation of Reach Exploration Limited	TRACS was commissioned by the Sojitz Energy Project Limited to evaluate the technical and commercial aspects of a Reach Exploration. The company held 17 licenses over 26 UKCS blocks.	Sojitz 2007
Evaluation of Petro-Canada North Sea Assets	TRACS was engaged by a PetroMal LLC to conduct a technical and commercial evaluation of four packages of Petro-Canada's North Sea Assets. The package included producing, near development and appraisal assets. The TRACS team performed detailed sub-surface evaluation, technical and commercial assessment of each asset and provided the PetroMal team with the risked valuations.	Petro-Canada 2007
Non-operated reserves review	Prepared the reserves for non-operated equity portfolio. Main challenge is efficient communication with asset teams (operators BP, CNR, Marathon, Total, Wintershall), understanding of fields to support Talisman view and criteria for reserves submission.	Talisman 2006