

## Reservoir Management References

### Middle Eastern and North African Projects

Project	Description	Client & Date
Acreage evaluation, Algeria	Confidential third party evaluation of Devonian fields in two Algerian blocks. Included data room visit, reservoir geological interpretation, volumetric review and risk assessment.	2005
Algerian Field Studies	Ad hoc reservoir modelling support to the Algerian asset team in BHP Billiton. Included reviews of reservoir models and approaches to volumetrics, covering the Dimeta West, Ohanet and ROD Fields (Ordovician and Triassic Fields).	BHP 2002-2003
Asset Evaluation for Sojitz Corporation	TRACS performed a full asset evaluation of the IPR operated Alamein & Yidma Fields, and associated exploration acreage, Western Desert Egypt for Sojitz Corporation who were interested as a potential farm-in. TRACS examined subsurface, wells, facilities, operator capability and commercial aspects of the offer, resulting in the decision to farm-in to the asset package.	Sojitz 2004
Asset Evaluation for Sojitz Corporation	TRACS performed a full asset evaluation of the Pico operated Gemsa SE Field, Gulf of Suez for Sojitz Corporation who were interested as a potential asset purchaser. TRACS examined subsurface, wells, facilities, operator capability and commercial aspects of the offer, providing Sojitz with the recommendation not to bid.	Sojitz 2006
Asset Evaluation, Syria	TRACS carried out a reservoir geology review to support a bid for Triassic Carbonate reservoirs in Syria for a major international oil company. The work incorporates core work, mapping and volumetrics.	2001-2002
Block 15 Exxon Field review	QC of reservoir models (Petrel) and volumetrics in Angolan deep marine clastics; multiple field review	BP 2006
Daleel Field Redevelopment Plan, Oman	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. This has resulted in the proposal for an aggressive redevelopment programme involving field repressurisation and a network of new multi-lateral wells.	2001-2002
Development Planning Gabon	An integrated petroleum engineering team studied the Rabi Field for Shell Gabon. Rabi is a 200-well, mature oil rim reservoir which has produced for some 20 years. A combination of complex geology and the historical development approach has resulted in variable contact movement throughout the field. The objective was to assess and further define the scope for further development opportunities including, but not limited to, infill drilling and rim management	Shell 2006
G&G Nigeria Evaluation and Audit	G&G audit evaluation of 2D & 3D interpreted seismic, interpreted logs, volumetric calcs, well deliverability and test information for several Nigerian assets. TRACS will also delivering the inhouse training to local staff comprising of three courses through 2006 in Formation Evaluation, Sandstone Reservoir and Stratigraphic Principles and Integrated Reservoir Characterisation.	2006
Gas Recycling Project Barik Field, Oman	An integrated project covering subsurface through to well aspects of a potential gas recycling project. Constructed geological and reservoir sectors models to examine the sweep efficiency in this relatively tight reservoir. Examining wells and facilities implications of gas recycling and overall economics	2002-2004

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Gassi Touill, Hamra Quartzite evaluation, Algeria	Contribution of the reservoir geology, volumetrics and risk and uncertainty assessment for an evaluation of the Hamra Quartzite (and TAGI/TAGS) reservoirs in the Gassi Touill/Rhourde Nous region. Multi-personnel TRACS contribution to the client team, including core description in Hassi Messoud, building of multiple 3D reservoir models to rapidly evaluate both HCIP and fracture distribution, and an analogue review of tight gas siliciclastic reservoirs. TRACS played a central role in writing the bid-related documents and participation in the in-client peer review processes leading up to the bid.	2004
Gharif North Rim, Oman	A multidisciplinary team from TRACS completed the first integrated full field simulation study of the heavy oil accumulation in the Gharif Formation in the North Rim of the Marmul field. This involved building a series of models that cover an area of 14 km by 6 km, contain over 80 wells and are history matched to more than 20 years of production data. The objectives of the study were to assess the remaining development and appraisal opportunities in the Gharif Formation in the North Rim and over the western and eastern extensions of the field.	2004
Integrated Petroleum Engineering Studies, Oman	TRACS International was been contracted by Petroleum Development Oman LLC to carry out several Integrated Petroleum Engineering Studies (Gharif and Al Khlata reservoirs). The work includes the building of static and dynamic reservoir models, integration of the well design and operations - all with the objective of generating production forecasts and assessing the economic reserves base.	2001-2003
Libyan bid round	Regional geological synthesis, accompanied by field volumetrics for a multi-block bid. Emphasis on synthesising a large volume of data in a very short period of time in a framework for linking subsurface uncertainty and risk to a commercial bid strategy.	2004
Mabrouk and Saih Nihayda, Oman	A multidisciplinary team of seven associates from TRACS were placed in the PDO studies centre to progress the development plans for these two fields. The project team reported directly to the PDO studies centre manager. The full field reservoir modelling studies included seismic interpretation, static and dynamic model building, well performance and production history matching, and future performance forecasting under various development scenarios.	2004-2005
Northern G block fields: Ebano, Okume	Reservoir modelling (Petrel) of a number of deep marine fields in a slope setting, mostly low net-to-gross; volumetrics and linked to onward simulation work for primary field development planning	Hess 2003
Ohanet Ordovician Modelling Study, Algeria	Reservoir geological review of the Ordovician IV (fluvio-glacial clastics) interval of the Ohanet Field. Integration of all log and core data, including 3 <sup>rd</sup> party interpretations, with production data from the early years of production. Development of a conceptual subsurface field model, and translation of that model into a 3D reservoir model in Petrel, with attendant uncertainties. Conducted on site in Hassi Messoud.	2005
Sahmah Field Rehabilitation Study	TRACS built a full geological and simulation field model of the Sahmah oilfield in Oman on behalf of Petrogas LLC, an independent Omani operator. This investigated future waterflood options for the field, resulting in a field development proposal.	2001-2002
South Pars Modelling	TRACS built both sector models and a full field model of the South Pars Field in order to investigate future development options. This work was performed on behalf of an international operator.	2001-2002