



Experts in the Caspian

**Gaffney,
Cline &
Associates**

Who is Gaffney, Cline & Associates?

Gaffney, Cline & Associates (GCA) is a global consultancy that has been offering technical, commercial, and strategic advice to the oil and gas sector for over 50 years. GCA's reputation demonstrates that advice, along with its insight, is high-quality, impartial, technically based, and commercially astute. GCA is often referred to as one of the leading Reserves consultants within the industry, but in reality, GCA offers a full range of upstream, midstream and downstream technical and commercial consultancy services. These range from seismic interpretation, static and dynamic reservoir modelling, field development planning, field engineering, gas monetization, LNG/GTL, mergers and acquisition, economics and project finance. GCA operates worldwide from three main offices in London, Houston and Singapore, and from local offices located around the world.

The Caspian

GCA has been working in the Caspian region since the very early 1990s. During that period the company has completed some 400 separate projects within the Caspian areas comprising Azerbaijan, Russia, Kazakhstan and Turkmenistan. These projects have involved a very wide range of scope, including field development planning and implementation, asset acquisition, pipelines and export routes, refinery and gas processing plant audits, government strategy, dispute assistance and, a wide range of oil and gas Reserve/Resource audits and evaluations. GCA has maintained an office in Kazakhstan for over ten years, and a representative in Turkmenistan.

Caspian Region Petroleum Sector Study:

GCA provided the UK Department of Trade and Industry with an analysis of the Caspian Region's petroleum sector history, current activities and opportunities (particularly Azerbaijan and Kazakhstan). This study was updated to examine the progress of subsequent projects and to provide an analysis of new opportunities.

A Review of Caspian Region Crude Oil Export Pipeline Projects:

GCA was engaged to identify and review the major potential crude oil export pipeline projects proposed from the southern Caspian region. These projects, if they come to fruition, would have an impact on the future trade and profitability of the client's facilities and related infrastructure. For each of the identified projects, GCA reviewed the political and economic risks associated with each pipeline, and ranked the projects on the likelihood of project completion. In addition, GCA assessed the potential impact of each project on the trade and profitability of the client's facilities.

Evaluation of Exploration Concession, Pre-Caspian Basin:

A major European conglomerate commissioned GCA to carry out an evaluation of a proposed exploration concession in the Pre-Caspian basin. GCA determined the type, nature and depth of potential hydrocarbon accumulations, and defined a practical exploration programme to evaluate this potential. Exploration and development cost scenarios were scoped to provide realistic economic screening of conceptual opportunities and to provide an outline basis for the potential negotiation of the economic aspects of an exploration concession.

Acquisition Review Offshore Caspian:

For an oil company considering the option of a JV partnership, GCA examined a potential asset acquisition in the Russian offshore Caspian which included fields straddling the Kazakh border. The work examined both oil production and longer term gas export schemes.

Reserves Update:

GCA was retained by an independent oil development and production company to perform a Reserves update for certain fields in the Caspian region, after two years of further production, drilling and data collection. GCA checked the validity of seismic and geological models based on recent well results, performed checks on petrophysical interpretations, reviewed production records and field development plans and verified oil and gas recovery factors. In addition, GCA updated existing cash flow models for economic limit testing.

Annual Work Programme and Budget Audit:

GCA was contracted to provide technical and commercial advice to a State Oil Company on its annual work programme and budget for an offshore project in the Caspian, operated by an International Major. GCA audited the proposed capital and operating expenditure budget, and the work programme for a three-phase project, of which two phases were complete and operational. GCA performed a high level peer review and provided a comparative benchmark of costs and, as a basis for the appraisal of the cost escalations, presented in the budget. The key performance indicators of the project were compared with international project expectations and GCA commented on the project risk perceptions and contingency levels. GCA's staff worked closely with the project's financial auditors, presenting the findings to both top-level government officials and technical sub-committees.

Audit of Work Programme, Caspian:

For a National Oil Company in conjunction with its financial auditor, and based on the previous year's activities, GCA supported the Audit of the Work Programme for a large offshore Caspian oil field complex. GCA provided technical advice and audit of a large annual work programme and budget for a development which involved an on-going phased construction project as well existing Early Production Facilities. The satisfaction of the client led to GCA's continued annual involvement on this project.

Review/Valuation of Surface Facilities, Mangistau, Kazakhstan:

For an international oil company planning to purchase an interest in an oil field in the Kazakhstan's Mangistau region, GCA undertook a technical audit and valuation of the surface facilities. This work was required to support the financing of the project.

Independent Reserves Report Update, Kazakhstan:

GCA was retained by a small Kazakh oil company to prepare an independent Reserve report for three oilfields onshore western Kazakhstan. GCA performed sufficient independent interpretations and studies to validate the client's evaluation of the assets. GCA also visited the operation sites and met with the client's technical staff. At the client's request, GCA has subsequently completed an updated assessment of the Reserves. In addition, GCA prepared a range of NPV calculations on variables agreed with the client.

Acquisition Due Diligence, Kazakhstan:

A major international Joint Venture retained GCA to undertake due diligence on three Kazakh assets, including an exploration block, a producing licence and a major pipeline, in order to support the client in a potential acquisition.

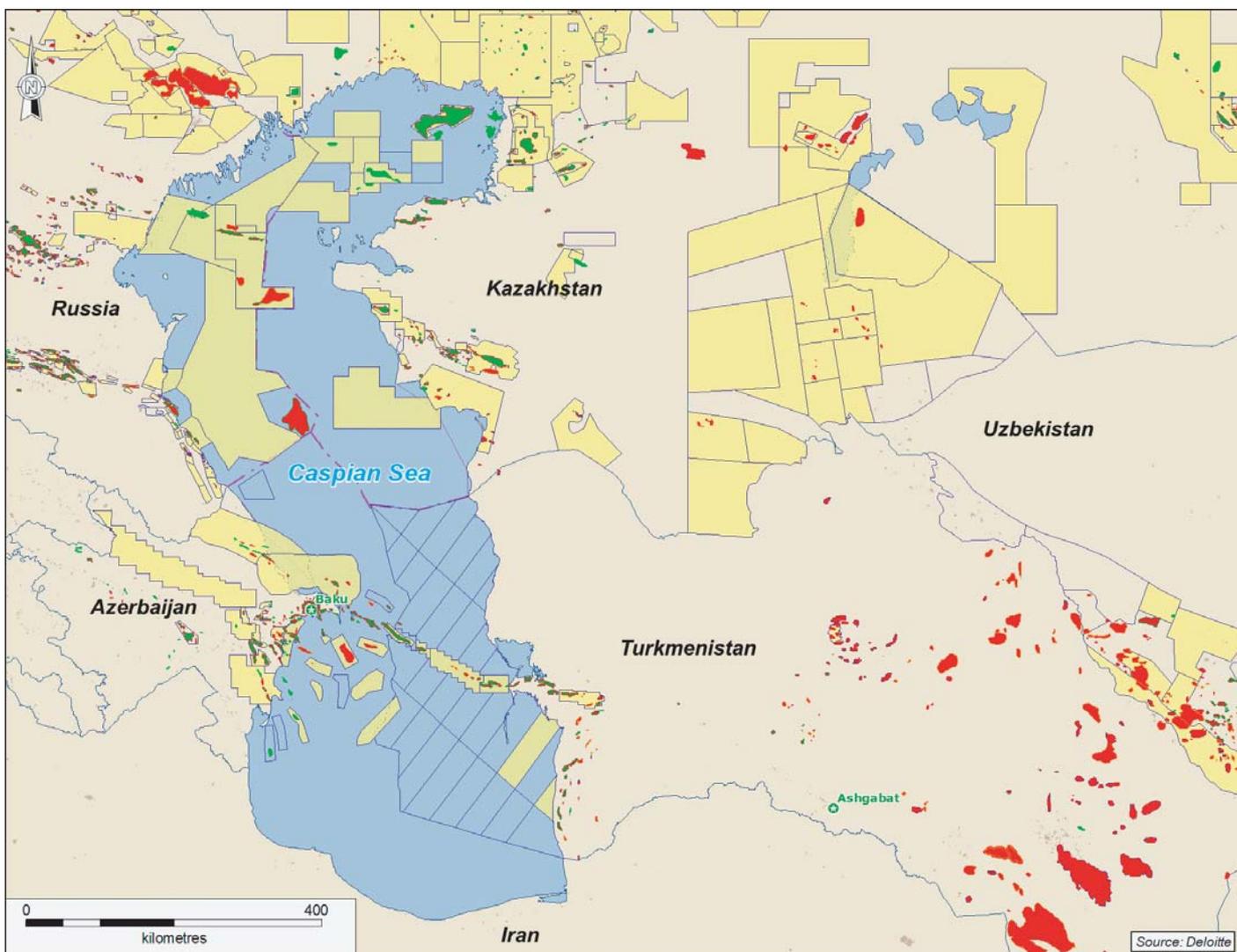
GCA visited the dataroom and carried out a range of sub-surface, engineering, cost and economic reviews of all assets in order to generate a range of asset valuations for use by the client in its bid process.

Assistance with Joint Venture Project, Kazakhstan:

GCA was contracted to assist in a potential Joint Venture project including three oilfields located onshore in western Kazakhstan. GCA undertook an NPV assessment that was used as the basis for a valuation of the three oil fields. GCA's role also encompassed the provision of general advice on developing and managing JVs.

Reserve/Resource Audit, Kazakhstan:

GCA performed an independent audit under SPE PRMS classification of the petroleum assets (Reserves, Contingent Resources and Prospective Resources) for two national oil companies. These assets comprised nine producing properties, fields under development and licensed exploration interests located in the North Caspian Basin, onshore, western Kazakhstan. Production profiles for each company were generated and NPVs were developed for several scenarios. These values were used by the client during acquisition negotiations.



Modernisation of Condensate Refinery:

GCA reviewed the performance of a large gas processing complex and condensate refinery in Astrakhan on the Russian Caspian. GCA considered all aspects of the processing complex's and the refinery's performance, including corrosion, process control, fired-heaters, environmental problems and safety. In conjunction with a regional market study, GCA produced a future development strategy. A number of projects were identified for implementation via immediate, short, medium and long-term strategies. In addition, a complete management restructuring and financial reporting system upgrade study was completed.

Audit, Operating Plan and Operations Support:

GCA was requested by an independent oil company to assess the operational status of existing oilfield assets in Turkmenistan and to prepare an operating plan for field development and production. GCA assigned a multi-disciplined team to conduct an in-depth study of all available data and to compare this with its own practical investigations in the field. The client was provided with a full description of existing operations including field transportation, loading and general infrastructure and with operating conditions and capacities where applicable. GCA subsequently provided full management support and directed technical operations in Turkmenistan to progress the field development and attain commercial realisation on behalf of the client. This included a Reserves audit and a formal report.

Review of Hydrocarbon Interests Offshore Turkmenistan:

GCA provided technical and economic support to Dragon Oil PLC, an independent oil company, in acquiring an equity interest in a petroleum venture, offshore Turkmenistan. The scope of GCA's work included contract terms/environmental considerations, reservoir evaluation, development plans, basis of Reserves estimation, hydrocarbons-in-place, Reserves and economic evaluation. A Competent Person's Report was prepared for a Rights Issue and Listing Document on the London and Dublin Stock Exchanges. GCA has since provided ongoing technical support to Dragon Oil in the development and funding of its offshore producing assets in the Cheleken Contract Area, including annual Reserves updates.

Additional Information

For more information about GCA's integrated services, please contact your local GCA office.

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