

Gaffney
Cline

Pakistan Expertise



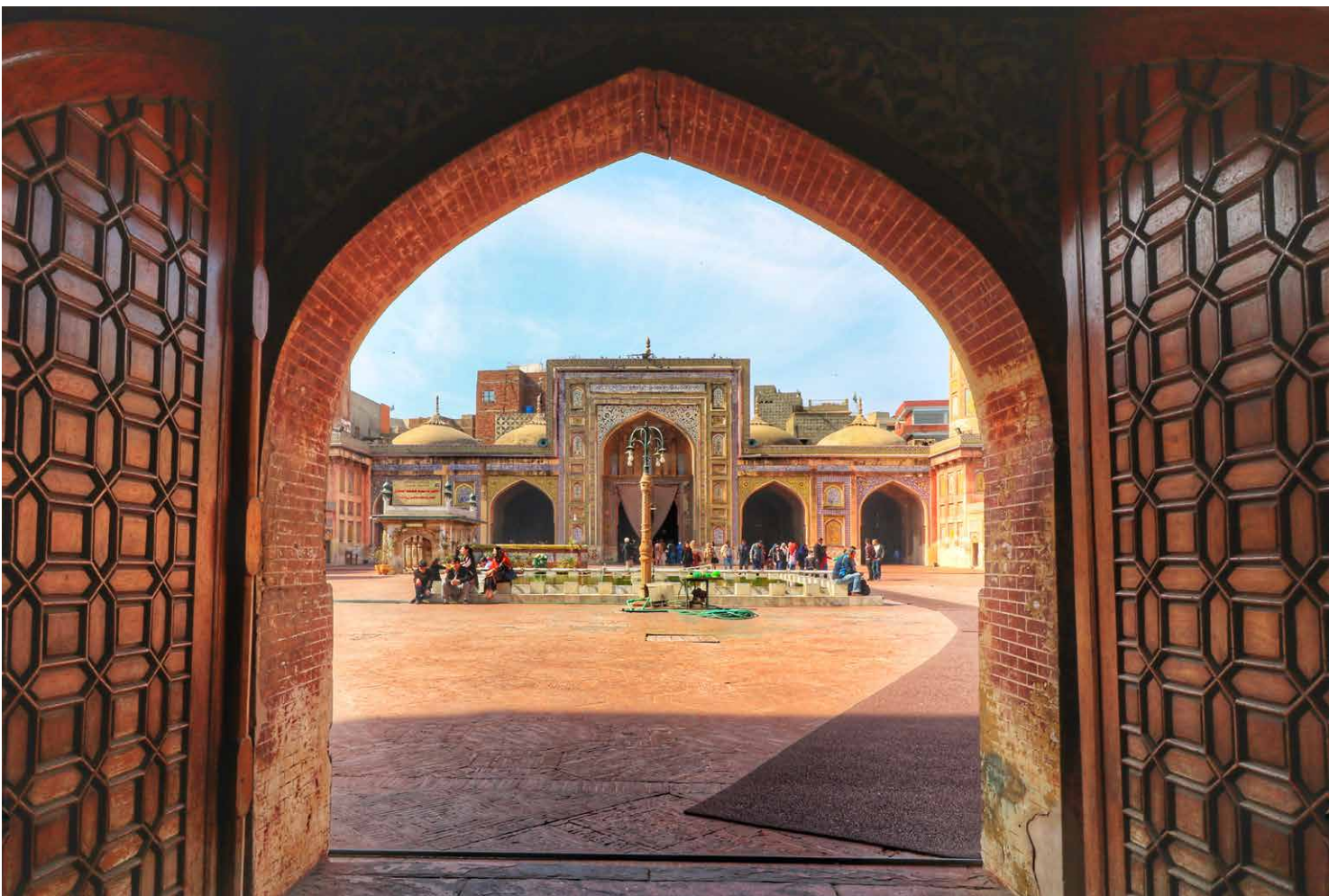
About GaffneyCline

GaffneyCline is a global consultancy that has been offering technical, commercial, and strategic advice to the oil and gas sector since 1962. GaffneyCline's reputation demonstrates that its advice, along with its insight, is high-quality, impartial, technically based, and commercially astute. GaffneyCline is often referred to as one of the leading Reserves consultants within the industry, but in reality, GaffneyCline 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 monetisation, LNG/GTL, expert witness, mergers and acquisition, economics and project finance. GaffneyCline operates worldwide from three main offices in London, Houston and Singapore, and from regional offices located in Buenos Aires, Sydney and Moscow.

Pakistan

GaffneyCline has undertaken a range of projects in Pakistan over more than 20 years. These projects have included Reserves and Resources assessments, valuations, technical and development studies including shale gas studies, gas market studies and support for corporate strategy. GaffneyCline's clients include locally based Pakistani companies, local subsidiaries of overseas based companies, and the Government of Pakistan.

Partial summaries of selected projects that GaffneyCline has completed on Pakistan assets are outlined on the following pages.



Our Experience

E&P Asset Valuation

In connection with a disposal, GaffneyCline carried out an indicative valuation of an independent oil company's various interests in petroleum exploration and producing properties in Pakistan. Using public domain data and GaffneyCline's considerable regional knowledge, including the fiscal regime applying to the various properties, likely future oil and gas price realizations, operating and capital costs and the petroleum industry's perception of the area as a candidate for investment, GaffneyCline provided a comprehensive valuation letter summarizing each of the properties concerned.

Reserves Assessment (ongoing since 2012)

GaffneyCline provided an independent assessment of the Pakistani company's Reserves based on SPE-PRMS definitions, for selected fields representing 80% of the company's large portfolio of assets in Pakistan, for stock exchange reporting requirements.

Reservoir Simulation Study

GaffneyCline was commissioned by a Pakistani company to conduct a reservoir simulation study for a complex gas condensate field in Pakistan. The objective of the study was to identify the optimum field development concept. The project included geomodelling, compositional reservoir simulation, history matching.

Reservoir Communications Study

For 2 Pakistani oil and gas companies, GaffneyCline was engaged to conduct a communications study for 3 pairs of fields which crossed lease boundaries. The scope of work included a study on reservoir communication, construction of 3D static and dynamic models, estimation of volumetrics, migration across the lease boundary and respective reserves estimation of the selected fields.

Shale Gas Resource Assessment

For the subsidiary of a HKEx listed company, GaffneyCline carried out a shale gas Resources assessment of the bottom shales of the Early Cretaceous aged Lower Goru Formation in the Lower Indus Basin. The assessment was required for the ongoing support and future investment decision relating to this asset.

LNG and Gas Market Study

On behalf of a UK-based utility company, GaffneyCline advised on the economics and future development of the LNG industry in the Middle East and Asia and considered the market for high cost LNG (compared with indigenous and imported pipeline gas) in Pakistan's energy matrix. Discounted cash flow techniques were utilised to establish economic parameters relevant in analysing the relative costs of various gas import options. GaffneyCline provided an overview of the global LNG market and assessed the economics of LNG production/supply along the supply chain. The required price of LNG from expanded new LNG facilities in the Middle East and Asia-Pacific regions was assessed for delivery into Pakistan. This price was compared with the price of liquid fuels utilised in Pakistan and with the cost of gas available indigenously or via pipeline imports. In addition, the prospects for LNG-based gas in non-power sectors were examined.

Reservoir Development Study

Shortly after its discovery, GaffneyCline undertook an independent reservoir development study of the Qadipur gas field. The work included the determination of reserves (Proven, Probable, Possible). The effect of reservoir heterogeneity and aquifer response on deliverability was considered during a second phase.

Divestment Support

For the Government of Pakistan, GaffneyCline was engaged as financial advisor to assist in the sale of the Government's direct working interest in nine oil and gas concessions. GaffneyCline, with other members of the financial advisory group, provided reserves, legal and financial due diligence on the assets, and prepared confidentiality agreements and sale & purchase contracts. A marketing strategy was developed, and a data room prepared and managed in Pakistan. GaffneyCline also provided advice once bids had been received and assisted in negotiating the contracts.



For more information about GaffneyCline's integrated services, please contact your regional GaffneyCline office.

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