

# **MILLER AND LENTS, LTD.**

## **INTRODUCTION**

Miller and Lents, Ltd., a United States Corporation chartered under the laws of the State of Delaware, is an oil and gas consulting firm offering services and expertise in virtually all phases of the petroleum (oil and gas) industry.

The scope of the firm's activities is worldwide, with significant experience in most of the geologic basins in the United States, as well as in most of the major producing areas of the world.

Listed below and expanded briefly on the following pages are the principal services provided by the firm:

- Reservoir Engineering
- Economic Analysis
- Geological and Geophysical
- Petrophysical
- Gas Processing
- Gas Engineering
- Expert Witness and Arbitration
- Assistance to Attorneys
- Royalty Owners

## **HISTORY**

The original consulting organization that expanded into the present firm was formed in 1948 to provide expert services in production and processing operations. The founders of the firm were previously engaged in the management, design, and operation of several large unitized petroleum projects in Texas and Louisiana, which involved:

- Oil and gas production operations
- Gas and water injection programs
- Gas cycling projects
- Gas processing and treating facilities
- Manufacture of refined products such as motor gasoline, kerosene, diesel fuel, heating oil, and residual fuel oil

With this foundation of experience in reservoir and plant operations, the firm initially provided consulting services primarily in the United States, but as additional professionals joined the organization, the scope of services expanded internationally. Investigations have been conducted in all major petroleum provinces of the United States and in numerous foreign countries as well.

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## **PERSONNEL**

Miller and Lents, Ltd. is an organization of petroleum geologists, geophysicists, petroleum engineers, and gas engineers, supported by a staff of accounting and clerical personnel and technical assistants. All professional personnel are university graduates, a number of whom have advanced degrees. The diverse backgrounds, training, and experience of these professionals provide a continuous influx of fresh ideas and concepts into the organization and create an important atmosphere of independent thinking. As a team, these people complement each other and are qualified to evaluate opportunities and effectively address problems that arise in the petroleum industry. The professional staff, with average experience of over twenty-five years, includes younger professionals to provide long-term continuity of the firm.

A combination of skills in separate activities is often necessary to provide meaningful services to clients. For this reason, the firm often employs a multidisciplinary approach to studies. Assignments are approached on a rigorous technical basis tempered by the essential judgment of actual experience applied in an ethical and professional manner.

All work is performed by full-time members of staff. To assure the maintenance of quality standards and strict observance of confidentiality obligations, the firm employs no part-time employees or associates.

A list of the officers and other professional employees of the firm, along with a summary of education and previous industry affiliations, is given at the end of this brochure.

## **INDEPENDENCE**

Miller and Lents, Ltd. places great emphasis on the independence of the firm's judgments and reliance on technical bases in conducting its investigations and in making its estimates.

Under appropriate circumstances, the firm is prepared to review the estimates of others and comment upon the reasonableness of those estimates. When requested to do such reviews, the firm may also comment on (a) the adequacy of the data employed, (b) the appropriateness of the techniques and procedures employed, and (c) the effectiveness of the programs set up for surveillance, data collection, optimization of operations, or documentation of estimates.

The firm maintains its own forecasts of product prices and inflation rates which are employed when the firm is asked for its opinion or judgment regarding value. The firm also commonly employs client-instructed forecasts of product prices, inflation rates, or other assumed future conditions when requested to do so in preparing cash flow projections. In addition, the firm performs various client-instructed sensitivity analyses. If client instructions regarding product prices, inflation rates, future conditions, or assumptions are employed in its analyses, the firm clearly discloses all such instructions in its evaluation reports.

To preserve independence, the firm does not accept, as payment for services, any contingent fees or other compensation that may be considered to be conditional upon the outcome of studies performed by the firm. All revenue is derived from payment for services and from reimbursement for expenses incurred on behalf of clients. The firm avoids any activity that may create a conflict of interest with clients.

## **TECHNOLOGY**

Miller and Lents, Ltd. employs current technology in its studies, including workstations in geophysical interpretation and computers and software for economic evaluations, gas plant simulation, reservoir simulation, pressure transient analyses, analyses of PVT data, and log evaluations.

## **CONFIDENTIALITY**

All work is treated confidentially. In numerous instances, the firm is under strict secrecy agreements with regard to various investigations and is prepared to enter into other such mutually acceptable agreements when and if requested.

## **CLIENTS**

Miller and Lents, Ltd. is currently employed and actively working for large oil companies, gas transmission companies, chemical companies, manufacturing concerns, and financial institutions. In addition, it serves many independent petroleum producers, royalty owners, banks, trusts, individuals, and other businesses.

Appropriate references and additional details relating to the various services performed and currently offered by Miller and Lents, Ltd. will be provided upon request.

## **Reservoir Engineering**

Estimates of reserves and producing rates by appropriate combinations of volumetric, material balance, performance trend, and analogous techniques for:

- Oil
- Gas
- Condensate
- Plant products
- Coal seam gas
- Equity determination and unitization
- Sizing and design of facilities

Estimates of reserves by either deterministic or probabilistic methods.

Design of projects for various recovery methods:

- Primary
- Enhanced recovery
  - Waterflooding
  - Miscible displacement
  - Gas cycling
  - Thermal

Reservoir simulation and modeling

Pressure transient analyses

Analyses of PVT data

Optimization of well spacing and density

Optimization of producing rates and recoveries

Evaluation of reservoir surveillance programs

Feasibility studies and management of underground storage projects

Evaluation of horizontal drilling projects

## **Economic Analysis**

Cash flow projections before and after income taxes

Forecasts of oil, gas, and plant product prices

Project Financing studies

Financial reporting studies as required by the Securities and Exchange Commission

Estimates of Fair Market Value by appropriate combinations of accepted appraisal methods

- Undeveloped mineral or leasehold interests
  - Without identified prospects
  - With identified prospects
- Developed or partially developed mineral or leasehold interests
  - Producing
  - Nonproducing
- Working interests, royalty interests, overriding royalty interests, production payments, net profits interests
- Gas Plants
- Gathering systems, pipelines, and compression installations

Evaluations for purchase or sale of oil and gas interests including sensitivity studies

Evaluations of bids

## **Geological and Geophysical**

2D and 3D seismic studies

Regional or fieldwide structural and stratigraphic studies and mapping

Estimates of reservoir volumes

- Deterministic methods
- Probabilistic methods

Geologic studies for:

- Field development
- Unitization
- Equity determination
- Underground storage

Analyses of drilling prospects or drilling programs considering risks

Assessment of farmout proposals considering risks

## **Petrophysical**

- Open Hole and Cased Hole Log Analyses
- Porosity determination
  - Hydrocarbon and water saturation
  - Net and gross pay determination
  - Oil-water, gas-oil, and gas-water contact determination
  - Log quality
  - Calibration
  - Lithological studies
- Core Analysis Studies
- Core-log relationships
  - Porosity determination
  - Pore size distribution
  - Capillary pressure
  - Formation characteristics
  - Permeability relationships

## **Gas Processing**

- Gas plant processing, treating, and dehydration studies
- Gas plant evaluations and feasibility studies
- Technical and economic audits for plant interests
- Inventory verification of underground storage volumes
- Plant startup and operation assistance
- Gas plant process, compression, and pipeline simulations

## **Gas Engineering**

- Gas measurement, gathering, and compression studies
- Equipment optimization studies
- Pipeline feasibility studies
- Purchasing and marketing of oil, gas, and petroleum products

## **Expert Witness and Arbitration**

- Expert witness testimony before local, state, or federal regulatory agencies or courts of law or in arbitrations
- Serve as arbiter

## **Assistance to Attorneys**

- Assistance to attorneys in drafting:
- Oil, gas, and gas-liquids purchase and sales contracts
  - Gas processing contracts
  - Loan agreements
  - Contracts for the purchase or sale of oil and gas properties
  - Operating and joint venture agreements
  - Unitization and pooling agreements
  - Oil and gas leases
  - Exploration and production licenses and agreements
  - Vendor-financed development agreements

## **Royalty Owners**

- Review of royalty payments for compliance with leases and contracts
- Evaluation of possible claims for failure to develop or for drainage
- Evaluation of options involving pooling or unitization