



Numbers to Count On. Experts to Trust.

Experience

Reports

Trust

Tools

History

Services







Experience

Reports

Trust

Tools

History

Services

Independent petroleum consultants are judged by several measures. How much value they add to your evaluation processes. How effectively their report findings mitigate operational and technical risks. What credibility the report is accorded by key decision-makers. How much the consultant contributes to your company's bottom line.



At the end of the day, results are what matter the most. Ryder Scott Company Petroleum Consultants delivers those results — by any measure.

TRUST

Experts you can trust

Numbers to count on

In the upstream petroleum industry, managers base their decisions on numbers derived from technical and economic analyses. Whether it's estimated petroleum reserves, future production rates or expected net income, management often needs outside reassurances that those figures are reliable. A Ryder Scott independent property appraisal is a widely accepted assurance of asset value by the worldwide oil and gas industry.



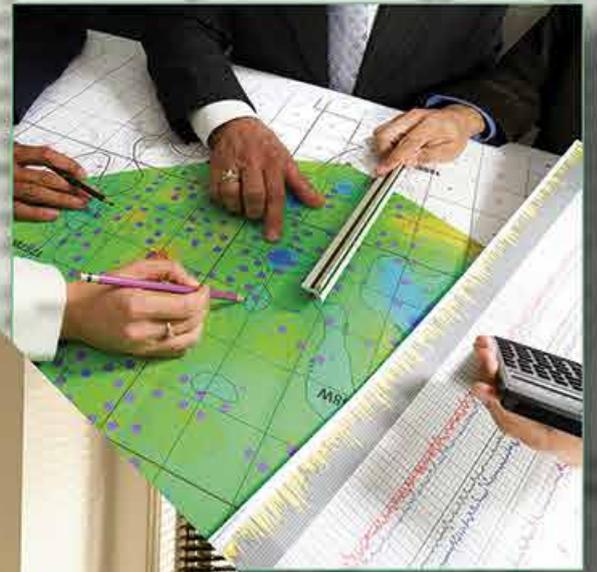
Experts to trust

We pride ourselves on providing personal service. Ryder Scott is committed to satisfying the individual needs of its clients. This helps build the long-term business, professional and personal relationships that are so important in working together toward a common objective. We work closely with client personnel to maximize the exchange of ideas and data between companies.

Ryder Scott has no agenda except to provide the most reliable answers. Our firm's compensation is in no way tied to the findings of its scientific investigations. Ryder Scott prohibits employees from owning interests in oil and gas properties. Our independent opinions are based on our best judgments and on scientific analyses.

At the end of the day, results are what matter the most.

Ryder Scott Company Petroleum Consultants delivers those results – by any measure.





... Tables 1 through 6 present our estimated projection of production and reserves by year...

The estimates of reserves presented herein are based upon a detailed study of the... in which Blue Water owns an interest; however, we have not made any field observation... No consideration was given in this report to potential environmental liabilities which may... any costs included for potential liability to restore and clean up damages, if any, caused... ing practices. Blue Water has informed us that they have furnished us with all of... rdin, geological and engineering data, and reports and other data required for... The ownership interests, prices, and other factual data furnished by Blue Water... and independent verification. The estimates presented in this report are based on... December 1997.

... we nor any of our employees have any interest in the subject property... to make this study nor the compensation is contingent on our earning... come for the subject properties.

... report was prepared for the exclusive use and sole benefit of Blue Water... a, work papers, and maps used in the preparation of this report... ized parties in our offices. Please contact us if we can be of further... Very truly yours,

RYDER SCOTT COMPANY, L.P.

Steve M. Smith

Steve M. Smith, P.E.
Petroleum Engineer



PETROLEUM ENGINEER
PROFESSIONAL ENGINEER

CONSULTANTS:

TAXES

10,000
200,000
300,000
400,000
500,000
600,000
700,000
800,000
900,000
1,000,000
1,100,000
1,200,000
1,300,000
1,400,000
1,500,000
1,600,000
1,700,000
1,800,000
1,900,000
2,000,000
2,100,000
2,200,000
2,300,000
2,400,000
2,500,000
2,600,000
2,700,000
2,800,000
2,900,000
3,000,000

Reports to bank on

Ryder Scott is among a handful of large, established consultants that issue reserves certifications considered to be consistently reliable by the financial community at large, including commercial, investment, development and mezzanine banks as well as private investment groups. The Ryder Scott independent report helps mitigate risks in committing capital for acquisitions, exploration, field development, redevelopment, infrastructure and refinancing.

Hundreds of major financial institutions have established reserves-based loan amounts, monitored credit

Ryder Scott is among a handful of large, established consultants that issues consistently reliable reserves certifications.



lines and determined guarantees based on the values in our reports. The Ryder Scott report also serves as an essential resource in screening and due-diligence reviews of potential acquisitions, divestitures and mergers.

Reserves certifications to ensure compliance

Ryder Scott is one of the most widely used consulting firms in the world for preparing year-end reserves certifications in accordance with U.S. Securities and Exchange Commission guidelines. In reviews of annual reports, Ryder Scott often was cited as the consultant of record for large national and integrated oil companies and for independents both large and small.

The firm determines reserves values to ensure that public disclosures comply with regulatory rules the world

over. Outside of the U.S., our clients are listed on the London Stock Exchange, Toronto and Ontario stock exchanges, Hong Kong Stock Exchange, Australian Stock Exchange and others.

Companies continually list us as their consultant.

CERTIFICATIONS

Experience levels of Ryder Scott professionals average more than 20 years per person.

Behind every report are the Ryder Scott experts. Over the years, Ryder Scott has recruited and assembled top geoscientists and engineers—highly educated and honed by decades of experience. Over and over again, our professionals have earned respect by successfully tackling the toughest reservoir-evaluation challenges in the world.

just as comfortable making hand calculations on the back of an envelope as using sophisticated computer programs. We find computer-caused errors when the output just doesn't look right. We are familiar with the algorithms and methods behind the automated computations.

By the same token, Ryder Scott professionals are

EXPERIENCE

Professionals to believe



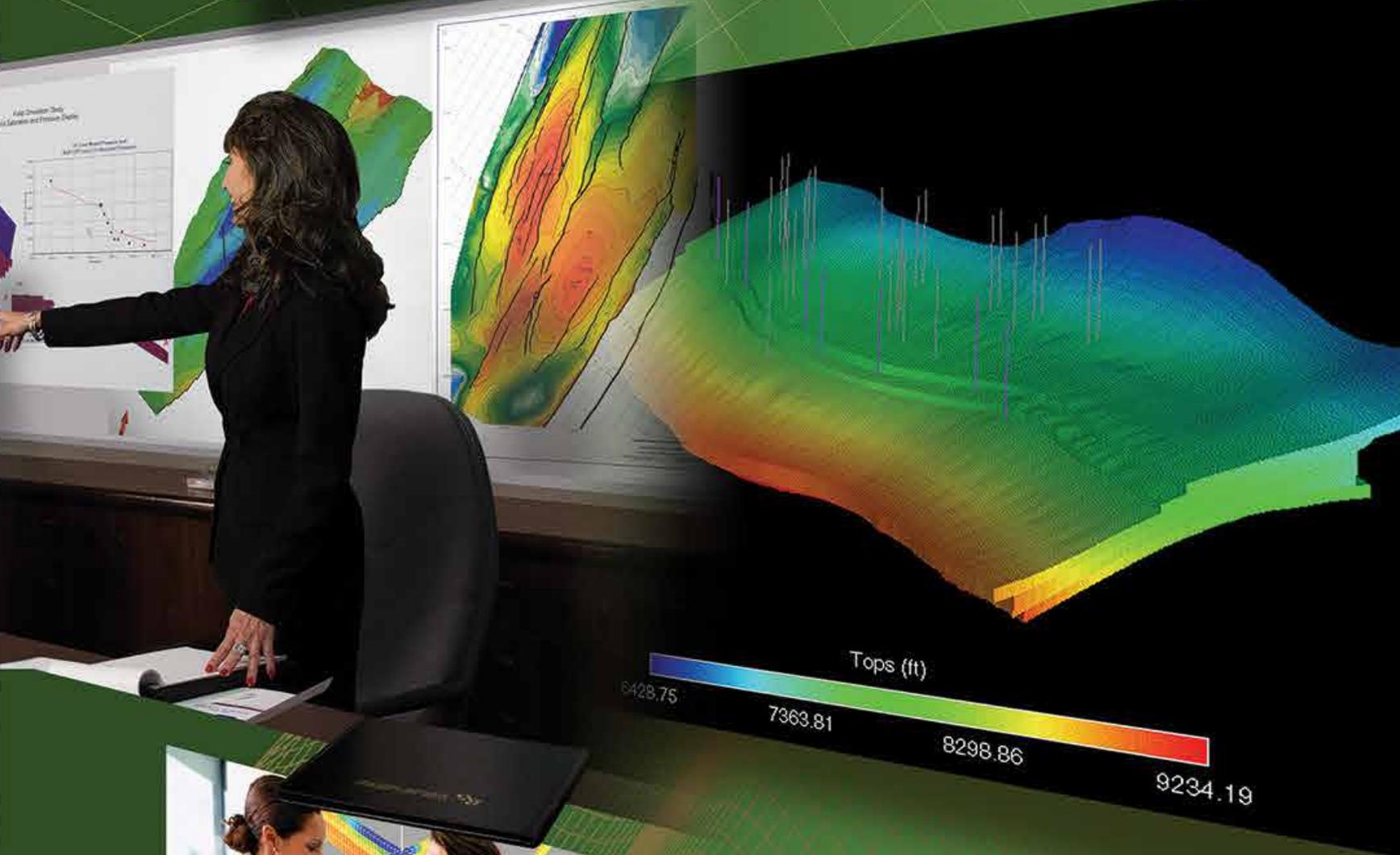
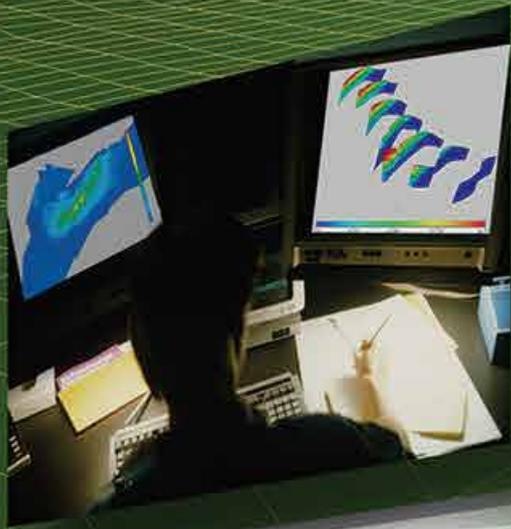
Petroleum reservoir evaluations are a mix of geoscience, engineering and economics. In an age of advanced technological sophistication, skillful interpretation and scientific judgment are indispensable tools. When results have to be analyzed, “black box” science is no substitute for experienced-based reasoning and judgement.

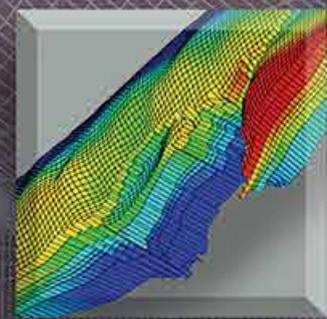
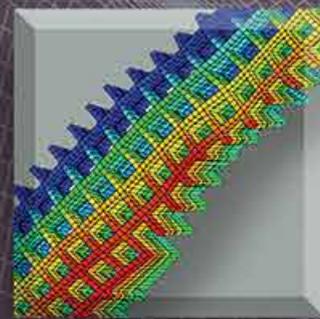
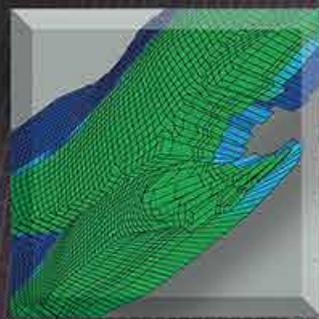
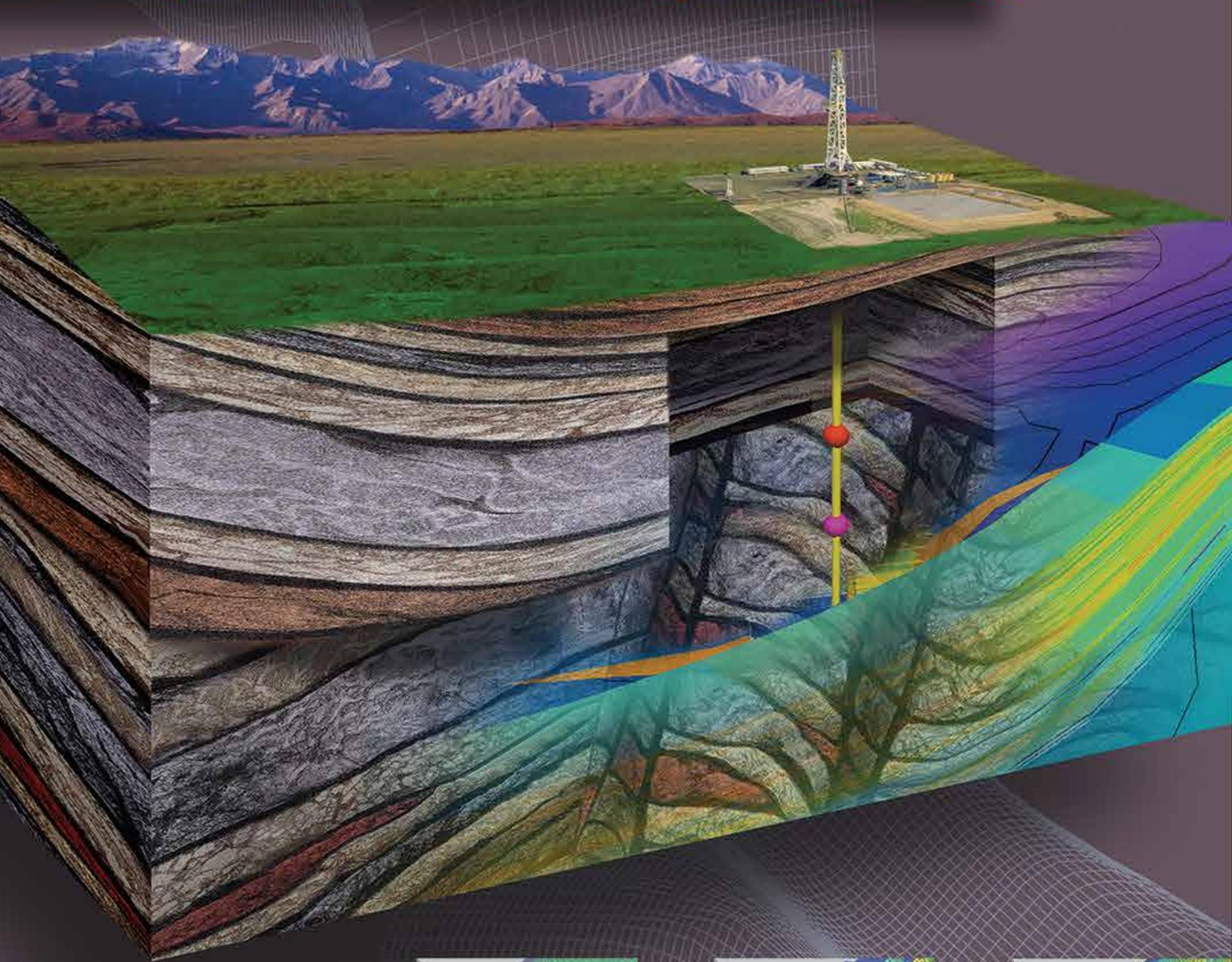
Experience levels of Ryder Scott professionals average more than 20 years per person. Work histories vary from experience with small independent producers to major international operating companies. Our professionals' various educational, cultural and work backgrounds blend together to create a diverse, yet cohesive, task-oriented team dynamic.

Our hands-on experience is evident in small ways every day. Our seasoned geoscientists and engineers are

highly proficient in using the latest hardware and software applications. Since 1937, Ryder Scott's recipe for success has been to hire the best, give them the finest tools and direction to do their jobs and let their motivation and desire carry projects through to successful conclusions.

Our technicians and analysts are highly trained and experienced, providing expert support to the professional staff. Through the efficient use of these support personnel, Ryder Scott provides high-quality services at reasonable costs.





Tools to maximize productivity

In cases where an optimal commercial application is not available, Ryder Scott software developers will create one.

Through periodic reviews, Ryder Scott stays current with computerization, including processing capabilities and other information technology developments. We use next-generation, fully integrated computer systems in analyses from seismic interpretations to economic examinations.

This includes hardware with optimum, high-performance graphics and maximum computational horsepower. A computer or workstation on every desk does not guarantee the efficient application of advanced technology. However, we believe that providing our professionals

Ryder Scott-owned applications include those in map-based graphics, pressure-transient analysis, nodal analysis, gas network and deliverability modeling, waterflood pattern balancing, decline-curve analysis, material balance and cashflow economics.

Our clients use a variety of software packages and our challenge is to be proficient in every one. This includes the latest-version programs to conduct studies ranging from



with highly developed tools to do their jobs will help produce superior work products.

Ryder Scott personnel use software ranging in complexity from simple spreadsheet programs to powerful 3D and 4D visualization applications. After years of testing, we use the most robust decline-curve/material balance/economics program in the industry. The commercial application meets rigorous consulting standards and offers more functionality for maximum efficiency. We are also accomplished users of other subscription-based, major decline-curve/economics programs.

In cases where an optimal commercial application is not available, Ryder Scott software developers will create one. As a software licensor, the firm builds proprietary programs and distributes them to its clientele.

prospect analyses to complex economic modeling.

Our product is embodied in the universally recognized Ryder Scott “green book” independent reserves report. The Ryder Scott office services department uses advanced graphics and printing systems to produce the reports.

As a software licensor, the firm builds proprietary programs and distributes them to its clientele.

Harry M. Ryder and David Scott Jr. formed the partnership after being asked for technical assistance.

Ryder Scott Company Petroleum Engineers began operations in Bradford, PA, in 1937. Formerly an oil producer in the early to mid 1930s, the later venture was the first engineering firm and research laboratory in the world devoted to solving waterflood problems. Harry M. Ryder and David Scott Jr. formed the partnership after being asked for technical assistance by producers that had noticed the success of Ryder Scott-engineered waterfloods in the Bradford field. The firm originated several techniques. Donald T. May, the first employee, pioneered chip-coring

Scott acquired Robert W. Harrison & Co., moved to Houston and transitioned from waterflood design to evaluation engineering.

Today, Ryder Scott Company Petroleum Consultants bears little resemblance to the core-analysis laboratory of the 1930s. However, the firm still retains the principles of its founders — that oil and gas projects be evaluated and engineered to the highest professional and ethical standards.

With offices in Houston, Denver and Calgary, the



analysis to provide accurate petrophysical data from a single plug of sand. Ryder, an electrical engineer, developed selective shooting. That well-completion technique focused on selecting correctly sized and placed nitroglycerin shots to fracture and stimulate the producing formation.

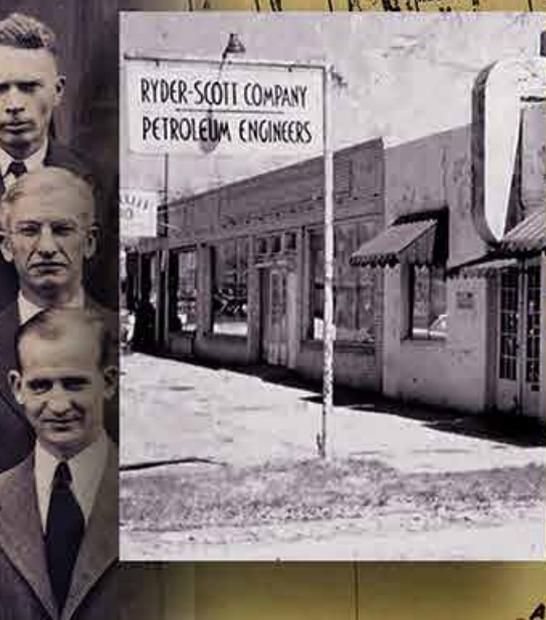
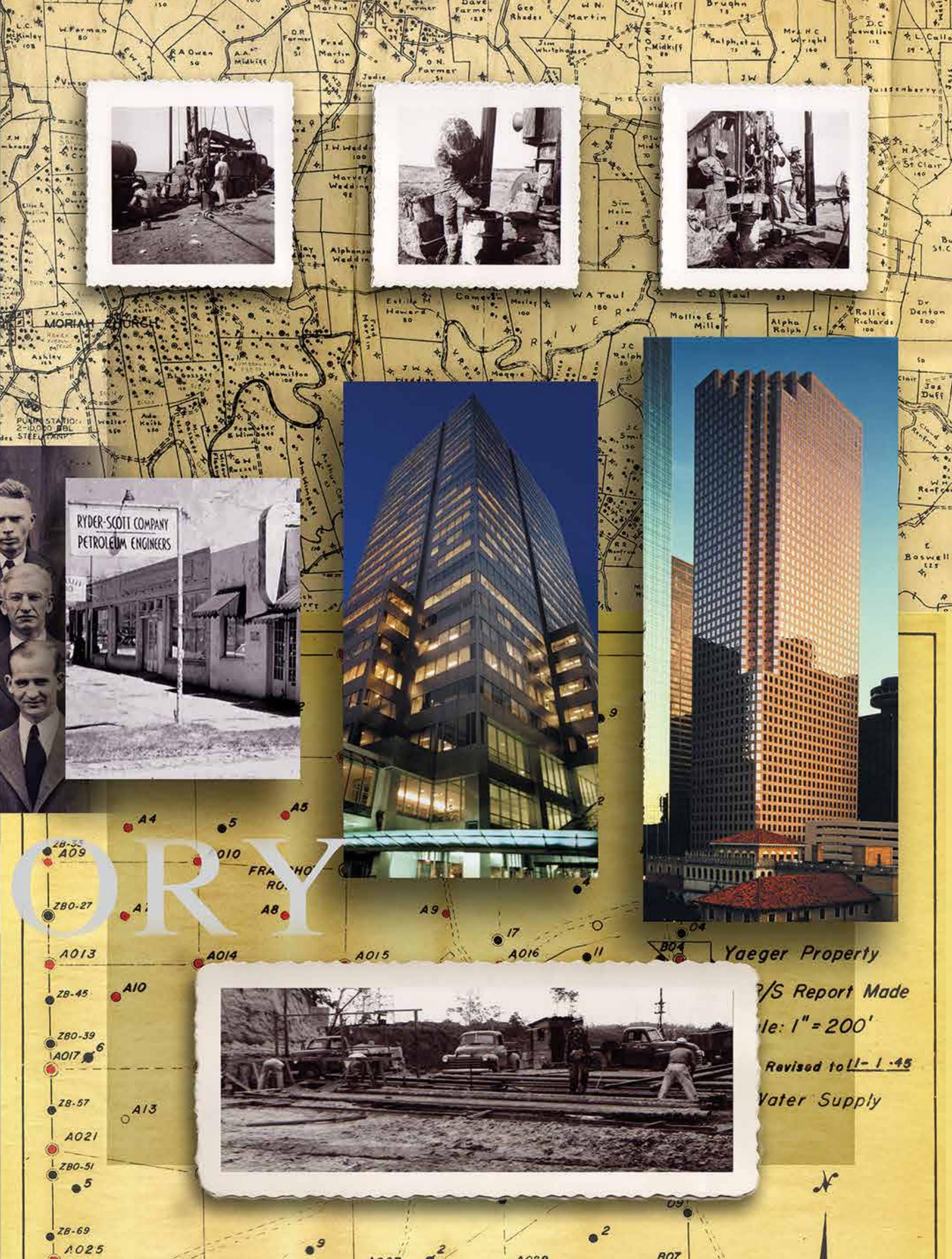
The firm continued to implement the best techniques under total engineering control to slow the production decline in the Bradford area during the 1940s. Ryder Scott used selective plugging in water-injection wells. The firm recommended improvements in core acquisition, logging, completion practices, injection water quality and pressures, well spacing and oilfield equipment.

With the Bradford area's inevitable decline in the 1950s, Ryder Scott moved to Wichita Falls, TX, to design successful secondary recovery projects. In 1967, Ryder

HIST

History to build on

firm performs more than 800 consulting studies a year for major, independent and state-owned oil and gas producers as well as for pipeline companies, investors, banks, government agencies and accounting and law firms. Ryder Scott has earned worldwide recognition for several landmark international studies. Details are posted on the firm's website at ryderscott.com.



ORRY

- ZB-35
- A09
- ZB-27
- A013
- ZB-45
- A10
- ZB-39
- A017
- ZB-57
- A13
- A021
- ZB-51
- 5
- ZB-69
- A025



Yaeger Property

Report Made
Scale: 1" = 200'

Revised to 1-1-45

Water Supply

X

SERVICES

Integrated disciplines to provide dependable answers

Our geophysicists, petrophysicists, geologists, reservoir engineers, modelers and technical analysts work within their areas of expertise, seamlessly combining their skills in close-knit, integrated teams. That synergistic, multidisciplinary approach facilitates the most precise, dependable, scientific studies possible.

Services to add value

Ryder Scott provides a complete range of professional engineering, geoscientific and economic evaluation services.

General

- Certification of oil, gas, condensate and plant product reserves
- Integrated field studies
- Drilling and development program studies
- Equity determinations/redeterminations
- Well completion and workover recommendations

Geoscience

- Prospect analyses
- Exploration portfolio analysis
- Reservoir description
- Petrophysical analysis
- Geostatistical modeling
- Reservoir characterization
- 2D, 3D interpretations

Enhanced Recovery Services

- Enhanced recovery studies and feasibility reports
- Design of fluid injection projects
- Unitization studies
- Horizontal drilling studies
- Thermal recovery evaluation

Natural Gas Studies

- Gas deliverability determinations
- Gas storage projects — selection, design, evaluation and monitoring
- Coal seam gas recovery
- Evaluation of low permeability reservoirs

Reservoir Simulation

- Single-well quick-look models
- Integrated full-field studies
- Black oil and compositional formulations
- Detailed geological models for complex fault systems
- Geostatistically derived petrophysical descriptions
- Simulation-driven reserves determination processes

Economic Services

- Appraisal of oil and gas properties
- Fair market value determination
- Investment and management counseling
- Software development

Expert Witness Testimony

- Expert testimony before state and federal regulatory bodies and courts of law
- Arbitration services
- Litigation support

Management Advisory Services

- Advisor to boards of directors
- Contract analysis and evaluation
- Development plays in producing trends
- Exploration portfolio and strategic planning
- Gas storage management
- General consulting services for national oil and gas companies
- Internal reserves audits for major oil and gas companies
- Litigation/arbitration and conflict-resolution support
- Marketing analysis and strategies
- Negotiation strategies
- Petroleum advisor to investment banks
- Privatization consulting
- Process standardization
- Reserves management systems development
- Reservoir simulation candidate selection
- Training seminars/custom manuals

