Evaluation

Get better recovery through better reserve understanding
It all starts with the rock.

The greater your understanding of a reservoir, the more effectively you can drill it, complete it, and produce it.

Baker Hughes, a GE company (BHGE), helps customers gain critical, actionable reservoir insights to make sound decisions — and we’ve been doing it for more than half a century.

Whether it’s pointing wells to the richest pay, capturing reservoir fluids for flow assurance studies, or building comprehensive, detailed reservoir models, you can count on BHGE to provide the evaluation answers and insights you need to get the most from your asset.

With BHGE, you can:
• Know your rock and make better decisions
• Get critical answers while drilling
• Gain crucial reservoir insight
• Determine recoverable reserves with accuracy and confidence
Know your rock and make better decisions

A rich understanding of your reservoir means you can position your wells properly, construct them effectively, and accurately predict recovery. You can leverage BHGE’s broad portfolio of evaluation technologies to gather, analyze, and act upon downhole formation data to drive better recovery decisions over the life of your asset.

Get fast, precise, powerful subsurface answers

Unlike software running on platforms dating back a decade or longer, our JewelSuite™ subsurface modeling software speeds up modeling and workflows without over-simplifying the data — providing a high-fidelity representation of your reservoir’s true geology.

Improve recovery from mature assets

BHGE performed a full-field reservoir study to evaluate the redevelopment potential of a mature field where production had declined due to pressure depletion. After confirming the project’s economic viability, the BHGE Geomechanics and Petroleum Engineering team designed and implemented numerous production enhancement initiatives, and identified and developed previously untapped commercial oil volumes.
Get critical answers while drilling

If you’re not drilling in the reservoir’s most productive zones, you are compromising on recovery — and trouble managing pressure could result in an extra casing run that limits the size of your production intake and potential hydrocarbon flow. With the right formation answers-while-drilling, you can lower operational risks, place wells in the zones with the greatest potential, and drill each well to its economic limit for maximum return on investment (ROI).

Gain valuable understanding by bringing the reservoir rock to the surface

In one 679-ft (207-m) run, BHGE cut and recovered 3.7 tons (3,341 kg) of core for study — establishing a world record for the longest single core cut to date. A CoreGard™ low-invasion coring system protected the cut core from fluid contamination during the extended operation to ensure the operator could accurately determine each reservoir section’s natural porosity, permeability, and fluid content.

Reduce risks and refine pre-well models to drill better wells

In addition to quantifying the reservoir’s hydrocarbon storage capacity, BHGE’s LithoTrak™ density and porosity logging-while-drilling (LWD) service can be combined with acoustic logs to accurately correlate seismic data — refining your model and improving well placement in fields with high geologic uncertainty. The data also provide critical answers about a formation’s rock strength to help improve penetration rates and reduce drilling risks.
Gain crucial reservoir insight

With a clear understanding of the geology along your well path, you can design the most effective completion and stimulation possible without sinking more resources into non-productive zones. And by mapping reservoir fluid types and movement, you can engineer an effective flow assurance program and boost recovery.

Use the evaluation data you already have to improve well performance

In most unconventional wells, quality formation evaluation data are hard to come by — and that makes designing the proper stimulation program difficult. Using basic gas log measurements and captured hole cuttings, BHGE’s STRATA-Vision™ surface logging service can help you:

- Quickly determine the zones of greatest interest
- Identify the areas with the highest production potential or greatest risk
- Design a stimulation plan that is both efficient and effective

Capture pressure data and high-quality reservoir samples

An operator needed real-time pressure measurements, mobility data, and fluid samples from various stages along the well path. The primary target was a highly volatile zone that required high-purity samples with less than 2% contamination. Using the FASTrak™ sampling-while-drilling service, BHGE captured samples along the entire well path while drilling, including back-up samples from the primary zone. After drilling was complete, the RCX Sentinel™ wireline sampling service captured the high-purity samples from the primary zone for a more detailed analysis.
Determine recoverable reserves with accuracy and confidence

Trustworthy asset valuations depend on the perfect balance between recoverable reserves and a field’s economics. BHGE experts continuously update reservoir models and adjust recovery programs so you can keep your reservoir performing at its economic limit — delivering the maximum ROI and creating the greatest possible net present value for your asset.

Boost net pay and recovery
Applying conventional logging tools to an exploratory well’s laminated shale sequence created uncertainty about how much of the pay the operator had drilled. The 3D eXplorer™ petrophysical analysis service provided a clear understanding of the reservoir laminations — reducing uncertainty in the petrophysical analysis and increasing net pay 690%.

Update geologic models over the life of your field
Working on the JewelEarth™ platform, you can build complex, high-fidelity reservoir models and update them easily using an extensive set of connectors to industry-standard databases and applications. This makes it easy to add new well information and develop alternative geological scenarios for hypothetical recovery schemes to help you get the most value out of your reservoir.
Evaluation

Logging and coring
Openhole wireline logging services*
Cased-hole wireline logging services*
Logging-while-drilling services
Surface logging services
Coring services
Microseismic services

Reservoir software
Subsurface modeling
Geomechanics
Hydraulic fracturing modeling
Fluid analysis and characterization
Completion design
Integrated production operations
Training services

Geoscience and petroleum engineering
Geoscience services
Petroleum engineering services
Reservoir navigation services

Consulting services
Gaffney, Cline & Associates

*Combined Baker Hughes / GE Oil & Gas portfolio

For more information:
bhge.com