# Gulf of Mexico Deep Shelf Production Performance Analogs

## Tying depositional settings, facies and seismic to predict high performers

Our Production Performance Analogs help deepwater teams construct detailed comparative studies to reduce risk across a range of E&P activities:

- **Making a decision to enter or exit the play?** Use the well analogs to determine if your prospect has equivalent geologic facies providing another data point for your economic sensitivities.
- **Developing prospects prior to a lease sale?** Narrow the risk in your play concept uncertainty analysis by correlating seismic to the Shelf's facies types and studying known analogs for EUR and production rate.
- **Working on field development plans?** Determine optimal well spacing by benchmarking your estimates for EUR, acres drained, and first-year production against the actual history of reservoirs with similar pressure regimes, drive mechanisms and facies.

**Benchmarks show nine of the Shelf's newest fields are among the top 20 producers across 120 Deep Shelf fields. Are operators finding better fields, drilling smarter, or both?**

Our updated *Production Performance Analogs* for the GOM Deep Shelf document this type of benchmark and help asset teams characterize why some fields and wells outperform others. Our analogs, based on IHS well, production, log and pressure databases as well as seismic data provided by Fairfield Industries, represent a unique combination of:

An expert **region-wide**, **multidisplinary technical analysis** focused on tying Shelf performance, field by field, to the region's specific facies and depositional settings using seismic and logs.

**Advanced Production Analysis of 466 completions and 120 fields**, using traditional reservoir analytical techniques (decline curve, Nodal and material balance analysis) as well as production rate-pressure transient interpretations. Resulting metrics include:

- Estimated ultimate recoverable volumes (EUR) and, where possible, original hydrocarbons in place (OOIP and OGIP)
- Drainage radius
- Plateau periods
- Elapsed time for water breakthrough
- Drive mechanisms
- Porosity and permeability
- Reservoir skin and skin damage
- Bubble points
- Hydrocarbon phase

**An easy-to-query database of production performance statistics** by field, reservoir and well, enabling a wide variety of benchmarking and analog studies.

The result is a powerful set of resources for constructing an extremely thorough analog at the right scale for the decision at hand. For deepwater asset teams, this means unique, detailed insights for improved play targeting, more confident seismic interpretation, and more accurate benchmarking of reservoir potential, recovery efficiency and performance.

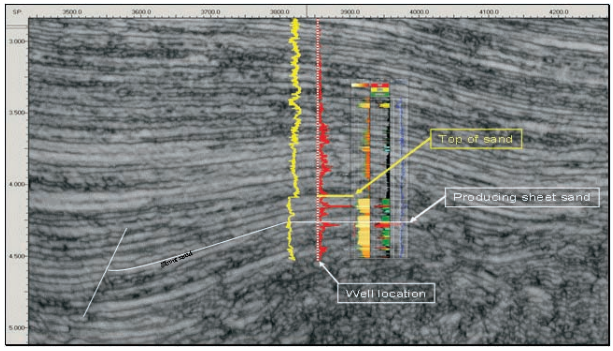


*Image courtesy of Fairfield Industries.*

*Our facies logs can help you tie seismic to the most productive sands in your prospect area.*

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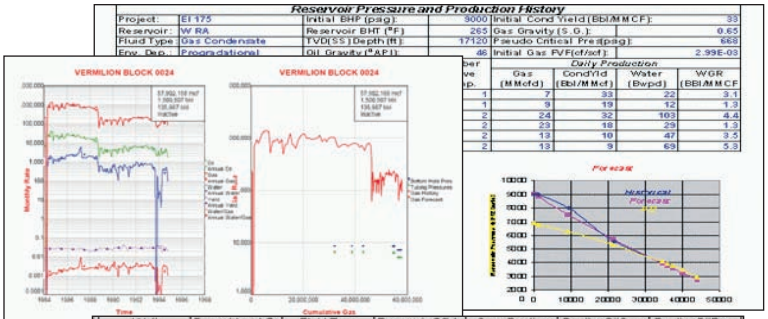
### Key Findings of 2005 Update

Our August 2005 update provides some insights into the strong performance of newer fields, correlating them to "target sands of choice" in the Shelf as defined by facies. By combining production performance analysis, well logs and new seismic stratigraphy techniques developed by Fairfield Industries, our study team of experts from PetroSolutions, Ltd., was able to correlate facies with production behavior across 29 new fields.

The findings: certain combinations of depositional settings and facies posted higher performance by an order of magnitude. This gives your asset teams a foundation for using your seismic interpretation and stratigraphy techniques to select analog wells by facies logs, and then study production profiles and EUR representative of your prospects.

### Other key findings include:

- Of the 120 fields studied, 29 have come online since April, 2001. Of the current top 20 producing fields, nine are from the 29 new fields.
- The average Deep Shelf reservoir has two wells, indicating that seismic interpretation is a key to exploration success.
- In terms of depositional settings, slope wells generally have greater sand thickness and significantly outperform shelf deposits.




| Well | Depositional Sty | Fluid Type | Reservoir Offsho | CurveDecline | DeclineOilCum | DeclineOilRem |
|---|---|---|---|---|---|---|
| A009 | | Retrograde Gas | Y-2 | 25.26690657 | 40786 | 283892.109817 |
| 003 | Submarine Fan | Retrograde Gas | Hollywood Zn 5 | 8.81757251459 | 227406 | 0 |
| F001 | Submarine Fan | Retrograde Gas | M-8 FB EE | 75.7060005960 | 261778 | 2239.56733621 |
| E002 | Progradational | Retrograde Gas | BUL(1) 22RK | 90.0000015118 | 125051 | 310.278919025 |
| 006 | Progradational | Dry Gas | U1 RB | 91.7450008221 | 72544 | 2257.30970085 |
| 004 | Progradational | Dry Gas | U1 RA | 72.4499997852 | 92166 | 5671.93135287 |
| 010 | Progradational | Dry Gas | U1A RB | 89.5050010047 | 42639 | 343.123726502 |
| A002 | Submarine Fan | Retrograde Gas | BA-1 | 89.9999997237 | 862441 | 19530.4397303 |

The results from our engineering analyses, using Advanced Production Analysis techniques, give you detailed analogs for benchmarking original oil/gas in place, EUR, production rate, and more.

### Comprehensive production benchmarks

Our *Production Performance Analogs* include an exhaustive database of analyzed production parameters and both pre-defined and freeform queries to support comparative studies by field, reservoir, operator, and project. Three categories of data tables are included:

- EUR estimates
- Reservoir characteristics
- Production metrics

More than 175 pre-defined queries give you instant charts and graphs to help you optimize development options, analyze alternative recovery techniques and benchmark performance against analogous mature and declining fields. Sample queries include:

- Reservoir-Specific Productivity Index by Completion
- Cumulative Production by Reservoir Completion, Fluid Type and Depositional Style.
- Gas Drawdown Summary by Well Completion.
- Project Production Year One Maximum Rate and Best Year of Production by Completion.

### What's Included

- A written analysis, complete with seismic and facies profiles.
- A complete Web-accessible MS Access® database of well, field and project performance benchmarks.
- The option to purchase the 80 well logs used in the study, including 65 with petrophysical analysis and 45 used for generation of synthetics, at a discount.
- Software files in IHS and other software formats with production profiles, EUR, pressure calculations and selected 3D models by reservoir.

To learn more about our Performance Analogs, contact us to request a an Executive Overview.

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Or call your IHS account representative