

# Rose & Associates Overview

## Louisiana Energy Conference

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# Rose & Associates, LLP Overview

- Formed in 2000 by Pete Rose (Emeritus)
- A Global leader in risk assessment, provides integrated methods and solutions to manage oil and gas exploration and development programs through:
  - Consultancy
  - Software – Lognormal Solutions Inc (LSi)
  - Training
- A Global Company with Global Clients (67 Countries); NOC's, IOC's, Independents, Investment Banks, Government entities, etc.
- 7 partners and 14 Associates with experience on average > 25 years
- Personnel located in North America (United States and Canada), Europe and the Far East
- Both Conventional and Unconventional expertise

# A Global Company with Global Clients



# Rose & Associates Consulting, Software & Training

E & P Activity	Recent R & A Consultancy Example	R & A Software	R & A Training
<p><b>Acquisition Evaluations</b></p>	<p>Pre-funding assessments for Investment Institution. Asset Purchase Assessments – Resource/Reserves/Risk</p>	<p>Prospect Risk Analysis Suite Analysis Unconventional Resource Analysis Portfolio Risk Analysis</p>	<p>Risk Analysis, Prospect Evaluation and Exploration Economics Unconventional Resource Analysis Portfolio Risk Analysis</p>
<p><b>Divestiture Support</b></p>	<p>Asset divestiture in the US and Europe</p>	<p>Prospect Risk Analysis Suite Analysis Unconventional Resource Analysis Portfolio Risk Analysis</p>	<p>Risk Analysis, Prospect Evaluation and Exploration Economics Unconventional Resource Analysis Portfolio Risk Analysis</p>
<p><b>Unconventional Assessments</b></p>	<p>US and Canada due diligence and Canada Asset purchase</p>	<p>Unconventional Resource Analysis Portfolio Risk Analysis</p>	<p>Unconventional Resource Assessment and Valuation Evaluating Shale Oil and Gas Reservoirs and Evaluating Tight Oil and Gas Reservoirs</p>
<p><b>Project Management</b></p>	<p>Africa Block exploration and drilling management</p>	<p>Prospect Risk Analysis Suite Portfolio Risk Analysis</p>	<p>Mitigating Bias, Blindness and Illusion in E &amp; P Decisions Portfolio Risk Analysis Project Risk Uncertainty and Decision Analysis</p>

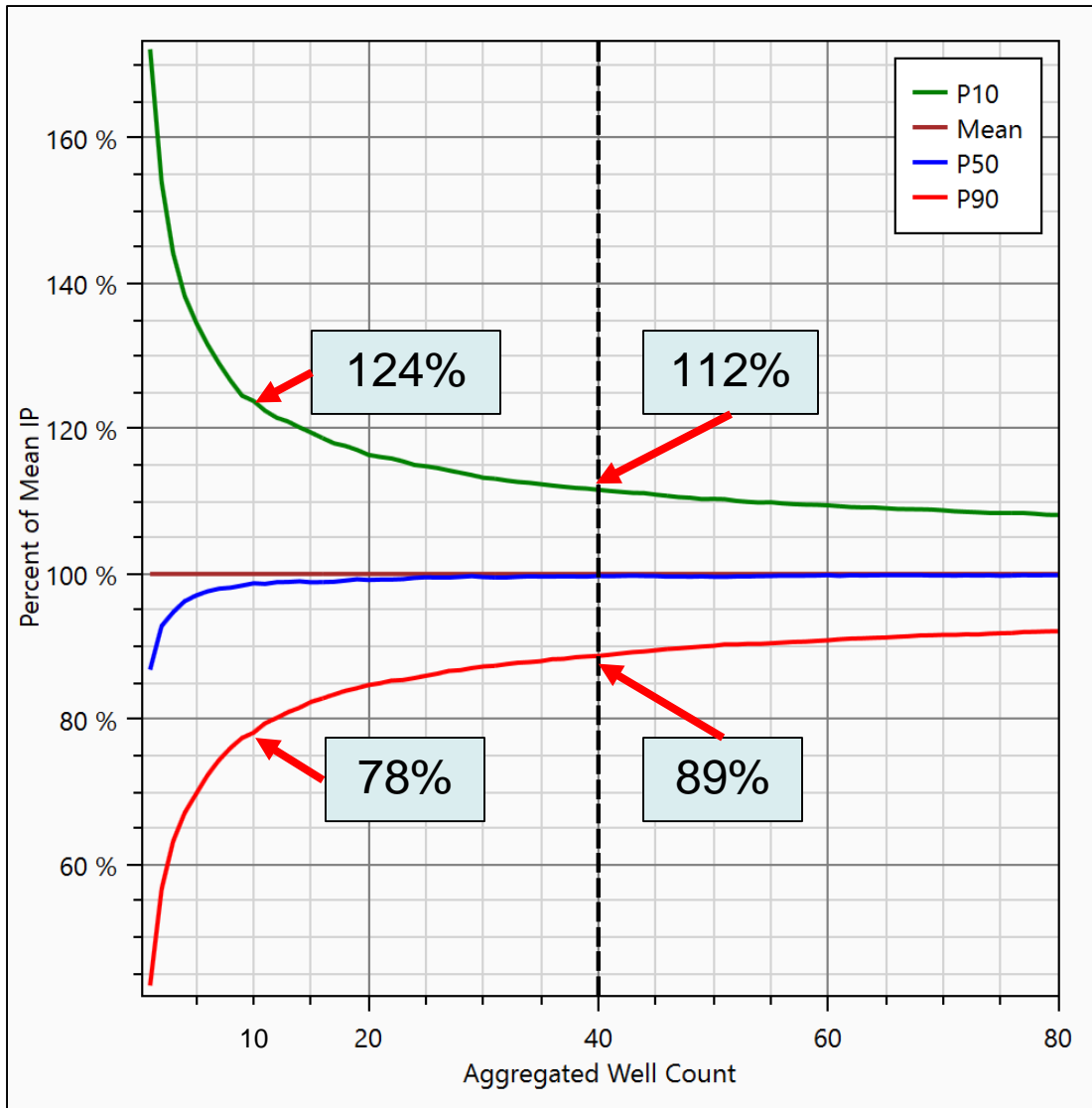
# Rose & Associates Consulting, Software & Training

E & P Activity	Recent R & A Consultancy Example	R & A Software	R & A Training
Strategic Goal Setting	Capitalization of a National Oil Company	Resource Progression linking Exploration, Contingent resources, Proved Reserves and Production (Client Specific Data)	Portfolio Analysis Workshop
Portfolio Analysis	Portfolio review and analysis for a major Far East NOC, major IOC and investment portfolios of independents	PortfolioRa Batch MMRA	PortfolioRA and Batch MMRA training
Performance Assessments and Tracking	Assessment of Volume and Chance estimates for US and European companies	PortfolioRA sequential accumulation plots and bespoke analysis of client data	Application workshops of industry-leading performance tracking techniques, diagnosis of issues and corrective strategies
E & P Project Assessment	Review and Assessment of E & P projects providing due diligence and risk assessments	ProjectRA and URAV Advanced project modeling for unconventional/conventional E & P projects. Incorporate advanced decline curve fitting at the well level into fully stochastic economic models at critical stage gates	URAV (Unconventional Resource Assessments and Valuations) Mitigating Bias, Blindness and Illusion in E & P Decisions Portfolio RiskAnalysis Project Risk Uncertainty and Decision Analysis

# Rose & Associates Consulting, Software & Training

<b>E &amp; P Activity</b>	<b>Recent R &amp; A Consultancy Example</b>	<b>R &amp; A Software</b>	<b>R &amp; A Training</b>
<b>Play Based Exploration</b>	<b>Concession and Trend Play assessments for both IOC's and Government agencies.</b>	<b>PlayRA and Player by GIS-pax</b>	<b>Play Based Exploration integrated with Player Workshop</b>
<b>Direct Hydrocarbon Detection (DHI)</b>	<b>Manage consortium of US and European Companies (29 members)</b>	<b>Seismic Amplitude Analysis Module (SAAM)</b>	<b>DHI Consortium Workshops</b>

# Uncertainty of the Forecasted Mean Outcome Decreases with Increasing Well Count



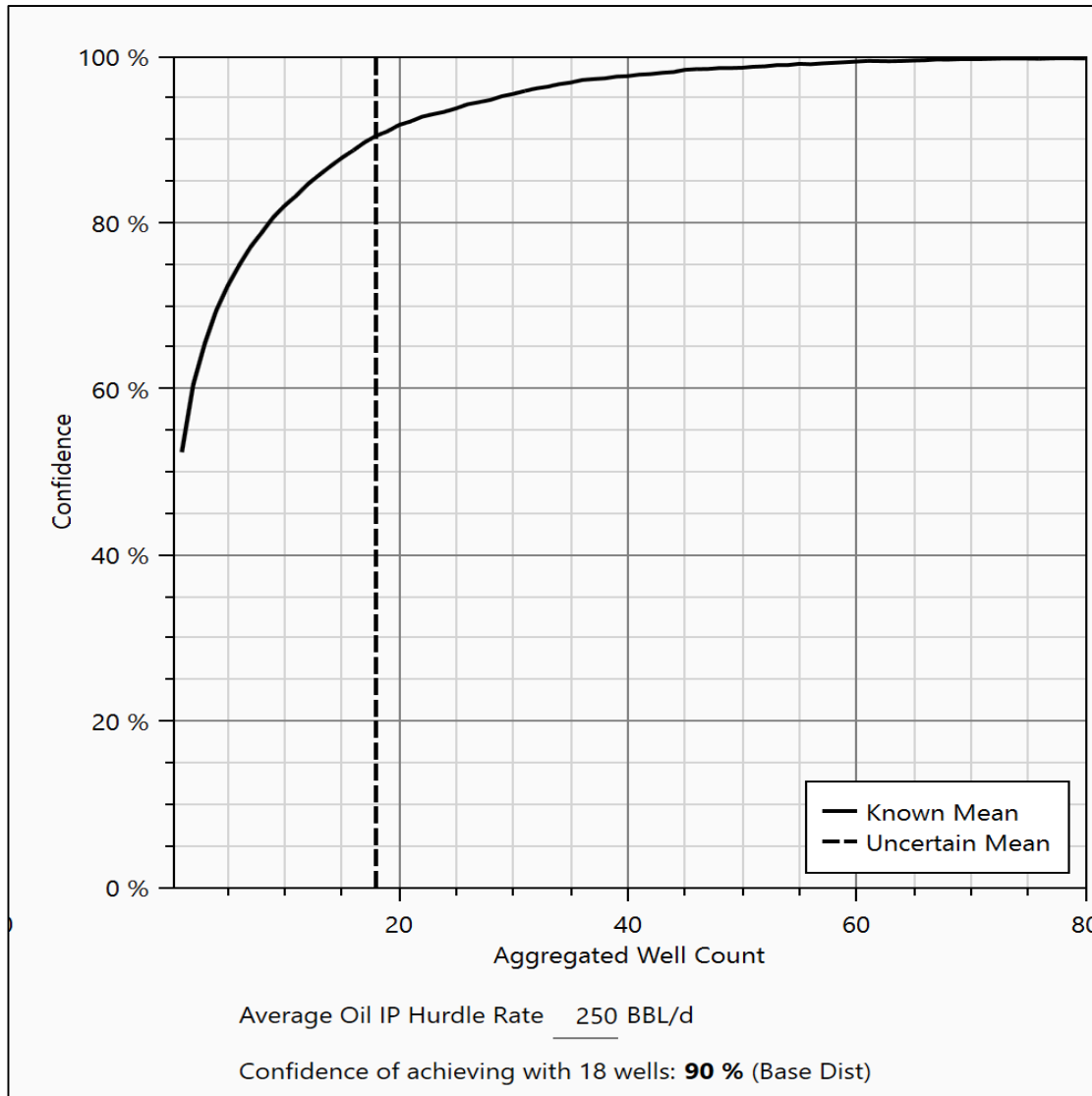
For an Unconventional Play with Initial IPs described by a P10/P90 ratio of 4

You can be 80% confident (P90 to P10) that the Average IP of: -

*the first 10 wells* will be between 78 and 124% of the forecasted mean

*the first 40 wells* will be between 89 and 112% of the forecasted mean

# Confidence in Hurdle Rates increases with the number of wells



For an Unconventional Play with Initial IPs described by a P10/P90 ratio of 4

And an Economic Average Oil IP Hurdle rate of 250 BBL/d

At least 18 wells will be needed to be 90% sure the program IP will be 250 BBL/d or greater



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