

# **Creative Petroleum Exploration\***

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## **Abstract**

How is creativity related to petroleum exploration? Finding significant oil and gas accumulations involves creating new ideas. Parke Dickey put it best when he said, “We usually find oil in a new place with an old idea, sometimes we find oil with an old place with a new idea, but we seldom find much oil in an old place with an old idea. Several times in the past we thought we were running out of oil whereas actually we were only running out of ideas.”

Essentially, the North American Prospect Exposition (NAPE) is all about ideas. As you wander through the prospect booths you will see Dickey’s statement illustrated by the prospects that are for sale. Look for the creative new ideas and when you find them try not to be too critical at first.

Most of the time, the best and most creative new play concepts are the hardest to recognize. They can be in areas that have few wells and no production. Sometimes they are created by applying new technology to an old area – horizontally drilling an old field, for example. Also, they might involve a new target in an old, heavily drilled area. One recent example is the source-rock oil play.

It helps when reviewing a prospect to be careful not to judge too quickly. As conservatively trained scientists, it is important to realize that we have a tendency to overly discount what remains unknown to us. When the Barnett Shale play began, I thought that shales would never make effective reservoirs.

What is the next big play? Give yourself a chance to find it by keeping your mind open to new ideas. That new idea that launches you could be at a NAPE booth this year.

### **References Cited**

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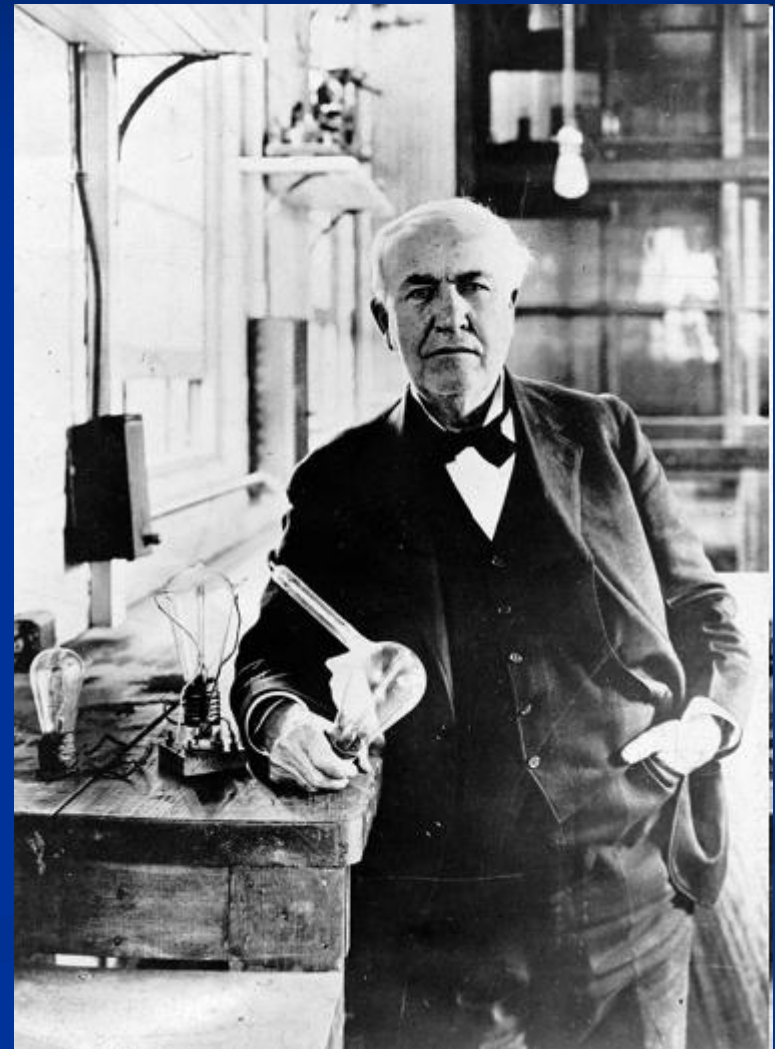


# Creative Petroleum Exploration

Edward A. Beaumont  
DPA Playmakers Forum  
January 24, 2013

# Presentation

- Misperceptions
- Ideas
- The Creative Process
- Characteristics of oil finders

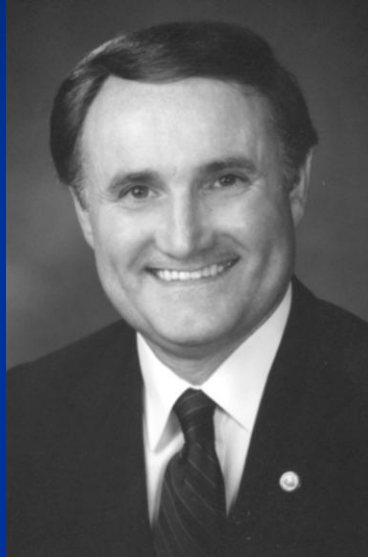




# Acknowledgements



Ted Bear



Norm Foster



Dick Vincelette



Doug Strickland

# Misperceptions of Oil & Gas Discovery

- Technology finds oil – i.e., seismic tech
- Finding oil & gas is a matter of luck
- Skill plays a minor role

# Parke Dickey



late 1950s



*"Invitado de Honor"*  
*IV Simposio Bolivariano. 1991*



“We usually find oil in **new places with old ideas**. Sometimes, also, we find oil in an **old place with a new idea**, but we seldom find much oil in an **old place with an old idea**. Several times in the past we have thought we were running out of oil whereas actually **we were only running out of ideas**.” Parke A. Dickey, 1958



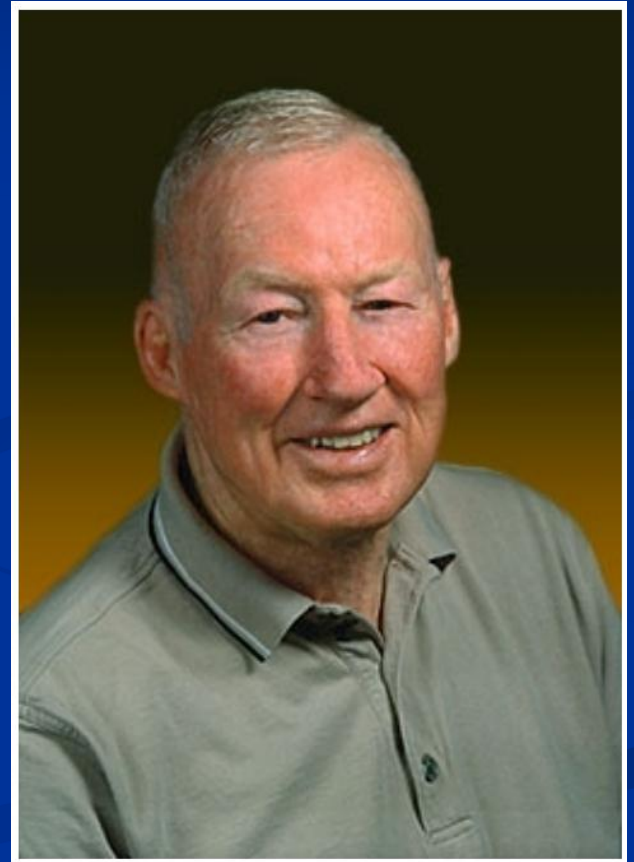
# John Masters

“Part of the definition of a new idea is that it will be rejected at first.

Evolution teaches us that most new ideas don't work, so we learn to be against them. Big ideas do not come from groups or committees.

Throughout history they have come from individuals...and ‘normal’ people almost never recognize the importance of the idea until much later on.”

- Oil and Gas Investor, July 1, 2008



# John Masters

- "The remaining potential is primarily unconventional. Long gone are the days that a geologist can find 100 millidarcy rocks on top of large anticlines. To achieve outstanding results, new exploration concepts must be applied, and few investors are willing to accept that degree of risk."

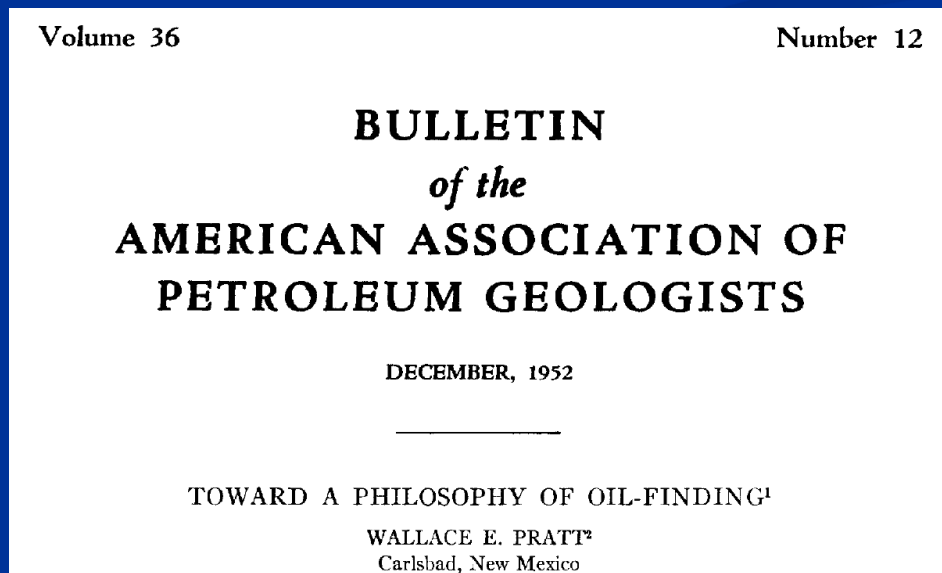


Oil is first found in  
the mind.

-- Wallace Pratt, 1952

# Pratt's Mental Blocks to Oil-Finding

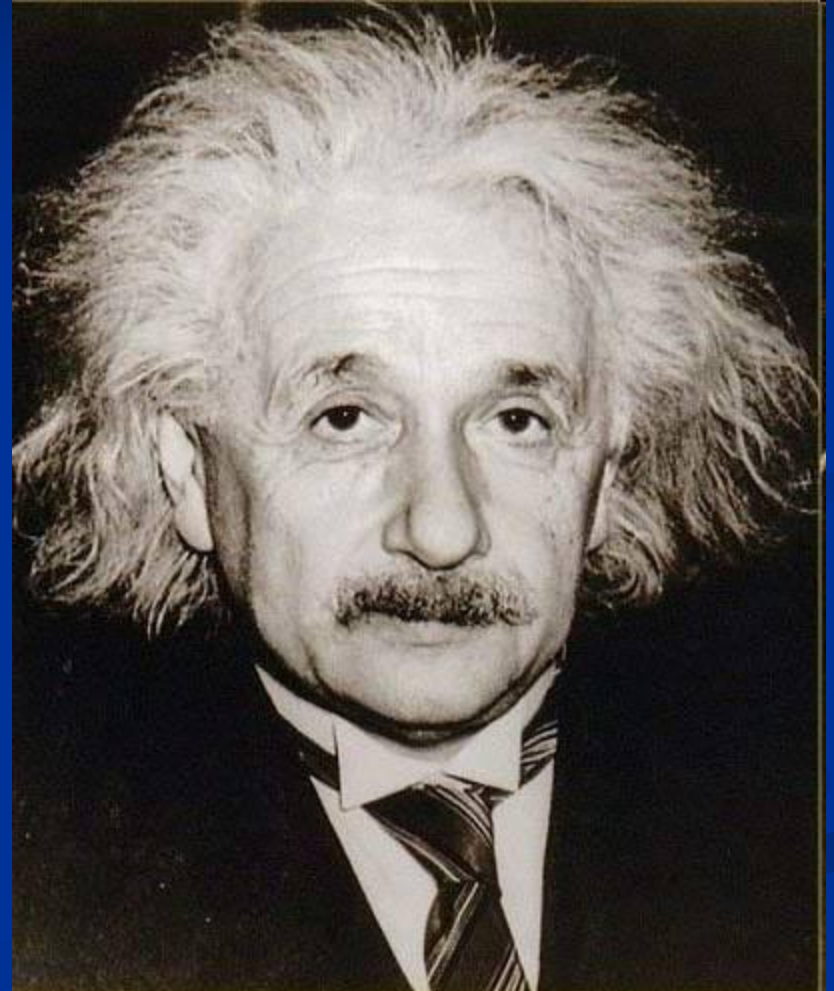
- Natural conservatism of trained scientific mind
  - Ignoring significance of what remains unknown
- “however small our knowledge may be, tends often, not only to color, but actually to obscure what remains unknown to us”





# Creativity

- “The ability to bring something new into existence through **imaginative skill**” (after Webster’s)

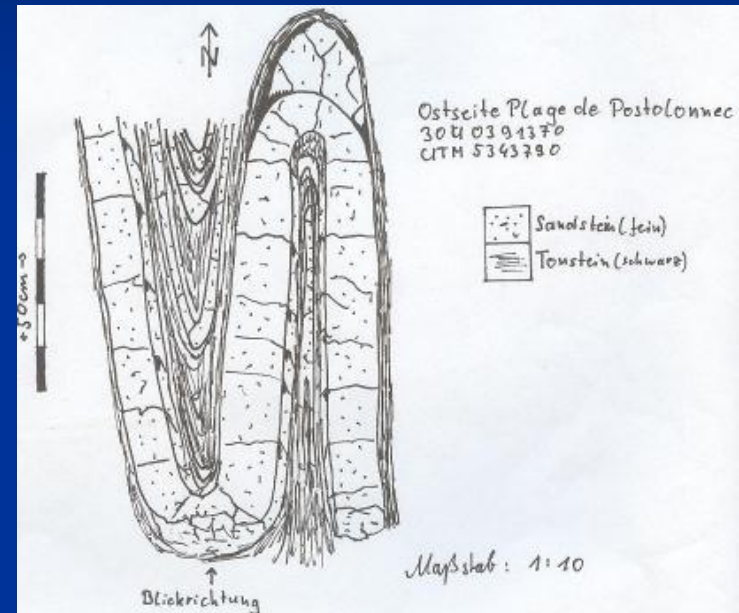


# Left Brain - Right Brain Model

Left Brain	Right Brain
Logical	Intuitive
Rational	Holistic
Analytical	Synthesizing
Objective	Subjective
Looks at Parts	Looks at wholes

# The Creative Process

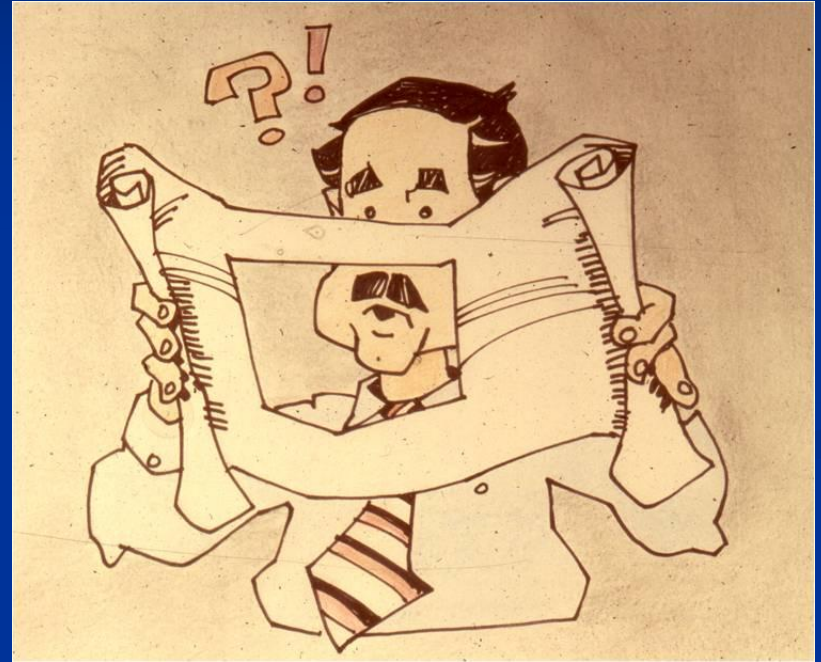
- First Insight
- Saturation
- Incubation
- Illumination
- Verification



Field Sketch of folds on coast of Brittany (the lostgeologist blogspot, 2009)

# First Insight

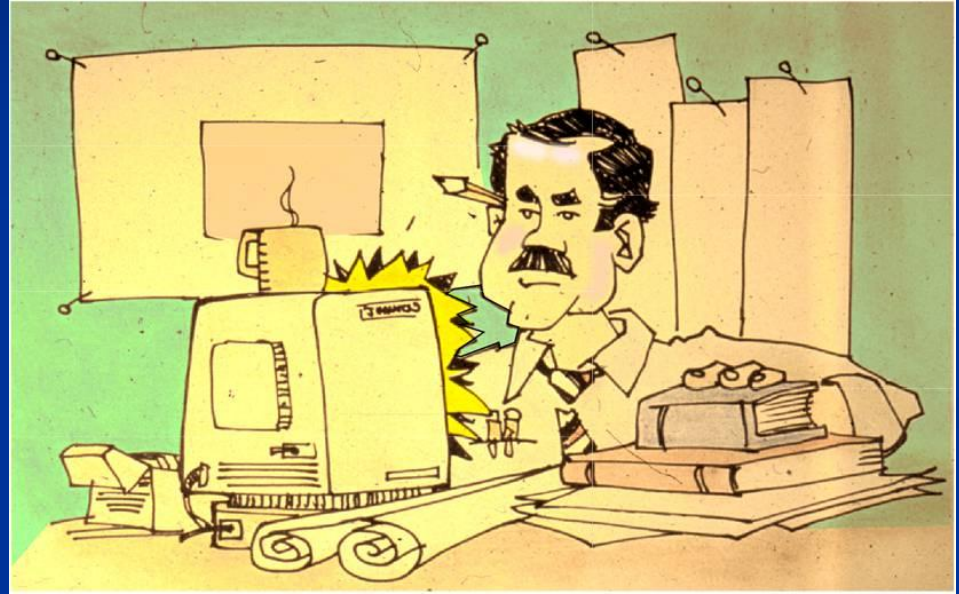
- Right Brain Function
- Intuitive Leap
- See 'whole picture' but something is missing





# Saturation

- Left brain function
- Gathering, sorting, & categorizing information
- Arduous
- Can take hours or years



# Incubation

- Left brain falters, right takes over
- Feel sense of anxiety
- Put it away for awhile
- Right brain works problem subconsciously



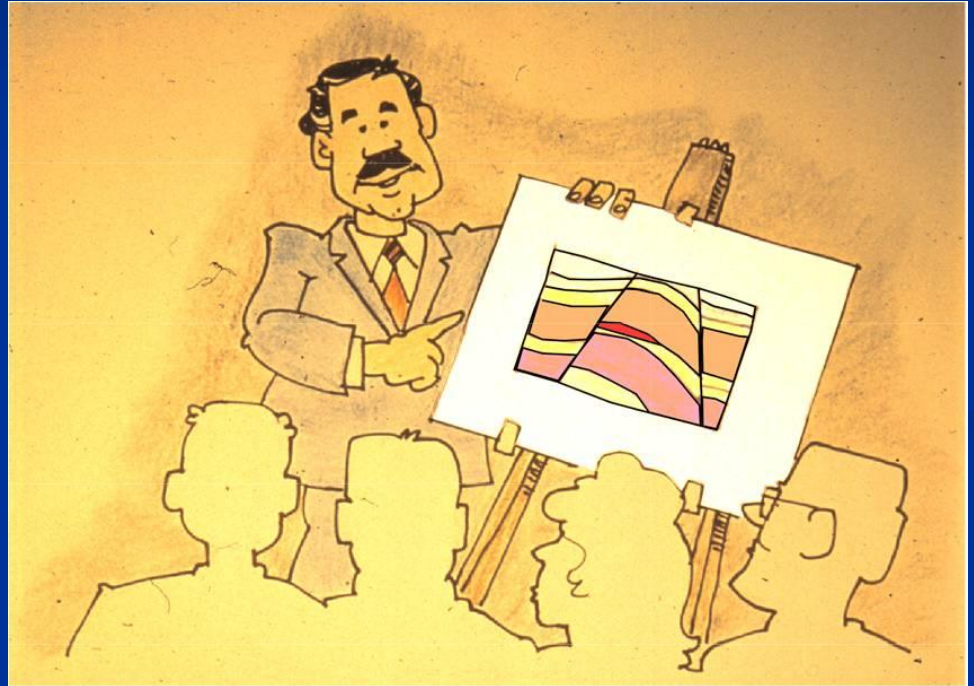
# Illumination

- Left brain becomes aware of solution
- Pieces fall together
- Ah-Ha! Moment
- Solution seems obvious



# Verification

- Left brain process
- Test the solution
- Sell the idea





# Peach and Horne

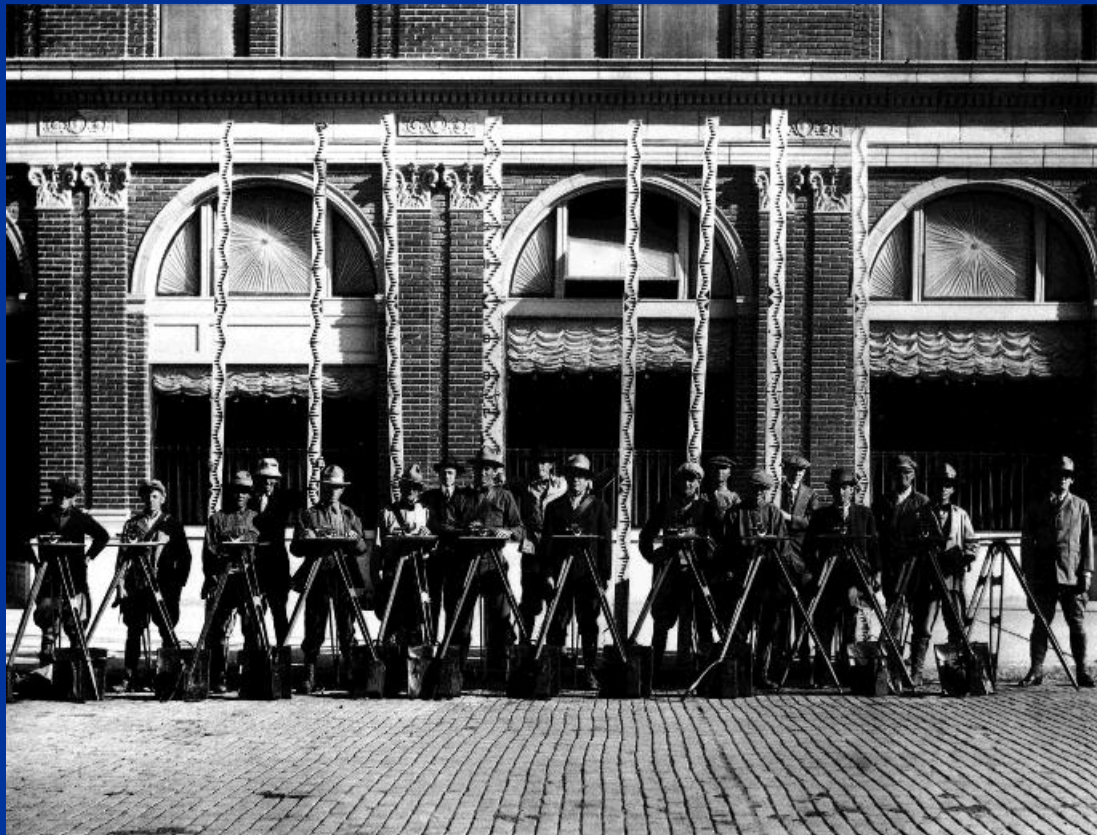
- Scottish Geologists
- Unraveled complex geology of Scottish Highlands
- Peach more “right-brained”
- Horne more “left-brained”



*Dr. John Horne .*

*Dr. Benjamin Neeve Peach .*

# Characteristics of Oil-finders

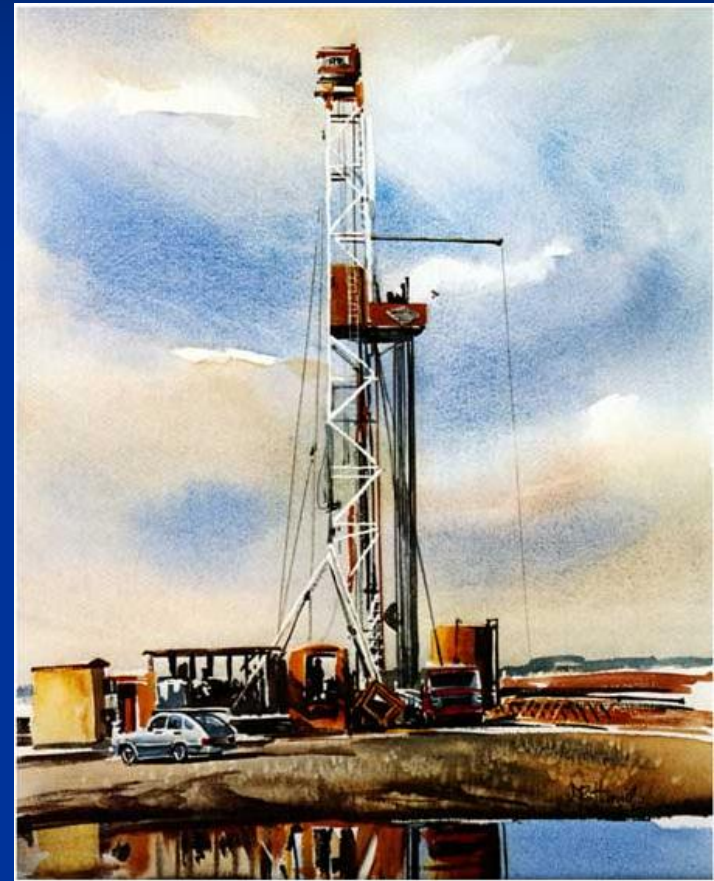


# Characteristics of Oil Finders

- **Question:** Discuss other oil finders you know or have known. What characteristics made them oil finders?
- “1. Persistence is #1. 2. Enthusiasm for oil exploration. 3. Self-confidence. 4. Risk-takers. 5. Intuitive sense of where exploration opportunities exist. 6. Ability to diagnose critical elements of a play.” (David Powley)

# Characteristics of Oil-finders

- ❑ Persistent
- ❑ Optimistic
- ❑ Creative
- ❑ Risk-takers
- ❑ Courageous
- ❑ Curious
- ❑ Observant
- ❑ Enthusiastic
- ❑ Confident





# Developing Exploration Thinking Skills

- Remember how creative process applies to developing exploration concepts
  - Respect insights – record them and follow them up
  - Expect to be anxious
  - Learn to put problem away
  - Check ideas
  - Sell ideas
- Develop visual skills
  - Learn to draw, diagram
  - Build models
- Emulate oil-finders
- Read case histories

Max Steineke – Creator of Ghawar Prospect





**Norm Foster October 2, 1934 - January 1, 1999**

# Black Swan Event

(Nassim Taleb, 2007)

- Surprising
- High-impact
- Retrospective predictability
- Hidden by psychological biases



discovered 1697

# Pratt's Black Swan - Saudi Arabia

- “No Oil in Arabia”
- World's largest oil reserves
- Oil and gas seeps known for hundreds of years





# The Unconventional Resource Play Black Swan

- Surprising
- High-impact
- Psychological biases
- Retrospective predictability

