

Forum & Panel Discussion: Lessons from Recent Examples of Guidance by the SEC

Interactive Session – Situations, Issues & Opinion

Richard Smith - GCA,
Carolina Coll - LBSU Univ.,

Jonathan Westbury - GCA,
Martin Hubbig - OMV

Doug Connell – Consultant,

Disclaimer Statement

The material and opinions expressed in this presentation are those of the authors and do not reflect legal or technical opinion or official position of their employers. While they may reflect what is believed to be informed opinion, they are not represented as being the opinions of the SEC/SPE/WPC/AAPG/SPEE/SEG.

The following examples are indicative of the authors' experience but do not represent actual data or technical information unless otherwise stated and no attempt should be made to assume otherwise.

North America vs. Europe*

Is there a difference between North American practices and companies filing with the SEC as compared to the way the SPE-PRMS is applied in Europe?

Richard Smith - GCA

- A focus due to 2017 SPEE meeting in London, and not necessarily limited to Europe.

The Culture of Public Reporting & Disclosure

North America

Federal Oversight and Authority for transparency in reporting Reserves for publicly traded companies

SEC and/or COGEH regulations for registered companies is fundamental to business.

USA - Securities and Exchange Commission (SEC)

Requires 1P – 2P and 3P are optional

Canada – COGEH

1P, 2P(mandatory), 3P and C's

Punitive consequences exist for misrepresentation of Reserves and SMOG.

Europe

Limited governmental regulatory oversight in reporting or disclosing reserves. Some countries have reserves filing requirements, e.g. Norway

Perception of SEC as powerful USA agency that should not have any authority over European business.

Regulatory filing may not be mandatory or required. Many companies publicly disclose 2P and Business Expected Case.

!! Non-US companies that file in North America must use an established standard.

Financial Market authorities may independently exercise punitive action for misrepresentation of results.

North America

Education and career training emphasizes understanding of compliant reporting.

Many petroleum engineers are required to perform economic evaluations, ELT's, and reserves assessment.

Required SEC and/or financial compliance drives individuals to know and exercise appropriate judgement.

Heavily centric to "evidence based justification."

Understanding Resource Classification system is usually robust.

Europe

Education and training is technically focused.

Economists perform ELT's.

Companies may or may not be required to file under a standard or misunderstand the standard.

Interpretation may migrate away from limits and be presented as evidence.

Resource Classification may be based on individual understanding.

North America

Definition of analogue is frequently held to the SEC prescribed standard → like = like

Booking volumes in undrilled fault blocks or adjacent offset locations typically have strong restrictions.

Development timing is typically held to reasonable or 5-year limit.

Proved reserves are based on deterministic, analytical methods, and/or simulation.

Primary depletion often used for initial booking of Proved.

Europe

Something “close” may be enough of an argument for acceptance of an analogue; e.g., “all fields in the region have water injection so they must be successful”

Communication across faults and into offset locations is often assumed.

PRMS development timing is interpreted liberally with expanded calendars acceptable.

Simulation often used as the predominate justification for Proved. Probabilistic evaluations are heavily used.

Proved may be based on a business case profile which may include volumes in addition to primary depletion.

Forum Interactive Session

Richard Smith - GCA,
Carolina Coll - LBSU Univ.,

Jonathan Westbury - GCA,
Martin Hubbig - OMV

Doug Connell – Consultant,

DOES THE SUBMISSION MEET THE STANDARD THE OPINION IS YOURS!

This is an interactive session. Presume the company files with SEC or is citing SEC compliance.

After a brief introduction to the problem, you are encouraged to respond to the question with your opinion. Assume no clarification is available.

The presenter will facilitate the order of speaking.

Intro and discussion will be limited to 15 minutes at which time you'll hear an alarm.

Our panel will then be allowed to comment.

Question / Issue #1

Request for Certification

Question #1: Request for certification.

Company has processed all internal requirements to execute a field development plan. An approval for five horizontal development wells, one injector and 4 producers, has been approved and long lead items ordered and rig contracted.

Drilling starts in mid-2019.

The field is offshore.

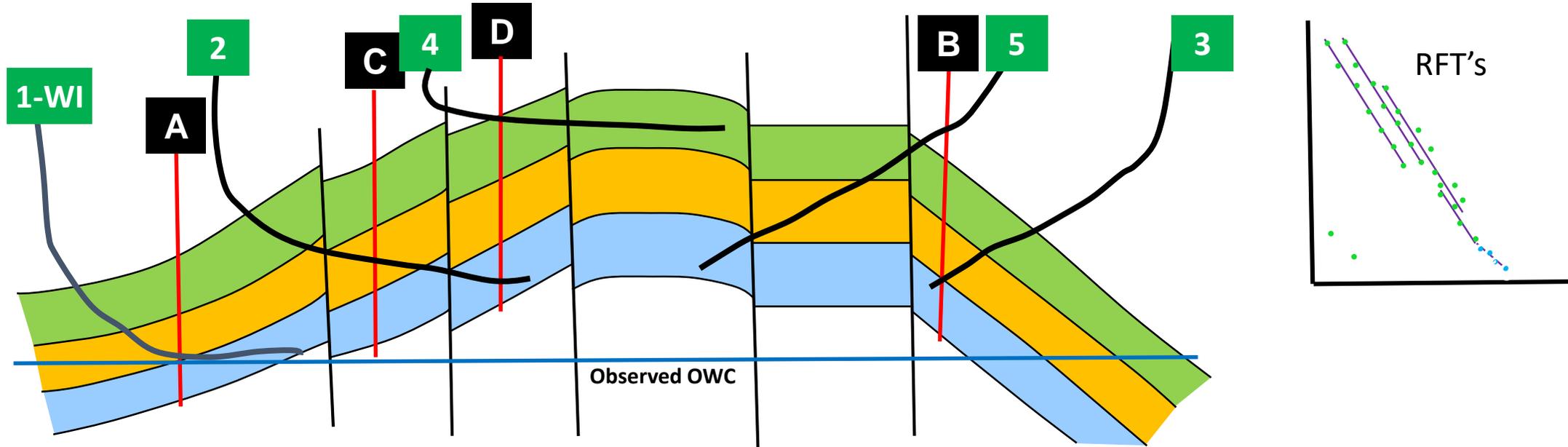
The company is SEC registered and believes their evaluation meets compliance standards.

We are asked to provide an opinion and/or a reserves certification to support the submission.

Wells A, B, C & D drilled over 20 years.

Reservoir is laminar clastic with multiple flooding surfaces and impermeable shales separating them.

One well test. Well "D", bottom zone 5 day flow test with $P_i - P_f \sim 150$ psi. Sustained rate 785 stb/d on 1" choke.



Dissimilar PVT samples.
No particular trend in GOR or API

Offset fields have water injection that provides effective pressure support.

Offset fields with gas caps exist in the area. Nearest fields do not satisfy SEC analogue tests.

The company has provided estimates of 1P, 2P, and 3P. The business case is justified on the 2P volume. The production forecast is based solely on simulation. The project is dependent on water flood pressure support and displacement, considered reasonable because other fields in the region have successful water flood.

Technical review raises concerns about the faulted and likely fractured structure, juxtaposition, vertical communication, lateral communication, and variable reservoir character.

The company wants to announce the project sanction with a statement of reserves, based on a third party opinion. The booking will be included in the end of year reserves submission to the SEC.

What is your opinion?

Question / Issue #2

Clustering of Fields

Question #2: Clustering of fields for economic analysis

Company C is producing a complex of five individual fields with a central gathering platform.

Each field has individual P90-P50-P10 technical profile ranges.

The Company adds the individual P90 profiles together and adds the costs of the gathering platform. As a result the whole complex fails economic tests and thus the Company reports zero Proved Reserves and zero SMOG to SEC although statistically, the chances that all the fields will produce at their P90 profiles at the same time are negligible.

Is it desirable to report zero Proved reserves for producing Assets?

And zero SMOG? Does this represent the genuine cash flow profile of the Company?

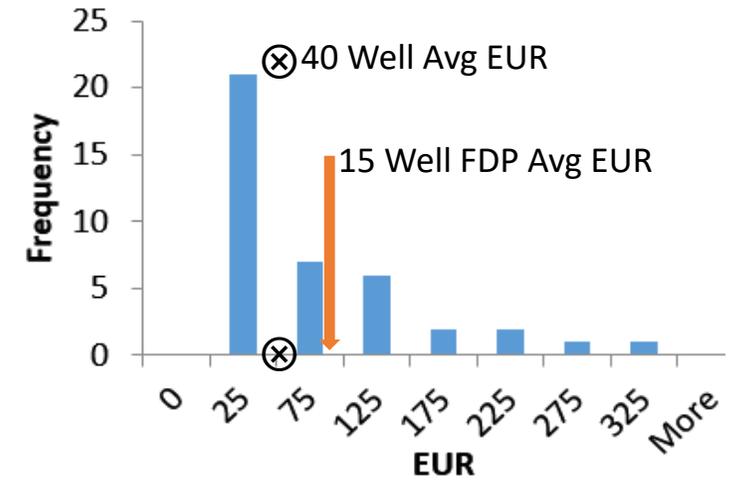
Is there a recommended alternative to do the analysis?

Question / Issue #3

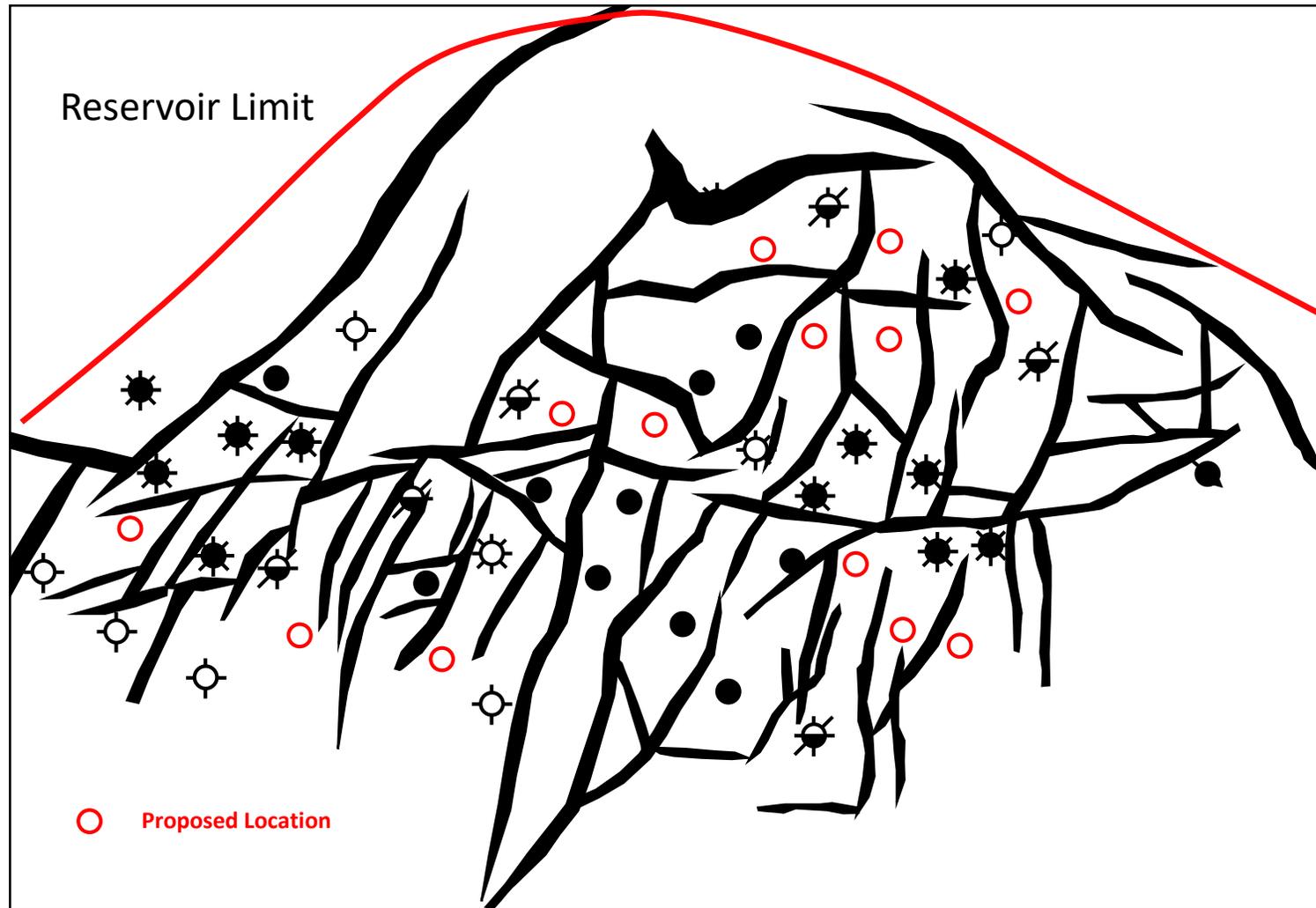
Certification Request / Stalled FDP

Question #3: Request for SEC based certification of 1P and 2P reserves for producing field with stalled FDP.

- The field is salt dome structure.
- 1st FDP 20 years ago with 40 wells drilled.
- Mixed results of 40 wells. →
- Highly compartmentalized.
- 2nd FDP was approved 10 years ago for 15 new wells
- No activity for first 6 years.
- 2 wells drilled with positive results with production, but commercial quantities remain uncertain.
- Company asserts it is PRMS compliant and had classified all FDP 15 wells as 1P and 2P Undeveloped.
- No other well AFEs of the program have been approved to date.



2nd FDP Development Plan Well Locations



- 5 years ago, Consultancy A audited 2nd FDP and SPE-PRMS certified FDP 15 wells to company's definition (before two newest wells).
- 2 years ago, Consultancy B audited 2nd FDP. Two wells are producing but have not established commercial project volumes.
 - Consultancy B SPE-PRMS certified 2 proved producing, 6 wells with 1P and 2P undeveloped, but reclassify 7 as Contingent Resources.
- You are auditing the project using SEC standards based on company instructions. However, the company is not registered in the USA and is not required to file.
- Would you consider giving a 1P and 2P reserves certification? Why?
- If the basis is changed to SPE-PRMS, would it change your opinion?

Question / Issue #4

Public Reporting / Disclosing 1P Volumes

Company Tobi acquires a producing asset in 2017 and discloses 1P reserves at YE 2017

- ▶ Producing field, 20 wells, field is still on plateau and decline is expected to begin in 3 years.
- ▶ License expires in 20 years in 2037.
- ▶ Field End-of-Life plan defines no upside potential, no further wells, no significant investment, only workovers
- ▶ Reserves evaluation assumes 100 MMboe 1P reserves as reasonable

Company Tobi is not listed in US but claims to disclose 1P reserves according to SEC.

Reserves Replacement Ratio (RRR) Strategy

Tobi is considering the strategy of having a RRR > 100% for at least 3 years. To support this, it's intended to stretch the reserves addition to 50/30/20 MMboe sequentially year-on-year rather than booking 100 MMboe in year 1.

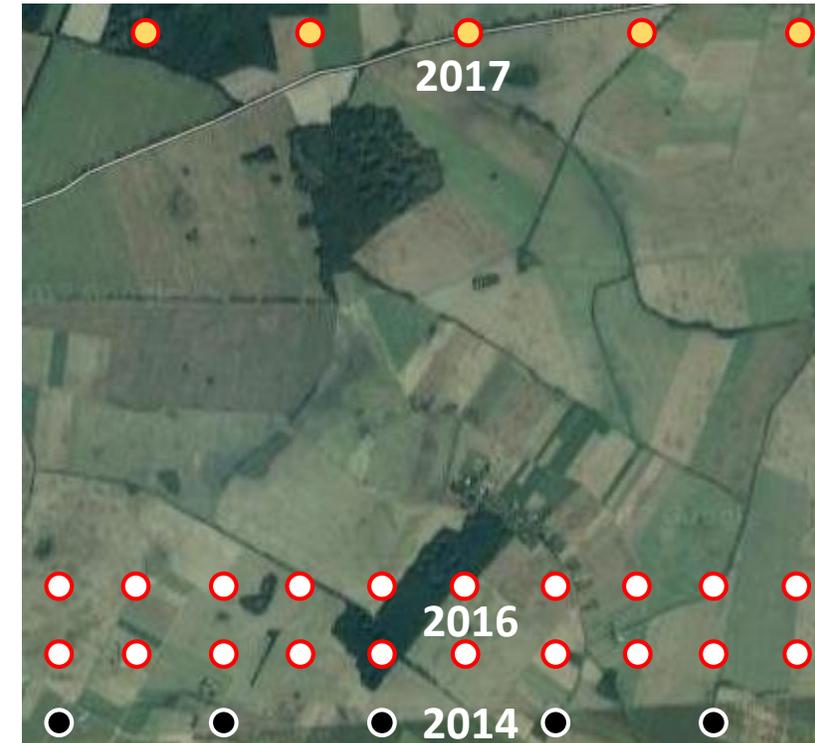
- ▶ Can the company follow this booking strategy in SEC filing?
- ▶ Can the company follow this booking strategy in COGEH filing?
- ▶ Can the company follow this booking strategy in PRMS based public press releases?
- ▶ What options/flexibility does the company have to stretch the booking?
- ▶ Is there an ethics violation in this example?

Question / Issue #5

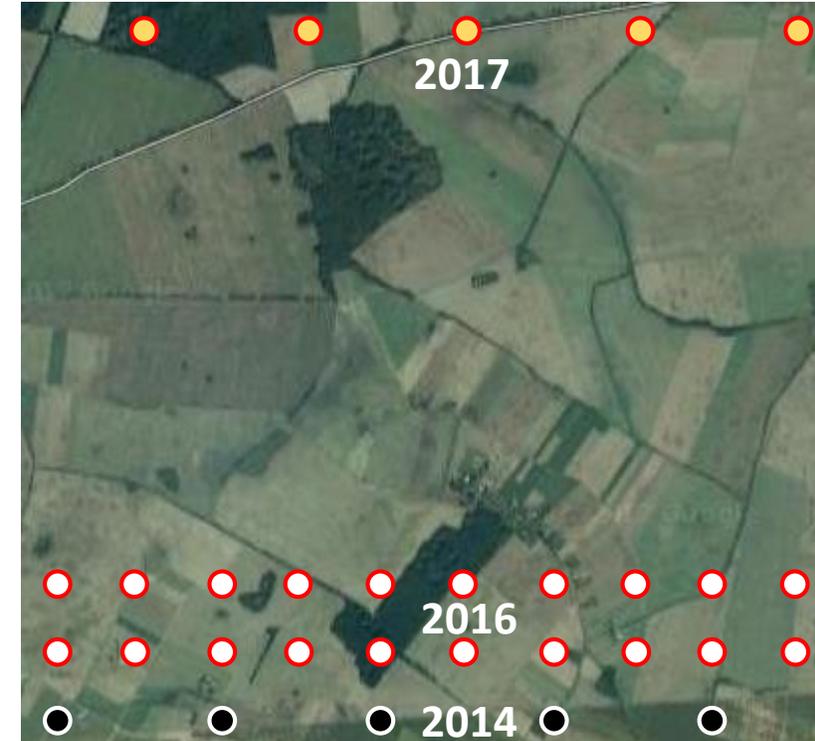
Unconventional Coal Bed Methane

Company Y approved a CBM Development Plan in 2014 and plans to report 1P reserves for YE2017

- ▶ A total of five exploration/appraisal wells are drilled in the southern part of a license in Europe in 2014.
- ▶ In 2015 a production pilot starts using the 2014 wells selling gas to pressurized-gas filling stations in the vicinity which has helped to secure gas for the remote communities living in this area.
- ▶ Production license of 30 years expires in 2042.
- ▶ The company drills 20 new wells in 2016 in an area close to the pilot. Wells have logs but are not tested. Wells are completed and ready to produce, but are shut-in.



- ▶ In early 2017, five new wells are drilled and completed in the northern part of the license about 15 km from the Pilot area.
- ▶ Coal characteristics are evaluated from logs to be the same as in the pilot wells.
- ▶ Company decided to complete these wells due to the similarity to the pilot geology, and there is no need to test them.
- ▶ The northern development faces opposition from the communities living in this remote area close to a National Park. Public demonstrations are ongoing and a complaint signed by 3,000 people was filed with the local council. Permits to produce have been delayed and are pending hearings.



- ▶ The company is not listed in the US but publicly proclaims Proved reserves comply with SEC rules.
- ▶ The operator believes evaluation methodologies are reasonable.
- ▶ Can the company accurately claim Proved reserves under the SEC?
 - For the 5 Southern producing wells?
 - Can the company claim Proved non-producing reserves from the 20 new wells in the Southern area?
 - Can the company claim Proved non-producing reserves for the five Northern wells ?
- ▶ Could they claim Proved reserves instead under the PRMS or COGEH guidelines?

