

# ALBERTA SECURITIES COMMISSION 2011 OIL AND GAS REVIEW

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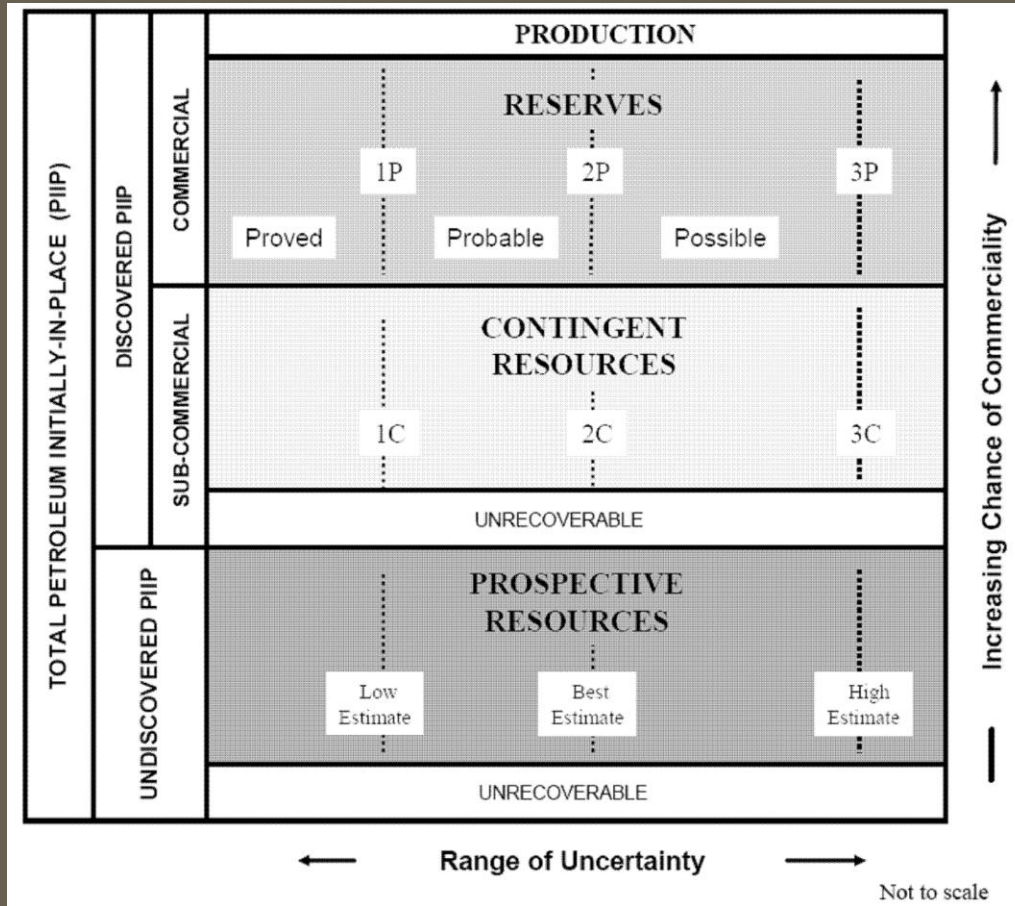
# OUTLINE

- OIL AND GAS SECURITIES REGULATION
- THE CHANGING INDUSTRY
- 2011 OIL AND GAS REVIEWS
- INDUSTRY CONTACT
- AMENDMENTS, REVISIONS, GUIDANCE
- INTERNATIONAL DEVELOPMENTS
- REFERENCE MATERIAL

# OVERVIEW

- Response to changes due to unconventional activity and new technology from:
  - Industry: evaluation and classification guidance
  - Regulator: regulation and disclosure guidance
- Focus of talk:
  - On disclosure deficiencies and areas that need improvement but
  - Disclosure is generally good, and continues to improve

# COGEH CLASSIFICATION\*



CLASS

CATEGORY

\* Derived from PRMS

- Protect the integrity of the capital market:
  - Ability to raise funds
  - Ability to trade securities
- Balance conflicting goals:
  - Investor protection: relevant, timely, and reliable information
  - Access to capital: compliance costs not too burdensome

# DISCLOSURE

- Provide information that is material to investors in publically traded securities
  - i.e., Information that could affect trading decisions
- Ensure that information is available to all investors at the same time
- Responsibility: directors and officers of the reporting issuer

# DISCLOSURE

- Oil and gas disclosure:
  - Not just about NI 51-101 or annual filings but
  - About
    - Providing relevant information
    - Conforming to general disclosure requirements not to be misleading
- Resources other than reserves:
  - Current guidance limited, therefore more reliance on general provisions

# ALBERTA SECURITIES COMMISSION

- Regulates securities disclosure for Alberta
  - Operates under the Alberta Securities Act
  - Develops disclosure regulations
  - Reviews and audits for compliance with:
    - Regulatory disclosure legislation
    - Industry standards of measurement and classification
  - Does not “approve”
- Advises other provinces on oil and gas disclosure
  - Lead oil and gas securities regulator for Canada

# CANADIAN OIL AND GAS DISCLOSURE LEGISLATION

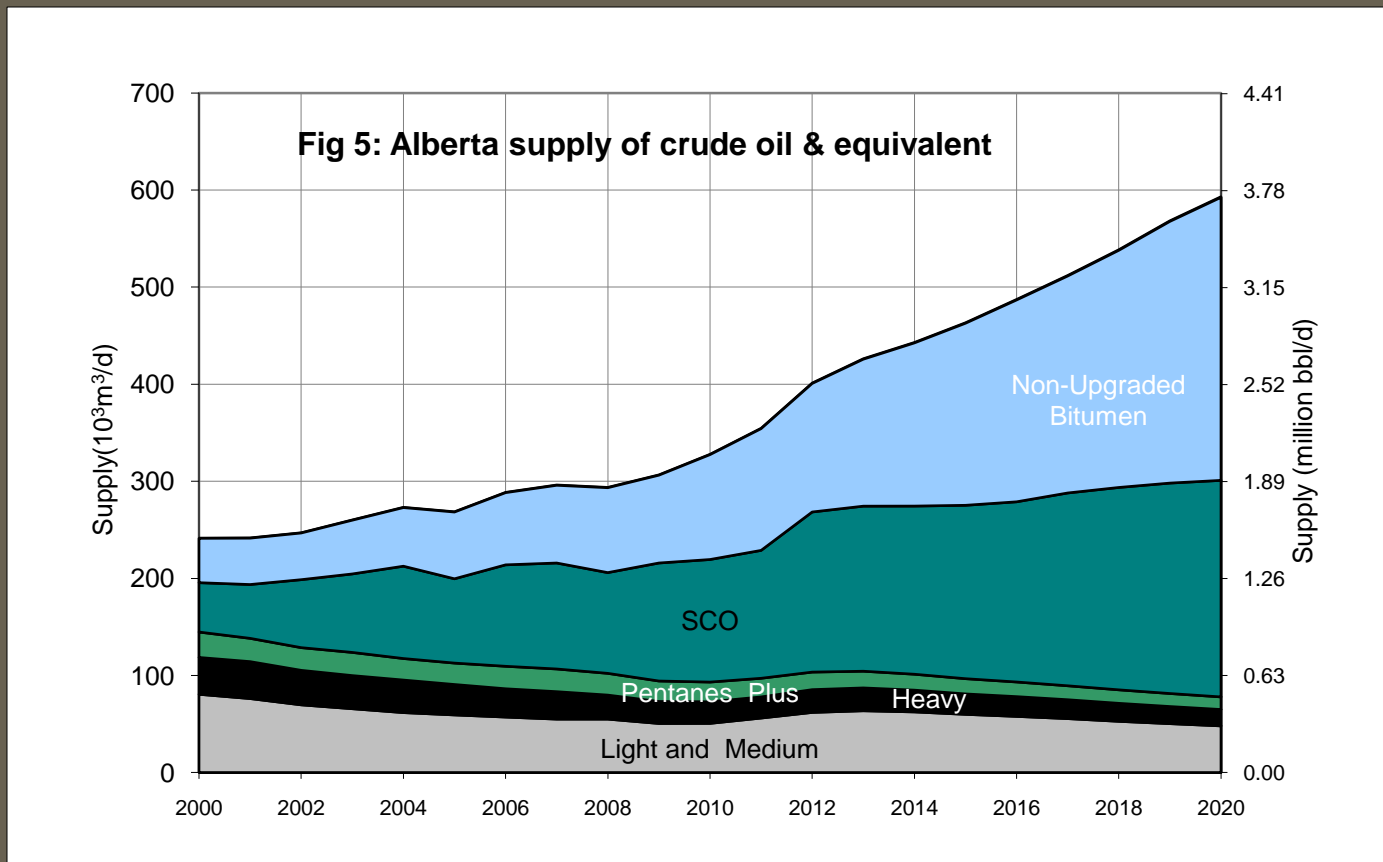
- Provincial Securities Acts
- Continuous Disclosure (NI 51-102)
- National Instrument 51-101, 2003  
(amendments 2007, 2010)
  
- Companion Policy
  - Provides guidance on use of NI 51-101
  
- CSA Staff Notices
  - 51-327, Ongoing guidance on current issues
  - 51-324, Glossary

# NI 51-101 MAIN PROVISIONS

- Applies to oil and gas activities by reporting issuers
- Requirements for all oil and gas disclosure:
  - Include use of qualified reserves evaluator or auditor
- Annual filing:
  - Independent evaluation
  - Mandatory proved + probable reserves at forecast price
  - Optional other resource classes, price scenarios
- Refers to Canadian Oil and Gas Evaluation Handbook (COGEH) for technical standards

- Unconventional resource activity
  - Gas in (CBM) and from (UCG) coal
  - Bitumen in oil sands (and carbonates)
  - Gas and oil from shale
  - Methane hydrates ???
    - Trapping conditions and recovery processes are different
- New technology
  - Horizontal wells, multistage fracturing
- Major increase in portion of corporate assets in “resources other than reserves”

# WC BITUMEN



Source: ERCB ST-98

# US DRY SHALE GAS PRODUCTION

	<b>% of US GAS SUPPLY</b>
<b>2000</b>	<b>2 (approx)</b>
<b>2010</b>	<b>23</b>
<b>2035</b>	<b>46</b>

Source: US EIA

# CURRENT GUIDELINES

- NI 51-101 and COGEH were written mainly for conventional reserves

	CONVENTIONAL	CBM	BITUMEN	SHALE GAS	SHALE OIL	HYDRATES
COGEH	YES	YES	PENDING	NO	NO	NO
PRMS	YES	YES* (LIMITED GUIDANCE)				

- \* Recently published PRMS Applications Document contains a chapter on unconventional resources
- NI 51-101: Amendments under consideration

# THE ASC REVIEW PROGRAM

- STATUTORY FILING REVIEW
- COMPLIANCE REVIEW
  - Annual filings
  - Other filings, news releases, webcasts, etc.
- TECHNICAL REVIEWS/AUDITS (reserves and resources)
  - Prospectuses
  - Continuous disclosure
  - Miscellaneous
- COMMUNICATION WITH INDUSTRY
  - Petroleum Advisory Committee (PAC)
  - Industry: general, committees, etc.
  - Annual report, papers, talks

# COMPLIANCE REVIEW: ANNUAL FILINGS

- Oil and gas annual disclosure filing
  - Form 51-101 F1
  - Form 51-101 F2
  - Form 51-101 F3
- Form 51-101 F4, Notice of filing of 51-101 F1
  - Only if F1, F2, F3 information included in AIF
- About 450 annual filings reviewed every year

# NEW SEDAR CATEGORIES

- Revised Oil and Gas Annual Disclosure Filing
  - Revised oil and gas annual disclosure filing (Forms 51-101 F1, F2 & F3)
  - Revised oil and gas annual disclosure filing (Form 51-101 F1)
  - Revised oil and gas annual disclosure filing (Form 51-101 F2)
  - Revised oil and gas annual disclosure filing (Form 51-101 F3)
- Interim Oil and Gas Disclosure Filing
- Summary of oil and gas report:
  - Do not file the complete report

# ANNUAL FILING REVIEW ISSUES

- Oil and gas activities
- Reconciliation errors
- Product types
- Undeveloped reserves
- Missing signatures on forms F3
- Oil and gas reserves/resources reports should not be filed as mining, NI 43-101, reports

# FILINGS: OIL AND GAS ACTIVITIES

- Defined in NI 51-101 1.1(s)
  - Search for oil and gas
  - Acquisition of property rights or properties
  - Construction, drilling, production activities for oil and gas recovery
- You don't have to have
  - Reserves or resources
  - Production

# RESERVES RECONCILIATION

- OPENING BALANCE
- ADDITIONS
  - Discoveries
  - Extensions and improved recovery
  - Acquisitions
- REDUCTIONS
  - Dispositions
  - Production
- FLUCTUATIONS
  - Economic factors
  - **Technical revisions**
- CLOSING BALANCE

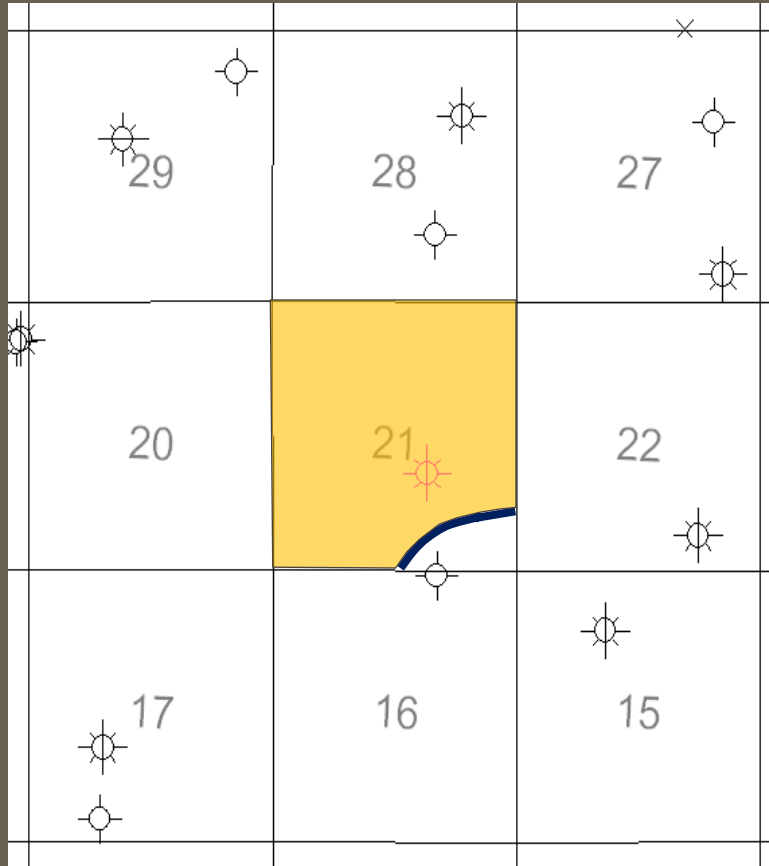
# FILINGS: RECONCILIATION ERRORS

- Reconciliation
  - Between opening balance and closing balance
    - e.g., For an acquisition, it is the year-end effective date reserves, not the acquired mid-year reserves
- Ask WHY there is a change

# FILINGS: RECONCILIATION ERRORS

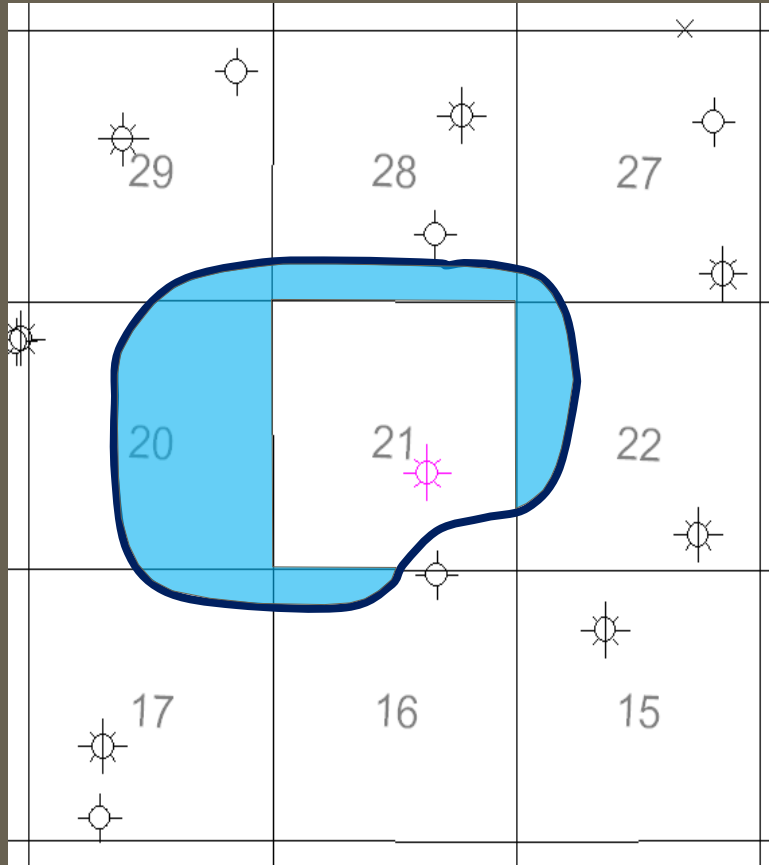
- Don't create new categories
  - “Other” is not a category!
- Don't confuse
  - Extensions and improved recovery with technical revisions
  - Technical and Economic revisions
- An extension is positive not negative!
  - A change to a previously booked extension is
    - A technical revision; or
    - A disposition

# YEAR 1

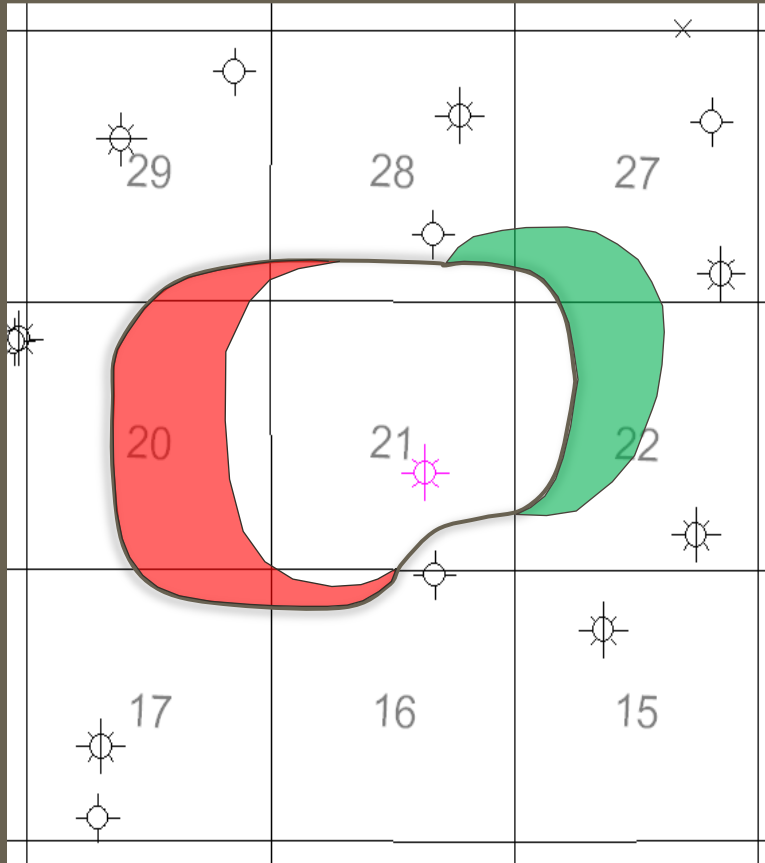


Reserve Reconciliation			
	Proved	Probable	Proved + Probable
Opening Balance	0	0	0
Extension	0	0	0
Technical Revision	0	0	0
<b>Acquisition</b>	<b>50</b>	<b>85</b>	<b>135</b>
Closing Balance	50	85	135

# YEAR 2



Reserve Reconciliation			
	Proved	Probable	Proved + Probable
Opening Balance	50	85	135
<b>Extension</b>	<b>90</b>	<b>120</b>	<b>210</b>
Technical Revision	0	0	0
Acquisition	0	0	0
Closing Balance	140	205	345



Reserve Reconciliation			
	Proved	Probable	Proved + Probable
Opening Balance	110	205	315
Extension	10	20	30
Technical Revision	0	-35	-35
Acquisition	0	0	0
Closing Balance	120	190	310

- Use the defined Product Types (NI 51-101 1.1(v))
- Don't combine Product Types
- Product types are under review, more later

# FILINGS: UNDEVELOPED RESERVES

- Confusion over “First Attributed”
- A record of when PUDs or PBUDs are first booked

# COMPLIANCE REVIEW: NEWS RELEASES

- Includes press releases and corporate presentations
- Significant trading can take place on news releases
- Now in fifth year of comprehensive review program for NI 51-101 compliance

• News releases	<u>Oct 31 2011</u>
– Scanned	5387
– Forwarded for review	443
– Number with potential issues	166
– Issuers contacted	17

- Most issues related to Resources
  - More requests for reserves and resources reports
- Contingent Resources: Generic and boilerplate contingencies
- Use of Non-COGEH terminology
  - Potential reserves
  - OOIP

- Large estimates in headline or first sentence without proper classification and required information
  - Potentially misleading even if classification can be identified in the body of the news release
- XYZ Petroleum: **“Erewhon field recoverable resources increase to between 800 million and 1.8 billion barrels of oil”**

- Misleading disclosure
- **“... we have 3000 shale gas locations ...”**
  - No context or explanation
  - Current drilling rate 8 wells a year ... a 375 year drilling inventory?
  - Ca. \$15 billion drilling and completion costs

# TECHNICAL REVIEWS 2003 – PRESENT

- Resource reports reviewed 1561
- Issuers reviewed 853
- Countries represented 54
- Evaluators (to Oct 2011) 69

Does not include reviews of annual filings or news releases

# TECHNICAL REVIEWS: ISSUES

- Variation in contingent resource evaluation and classification
  - Clarification of disclosure may be requested
- Misunderstanding classification system
  - Contingent resource low estimate greater than best estimate

# LOW ESTIMATE GREATER THAN BEST ESTIMATE

	BEFORE		AFTER		AFTER	
RESERVES	1P = 0	2P = 0	<b>X</b>	2P = 20	<b>✓</b>	2P = 10
CONTINGENT RESOURCES	1C = 20	2C = 40 $\Delta C = 20$	1C = 0	2C = 40	1C = 10	2C = 30 $\Delta C = 20$

# SHALE GAS PARAMETERS

- Gas content
- Sorption isotherm
- Gas composition
- Rock-eval. pyrolysis
- Mineralogical analyses
- Vitrinite reflectance
- Core description
- 3D seismic
- Kerogen types
- Routine core analysis
- Conventional logs
- Special logs
- Pressure-transient tests
- Geomechanical properties (Young's modulus and Poisson's ratio)
- Microseismic
- Fracture diagnostics
- Gas, water rates
- Bottomhole pressures
- Tracer surveys
- Facilities
- Rate-transient analysis
- Numerical modeling
- Decline-curve analysis
- Analogs

# SHALE GAS AREAL ASSIGNMENTS

- Extrapolation:
  - Often based on limited information
    - Shales are not all the same
    - Shales are not homogeneous
  - Needs more complete analysis
    - e.g. Low or absent quartz/calcite  $\Rightarrow$  probably can't fracture
  - Extrapolation for productivity not presence of shale

# POROSITY CUTOFFS: YOU NEVER RECOVER EVERYTHING!

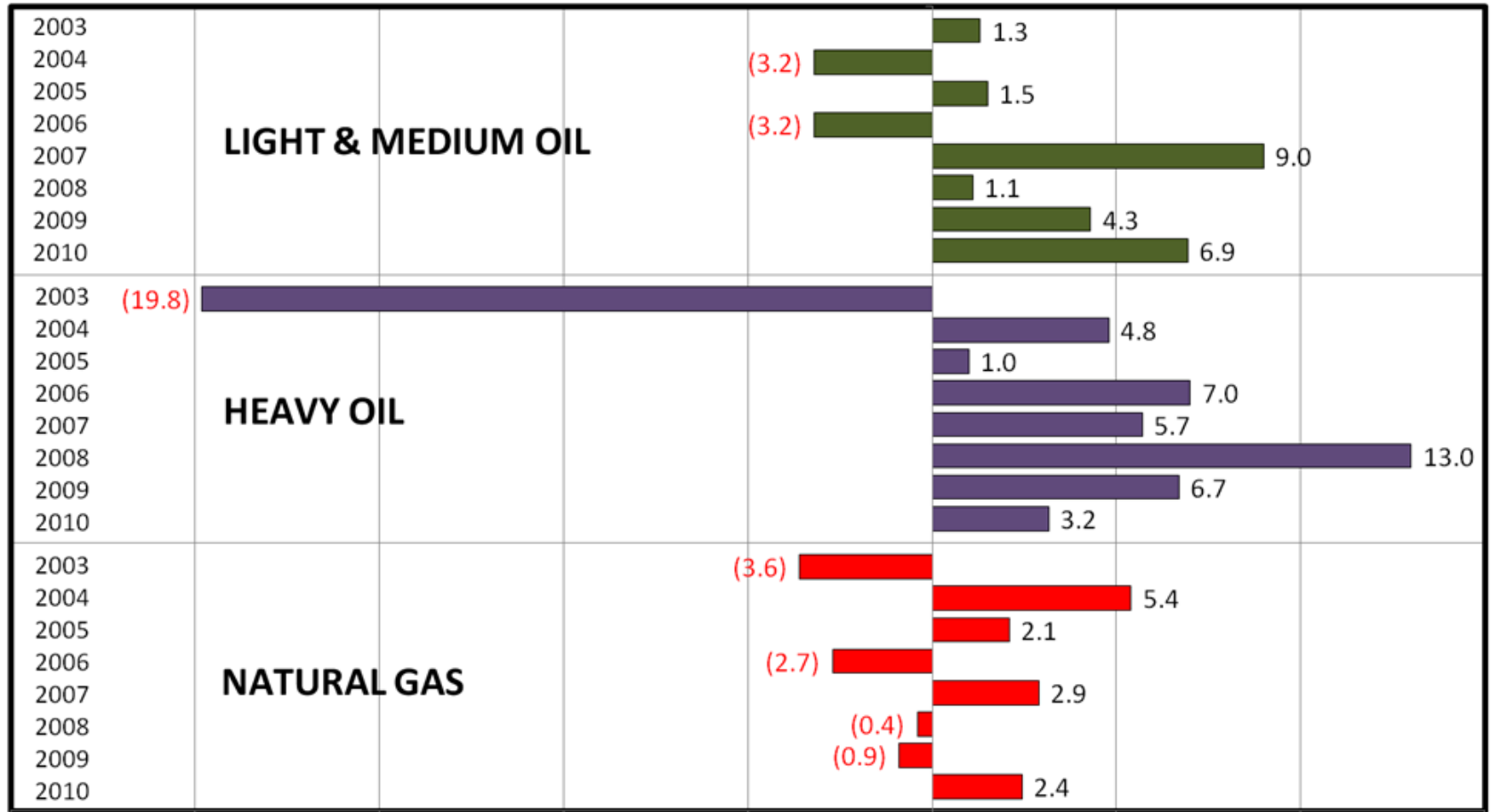
- Conventional oil and gas porosity cutoffs are based on concepts of relative permeability and residual saturation
- A zero percent cutoff is questionable technical practice and likely to be misleading. e.g.
  - 3% cutoff 100 Bcf/section
  - 0% cutoff 400 Bcf/section

# PROJECT PLANNING AND MANAGEMENT

- Evaluations to be done without regard to the availability of funding
- However:
  - Complex projects must be evaluated with reasonable timelines in order to avoid being misleading
  - Evaluator must have the appropriate experience and knowledge to evaluate a project, e.g.
    - Upgrader
    - Novel technologies

- Proved reserves
  - Revisions should be mostly positive
  - Probability of negative revision approaches zero as the number of entities increases
- Proved + probable reserves
  - Revisions should be close to zero
  - Probability of positive or negative revisions approaches zero as the number of entities increases

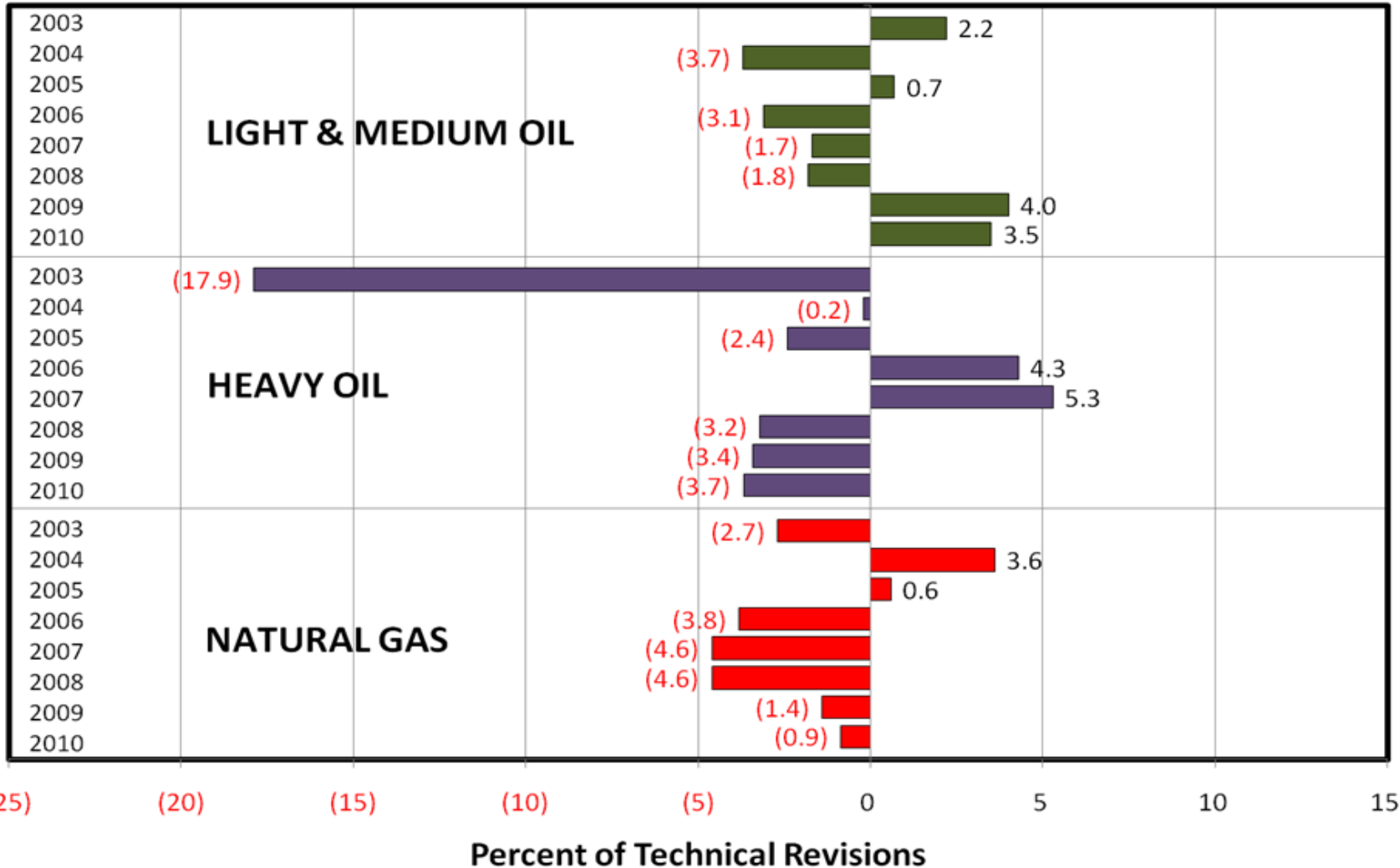
# PROVED RESERVES



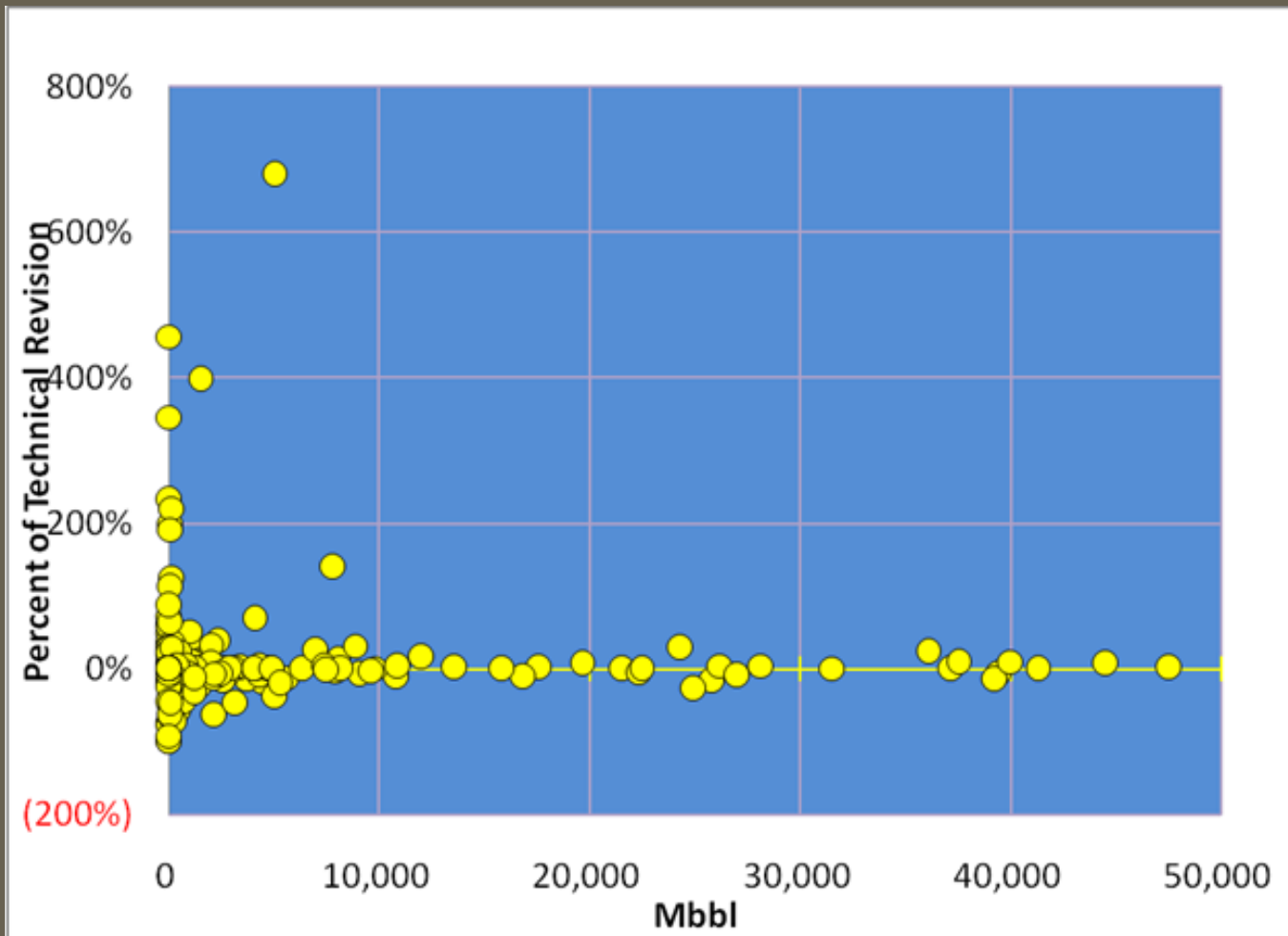
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Percent of Technical Revisions

# PROVED + PROBABLE RESERVES



# LIGHT & MEDIUM OIL PROVED + PROBABLE RESERVES



# TECHNICAL REVISIONS: CONCLUSIONS

- Light & Medium oil, Heavy oil: Little or no bias
- Natural gas: Possible small bias (< 2%) on but not material
- Unconventional, not enough data
  - Bitumen: no adverse indications.

# TECHNICAL REVISIONS: FURTHER ANALYSIS

- Eight years of reasonable data
  - Ignore first year
- Examine
  - Trends for companies
  - Trends for evaluators
  - Revisions on change of evaluator

- Petroleum Advisory Committee (PAC)
- Questions
- Discussions
- Industry committees
- Conferences and presentations:
  - Nearly 100 presentations since 2003

# PETROLEUM ADVISORY COMMITTEE (PAC)

- Industry representatives
  - Membership up to 15, currently 12 members
    - Mainly technical
    - Some legal & financial
  - Includes:
    - CAPP and SEPAC nominees
    - Evaluators
- Meets quarterly
- Provides informal advice

# EXAMPLES OF ISSUES DISCUSSED

- Contingent resources
- BOE conversion ratios
- Finding and development costs
- Product types and sources
- Price forecasts
- Service contracts
- Political risk disclosure

# FINDING AND DEVELOPMENT COSTS

- NI 51-101 5.15 provides a formula
  - No guidance on input
  - Change in accounting policy, GAAP to IFRS affects cost component
  - No standard method of calculation
- Hence not a good measure of comparability

# PRODUCT TYPES

## Conventional

- light and medium crude oil (combined)
- heavy oil
- natural gas excluding natural gas liquids
- natural gas liquids

## Non-conventional

- synthetic oil
- bitumen
- coal bed methane
- hydrates
- shale oil
- shale gas

But, the same product can come from different sources, e.g., Natural Gas

- Conventional reservoir
- Coal bed methane
- Shale gas
- Hydrates

# AMENDMENTS, REVISIONS, GUIDANCE

- So what do we do with all this review and discussion?
- Industry issue:
  - Evaluation and classification practices and guidelines
- Regulator issues
  - Legislation: NI 51-101
  - Guidance

- COGEH update
- Resources other than reserves guidelines
  - Contingent and prospective resources
  - Discovery criteria
  - Use of analogs
  - Extrapolation
- Resource specific
  - Shale gas
  - Shale oil

# CONTINGENT AND PROSPECTIVE RESOURCE GUIDELINES

- SPEE (Calgary) Resources Committee preparing guidelines
- Applicable for all resource types but driven by unconventional resources

# CONTINGENT AND PROSPECTIVE RESOURCES: ISSUES

- Discovery criteria
  - Known accumulation
- Use of analogs
- Extrapolation
- Clarification of “contingencies”
  - Technology under development
  - Political matters
  - Project maturity

- Companion Policy
- Staff Notice 51-327
  - Current topics
  - Contents may eventually be
    - Incorporated in legislation
    - Incorporated in companion policy
    - Removed if dealt with in technical standards
    - Removed if outdated or obsolete
- Website

# CSA STAFF NOTICE 51-327 UPDATE

- Responsibilities of reporting issuers and evaluators
- Specific disclosure topics
  - After tax net present value
  - Barrels of oil equivalent
  - Well flow test results
  - Unconventional resources
- Minor changes to some other items

# 51-327: GENERAL RESPONSIBILITIES

- All securities law, not just NI 51-101
- Misrepresentation or misleading statements
  - Alberta Securities Act Section 92(4.1): general provision including “by omission”
  - Adherence to COGEH is necessary but may not be sufficient
- Requirement for Material Change Reports
- Meaningful disclosure, not boilerplate

# 51-327: MATERIAL CONTINGENT RESOURCES

- Contingent resource disclosure is not mandatory in NI 51-101
- But must be disclosed in an IPO if material
- If you have undisclosed material contingent resources, you may be an insider and not able to trade on this information.

# 51-327: MISREPRESENTATION OR MISLEADING STATEMENTS

- Examples:
  - Unreasonable project timelines that misrepresent the NPV
  - Technology not fully developed for a specific reservoir without explanation and cautionary statements
  - Reporting a short term peak rate for a test as a daily rate without disclosing the duration of the peak rate

# 51-327: RESPONSIBILITIES OF EVALUATORS AND AUDITORS

- Professional responsibilities
  - APEGGA, etc.
  - Relevant expertise
- Misrepresentation or misleading statements
- Consent for disclosure by evaluator

# 51-327: OTHER CHANGES

- Explanation of after tax NPV methodology
- Use of barrels of oil equivalent (BOEs)
  - Energy equivalence ratio approx. 6:1
  - Price equivalence ratio varies, currently about 20:1
- Disclosure of well flow test results, e.g.
  - Type, duration of test
  - Average rate
  - Type and volume of fluids recovered
  - Explanation and cautionary statements

- Specific, not boilerplate or generic, disclosure of contingencies
  - Economic (for sub-economic contingent resources)
  - Non-technical:
    - Legal, regulatory, etc.
  - Technical:
    - Established technology
    - Technology under development

# NI 51-101: POTENTIAL AMENDMENTS

- Definition of oil and gas activities
- Product type
  - Remove reference to royalty regime for heavy oil
  - Separate product type from source
  - Add product types?
    - UCG?
- F&D costs

# NI 51-101: POTENTIAL AMENDMENTS

- After tax evaluation explanation
- Abandonment and reclamation costs:
  - Review of definition (and COGEH guidance)
  - Accuracy of estimates
- Well flow test results
- BOE disclosure
- Allow supplementary US disclosure without an exemption

# NI 51-101: POTENTIAL AMENDMENTS

- F2: responsibility after preparation date:
  - Reporting issuer, not evaluator
- Signature of report by firm rather than an individual
- Disclosure of management vs. independent estimate

# NI 51-101: POTENTIAL AMENDMENTS

- In early stages of review
- Public comment period
- Timing:
  - Late 2012
  - Mid-2013

# SUMMARY

- Conventional reserves disclosure generally good
- Unconventional resources and resources other than reserves
  - Variation in practice:
    - Technical standards still in an early stage of application
  - Concern about contingent resources
- ASC continues to work with industry to develop technical standards

# REMEMBER THE OBJECTIVE

- To provide information that is material to investors in publically traded securities
  - i.e., Information that could affect trading decisions
- Not “FILING” it is “DISCLOSURE”

# INTERNATIONAL DEVELOPMENTS

- PRMS-COGEH Merger
- UNFC
- IASB

# PRMS-COGEH MERGER

- PRMS, used mainly by industry
  - Not recognized in two major oil and gas securities markets (Canada, US)
  - No review or audit
- COGEH
  - Canadian standard for securities
  - Review and audit by ASC since 2003
- Significant commonality
- Some differences

# PROPOSAL TO MERGE PRMS AND COGEH

- Two developed standards, each with its own strengths and weaknesses
- Combine the strengths
- Complex process
- In preliminary stages, not yet formally approved by key participants
- Draft proposal under review within SPEE

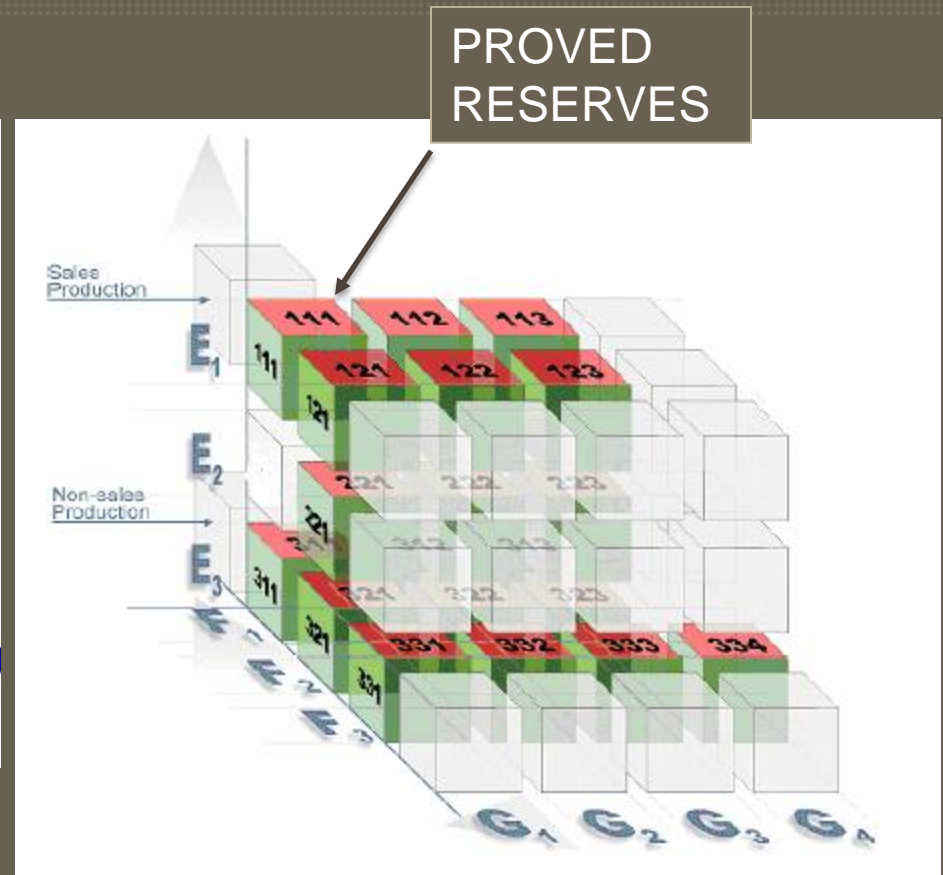
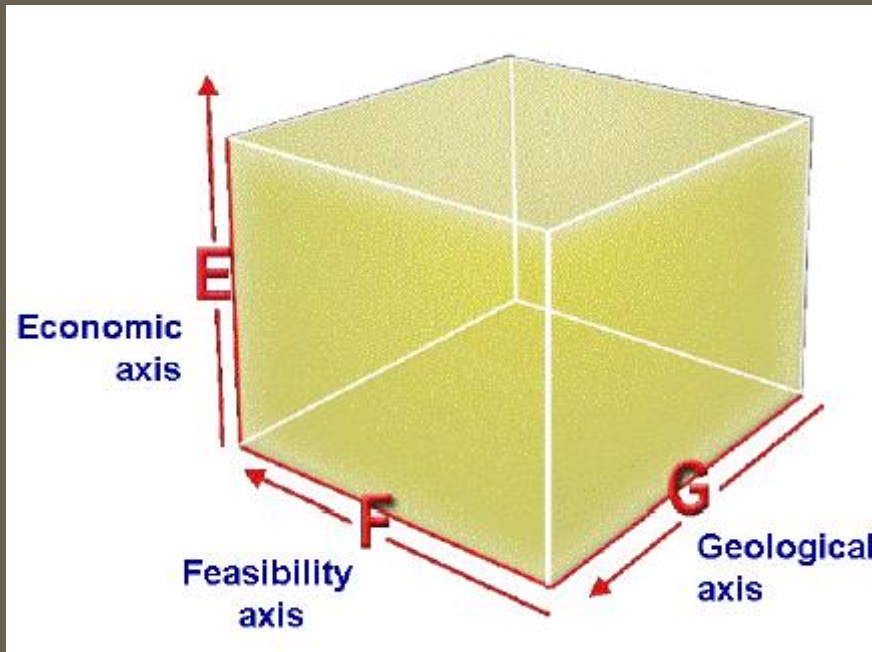
# PRMS-COGEH MERGER TEMPLATE

- PART I: base document of common concepts, principles and standards
- PART II: detailed guidance
  - Fundamental methods
  - Evaluation technologies
  - Resource specific guidance
- PART III: user specific requirements
- APPENDICES: references, glossary, units

# TIMELINE?

- Resources are limited, especially of knowledgeable, willing and available authors
- Many parties with different interests
- Merger project not agreed on and still in very early stage.
  
- My guess: 5 years

# UNITED NATIONS FRAMEWORK CLASSIFICATION



- E Economic and social conditions
- F Project Feasibility
- G Geological knowledge

# UNITED NATIONS FRAMEWORK CLASSIFICATION (UNFC)

- High level system for solid minerals and liquid fuels
- Revised version issued, UNFC-2009:
  - Refers to PRMS for oil and gas evaluation guidance
- Need for high level (UNFC) standards under review
- Used :
  - To a limited extent at national level
  - Not sufficiently developed for securities disclosure

# INTERNATIONAL ACCOUNTING STANDARDS BOARD

- Extractive industries research project
- Report and public comment last year
- No decision to pursue it yet
- If pursued, no results for several years

- ASC website: [www.albertasecurities.com](http://www.albertasecurities.com)
  - All securities legislation
  - For oil and gas, go to:
    - For companies
    - Oil and gas
  - Annual oil and gas reports
- COGEH
  - Available from the SPE Canada or SPEE Calgary
- PRMS
  - On the SPE website

- FAQs
- Reference materials:
  - COGEH Section 5 (definitions)
  - Cautionary language
  - SEDAR categories
- Subscribe to:
  - Oil and gas annual report (electronic)
  - ASC oil and gas events
- Contact us link

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