

A photograph of several slices of watermelon, some showing the red flesh and black seeds, and others showing the white rind. The slices are arranged in a row, with some overlapping. The background is white.

# Unitization and Redetermination

## A Petroleum Industry Seminar

This seminar comprises presentations and practical case studies. It describes optimum procedures for the unitization and subsequent redetermination of hydrocarbon reservoirs.

The content reflects the interdisciplinary nature of field unitization, which can involve geoscientists, engineers, administrators, lawyers and accountants. Although the primary determination of equity is technical, by its nature the outcome is commercial. This interaction is managed by lending a technical emphasis to the presentations and allowing the commercial implications to become manifest through the exercises and discussion during the seminar.

### Objectives

The aim of the seminar is to provide attendees with an understanding of the methodologies used to determine equity participation in hydrocarbon reservoirs, both at the initial unitization stage and during any subsequent redetermination exercises.

The emphasis of the seminar is on the use and application of the procedures rather than the theoretical justification on scientific, legal or fiscal grounds. However, where a procedure is described, the underlying rationale is always explained. The course therefore provides a broad introduction that is of benefit to all attendees.

### Content

Most unitizations are based upon hydrocarbons initially in place, however a wide range of alternative criteria are also used. For this reason, the course examines the commonly used technical procedures.

Unitizations and redeterminations are discussed using examples which do not compromise the essential confidentiality associated with the U&R process. The course explains and defines the fundamental terminology. Some of these terms do not have a universally accepted interpretation and therefore it is important to identify their meanings within U&R.

A typical unit agreement is reviewed both historically and in contemporary formats and this includes mechanisms for implementing the agreement and for incorporating any equity adjustments following redetermination. This is vital as many fields rely on legacy unitization agreements.

The seminar can be presented as a multi-client presentation, or a bespoke offering focused to the particular needs of the client. The outline of the multi-client seminar is shown overleaf.

### Course Objectives and Issues Covered

#### Description of the Unitization and Redetermination Problem

- Historical perspective
- Recent experience

#### Industry Approach

- Unitization agreement format
- Technical bases and procedures
- Dispute resolution
- Case studies

**Gaffney,  
Cline &  
Associates**

## Seminar Schedule

### Day One

#### Introduction:

- Aims of course
- Issues to be addressed

#### Background:

- USA, North Sea and other experiences
- Corporate issues
- Technical issues
- Procedural aspects
- International considerations

#### Unitization Agreement Format:

- Overall structure and definitions
- Creation and effect
- Tract participation
- Redetermination
- Adjustment of costs/production
- Enlargement of unit area

#### Unitization Agreement Format:

- Unit Operator/Operating Committee
- Non-unit operations
- Appraisal costs
- Sole risk
- Default
- Voting
- License joint operating agreements

#### Technical Bases for Unitization and Redetermination:

- Oil, Gas, Condensate
- Historical perspective
- Future trends

### Day Two

#### Technical Procedures for Unitization and Redetermination:

- Geology, Geophysics, Petrophysics, Engineering
- Scheduling aspects
- New technology
- Contentious technical issues
- Definitions

#### Redetermination Issues:

- Data, number, frequency, scheduling
- Expert
- Costs, cash adjustments
- Production adjustments

#### International (cross border) Aspects:

- Governmental treaties
- Commercial agreements
- Government/company decisions

#### Dispute Resolution:

- Expert determination
- Strategic considerations

#### Litigation and Future Trends

#### Course Summary, Question and Answer Session

## Additional Information

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