



Society of Petroleum Engineers

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Schlumberger

**Elin Haryanto**  
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Sdn. Bhd.

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Brunei Shell Petroleum  
Sdn. Bhd.

## SPE Applied Technology Workshop

4-7 March 2008

The Empire Hotel & Country Club  
Bandar Seri Begawan, Brunei Darussalam

# WELL AND RESERVOIR MANAGEMENT – BEST PRACTICES FOR INCREASED PRODUCTION AND RESERVES ADDITION

Registration deadline:  
5 February 2008  
For Early Discount  
Apply inside or online  
at [www.spe.org/atws](http://www.spe.org/atws)

## Workshop Description

As new sources of oil and gas are getting more and more difficult and expensive to find, coupled with the high oil prices and rising demand, the focus is on existing fields as a more cost effective way of maintaining production and adding to the reserves base. On the other hand, looking at a wide range of recovery factors around the globe, it is evident that large quantities of discovered hydrocarbon is left in the ground at the end of field life; for most fields. Through an optimum field development and management, a substantial increase in hydrocarbon recovery is possible. Some of the barriers and difficulties to high recovery that will be discussed in this ATW include:

- Field Development Plans focus mainly on the construction phase whilst the operating phase is not given enough focus and often left to the 'others'. The challenge is to integrate the construction phase with the operating phase in a seamless manner creating a "Living Field Development Plan". Periodic FDP revisits in the form of Full Field Review has almost always added reserves. More interactive and living development plans would be far more effective and efficient.
- Reservoir characterization is fundamental to reservoir management. We can however, never get a grip on full understanding of the subsurface. We have to often live with uncertainty. The best ways to deal with uncertainty and managing reservoir under uncertainty will be explored through best practices.
- We are facing many internal challenges as well. A rush for maximizing production at these lucrative oil prices can potentially jeopardize the long term field recovery. How can we resist the temptation of such inappropriate short term production gains? How new technology can help in this area?
- There is a lack of experienced "Petroleum Engineers" and not enough people are coming through the system due to various reasons. Causes and possible solutions will be explored.

## Workshop Focus

Current and new technologies, best practices and implementations to ease the situation will be discussed in the ATW. Among the topics to be addressed are:

- The optimum amount of surveillance and the new developments in well and reservoir surveillance.
- The difference between new technology and its proper deployment.
- The best way to dealing with uncertainty in reservoir characterization.
- Coping with the challenge of retention of knowledge with rapid movement of personnel.
- The people, process and technology components of reservoir management and the best practices in reservoir management.

## Who Should Attend

This ATW is primarily aimed at Petroleum Engineering professionals (Petrophysicists, Reservoir Engineers, Production Engineers and Production Technologists), Geoscientists, Operations, Well Services staff and Senior Management with an interest in maximizing oil and gas recovery through strategic reservoir management and surveillance.

Registrants are encouraged to present case studies (successes, failures and lessons learnt) and other experiences for discussion.

**Documentation:**

1. Proceedings will not be published; therefore, formal papers and handouts are not expected from speakers.
2. Work in progress, new ideas, and interesting projects are sought.
3. Professionally-prepared visual aids are not required; handwritten viewgraphs are entirely acceptable.
4. Note-taking by participants is encouraged. However, to ensure free and open discussions, no formal records will be kept.

**Workshop Deliverables:**

- The committee will prepare a full report containing the highlights of the Workshop discussions. This report will be circulated to all attendees. A one-page summary will be prepared by the Workshop Co-Chairperson, which will be posted on the SPE Web Site, and published in the Journal of Petroleum Technology (JPT), if space permits. The copyright of the summary report will belong to SPE.
- PowerPoint presentation materials will be posted on a specific SPE URL address after the Workshop. Provision of the materials by the discussion leaders will signify their permission for SPE to do so.

**Commercialism:**

In keeping with ATW objectives and the SPE mission, excessive commercialism in posters or presentations will not be permitted. Company logos must be limited to the title slide and used only to indicate the affiliation of the presenter and others involved in the work.

**Registration Fees:**

**Registration Deadline: 5 February 2008**

- **SPE MEMBER :US\$1,850.00/person on/before 5 February 2008**
- **NONMEMBER : US1,950.00/person on/before 5 February 2008**

**Fee includes the following:**

- Three-day registration fee for all Workshop sessions;
- Four nights accommodation based on single occupancy with arrival Tuesday, 4 March 2008 and departure Saturday, 8 March 2008;
- Welcome reception followed by dinner (Tuesday evening);
- Three meals per day except on Thursday;
- Daily coffee/tea breaks;
- Workshop Workbook and Certificate of Continuing Education Units (CEU);

**Note:** Registration fee does not include hotel accommodation and meal costs for additional family member(s).

**Registration Policy:**

- Registration fee **MUST** be paid in advance for attending the Applied Technology Workshop.
- Full fixed fee is charged regardless of the length of time that the registrant attends the Workshop.
- Full fixed fee plus US\$100.00 handling fee will be charged for registration received after the registration deadline 5 February 2008.
- Fixed fee cannot be prorated or reduced for anyone (Workshop chairpersons, committee members, speakers, discussion leaders, students and registrants).

- Workshop is designed to be fully residential. Attendees are expected to attend all Workshop sessions and are not permitted to attend on a partial basis.

**Cancellation & Refund Policy:**

- A full refund less **US\$100.00** processing fee will be charged for cancellation received before the registration deadline **5 February 2008**.
- For cancellation received after the registration deadline **5 February 2008**, 25% refund will be made to the registrant.
- No refund on cancellation received seven (7) days prior to the starting of the Workshop date, on or after **26 February 2008**.
- Substitutions will not be accepted without prior Programme Committee approval.
- **No refund** will be issued if a registrant fails to show up at the Workshop on-site.

**Attendance Certificate:**

All attendees will receive an attendance certificate attesting to their participation at the Workshop. This certificate will be provided in exchange for a completed Workshop Questionnaire.

**Continuing Education Units:**

This workshop qualifies for SPE Continuing Education Units (CEU) at the rate of 0.1 CEU per hour of the ATW.

**Workshop Venue:**

The Empire Hotel & Country Club  
Jerudong  
Bandar Seri Begawan BG3122  
Brunei Darussalam  
Tel: 673.241.8888 • Fax: 673.241.8999  
Website : [www.theempirehotel.com](http://www.theempirehotel.com)

**Attendees' Information:**

General and detailed accommodation information will be forwarded to registrants with the attendee package prior to the scheduled Workshop in February 2008.

**Dress Code:**

Casual clothing is recommended. The Workshop atmosphere is informal.

**Transportation/Visa:**

Delegates are advised to book their international airline tickets early from their country to Brunei. Further detailed transportation information will be available and included in the attendee package, which will be sent to registrants in February 2008.

All travellers to Brunei must be in possession of passports valid for at least six (6) months with proof of onward passage, either return, or through tickets. Contact your local travel agent for information on visa requirements to Brunei.

**ATTENTION NON-MEMBERS  
JOIN SPE DURING THIS WORKSHOP AND  
RECEIVE YOUR FIRST YEAR'S  
MEMBERSHIP FREE!  
SUBMIT YOUR MEMBERSHIP APPLICATION ONSITE!**

**WELL AND RESERVOIR MANAGEMENT – BEST PRACTICES FOR INCREASED PRODUCTION AND RESERVES ADDITION**

**Preliminary Daily Activities Agenda**

Note: While every attempt will be made to adhere to the schedule, the status/availabilities of session topics, discussion leaders and moderators are subject to change. For updated technical agenda information, please visit the SPE website at [www.spe.org/atws](http://www.spe.org/atws).

**Tuesday, 4 March 2008**

- 9:00 a.m. – 12:00 p.m. Programme Committee Meeting
- 2:00 p.m. Hotel Check-in
- 4:00 p.m. – 7:00 p.m. SPE Registration/Poster Set-Up
- 6:00 p.m. – 7:00 p.m. Discussion Leaders and Session Managers/Moderators Briefing
- 7:00 p.m. – 9:00 p.m. Welcome Reception/Dinner

**Wednesday, 5 March 2008**

- 7:00 a.m. – 8:00 a.m. Breakfast
- 8:30 a.m. – 10:00 a.m. **Session 1: Introduction/Opening/Keynote Address**
- 10:00 a.m. – 10:30 a.m. Group Photo/Coffee Break
- 10:30 a.m. – 12:30 p.m. **Session 2: Field Development Plan (FDP) – The Key to High Recovery**  
Reservoir management is a continuous process from discovery to abandonment. However, the Field Development Plan (FDP) is the most critical step in this process. This session will focus on key components of FDP that can make a difference in hydrocarbon recovery. Best practices of FDP that have resulted in exceptional high recovery will be presented. Subsurface uncertainties may lead to multiple development alternatives. The best practices of dealing with uncertainty will also be discussed using case histories and follow-up discussions.
- 12:30 p.m. – 1:30 p.m. Lunch
- 1:30 p.m. – 3:30 p.m. **Session 3: The Living FDP**  
Almost all field development plans are made under many uncertainties. These development plans have to be updated as new data comes from infill and producing wells. How do we integrate data from well surveillance into our static and dynamic models in a seamless manner? How do we decide what type of data do we acquire to reduce the uncertainties in the field development plan? What tools and work processes are available to instigate and track data acquisition? This session will conclude with a discussion on Real Time Reservoir Management.
- 3:30 p.m. – 3:45 p.m. Coffee Break
- 3:45 p.m. – 5:15 p.m. **Session 4: Data – The Basis of Reservoir Management**  
In line with the IT industry, there have been an explosion in data acquisition techniques recently. Assimilating everything in one session will be a challenge. However, this session combined with the follow-up poster session will cover a spectrum of new data acquisition techniques from well logs to multiphase flow measurements. There have been major advancement in cased hole logs which are fundamental to reservoir surveillance. Emerging technologies in 'what is in-between the wells' through cross-well surveys and 4D seismic will be discussed using case histories.
- 5:15 p.m. – 6:15 p.m. **Session 5: Poster Session – New Technology in Data Acquisition**
- 6:45 p.m. – 8:45 p.m. Group Dinner

**Thursday, 6 March 2008**

- 7:00 a.m. – 8:00 a.m. Breakfast
- 8:30 a.m. – 10:30 a.m. **Session 6: Reservoir Management – Old Fields**  
The old fields, not having the advantage of new technology, have large amount of remaining oil. This is where the biggest challenge and prize is for reservoir managers. Case histories of rejuvenating old fields will show how new technology can be blended with old fields. Do RMPs (Reservoir Management Plans) really play any significant role in improving recovery factor (RF), will be discussed and debated. Recently introduced production data analysis techniques by combining pressure with rate has added a new dimension in Decline Curve Analysis (DCA). Case histories of these new techniques and limitations of DCA will be discussed in detail.
- 10:30 a.m. – 10:45 a.m. Coffee Break
- 10:45 a.m. – 12:45 p.m. **Session 7: Well Management**  
Reservoir Management has evolved from basics of 'conserving reservoir energy' to its present form of accessing difficult and hidden oil using complex well design and intelligent wells to maximize recovery. Case histories of such innovations will be presented in the context of recovery improvement.  
  
Reservoir surveillance integrated with well design is the basis of Real Time Reservoir Management (RTRM). New techniques in RTRM will be reviewed along with selected case histories of their application
- 12:45 p.m. – 1:45 p.m. Lunch
- Afternoon **Rest and Recreation/Networking Opportunities**
- Evening Dinner on own

**WELL AND RESERVOIR MANAGEMENT – BEST PRACTICES FOR INCREASED PRODUCTION AND RESERVES ADDITION****Friday, 7 March 2008**

7:00 a.m. – 8:00 a.m.

Breakfast

8:30 a.m. – 10:30 a.m.

**Session 8: Technology and Its Implementation**

Are we getting the best out of the existing technologies? Where can we improve in the implementation of technology? Some technologies fail to deliver as per expectations because they are not used properly. Best practices of technology implementation and lessons learnt from improper use of technology will be presented both from operator and service company perspective. The role of enabling factors in technology implementation will be discussed and explored as well.

10:30 a.m. – 10:45 a.m.

Coffee Break

10:45 a.m. – 12:45 p.m.

**Session 9: Technology Gap and Way Forward**

It is well known that we know what we know but ignore what we do not know or are not comfortable with. Hence most technology end-users become selective in technology. Furthermore, the technology tends to be discipline-specific. For instance, it is either applied to reservoir characterization or well construction thus leaving gaps within a project or field development. Identification of such gaps in technology between regions and companies or within projects may provide new opportunities to both technology suppliers and the users. How can we keep provisions of future innovations in technology in our development plans? Based on what is available today, can we make a wish list of new technology or what is missing in existing technology? Presentations in this session will be further discussed in the breakout sessions.

12:45 p.m. – 2:00 p.m.

Lunch

2:00 p.m. – 3:45 p.m.

**Session 10: Breakout Session**

3:45 p.m. – 4:00 p.m.

Coffee Break

4:00 p.m. – 5:30 p.m.

**Session 11: Breakout Session (Contd.)**

5:30 p.m. – 6:00 p.m.

**Session 12: Summary & Wrap-Up**

6:30 p.m. – 8:30 p.m.

Group Dinner

**Saturday, 8 March 2008**

7:00 a.m. – 10:00 a.m.

Breakfast at Leisure

12:00 p.m.

Hotel Check-Out

**Poster Solicitation and Information**

As an adjunct to the scheduled presentations, the Programme Committee will incorporate a poster presentation session in this Workshop. The poster session will allow participants an opportunity to present additional new ideas to those interested. The poster session is scheduled from **5:15 p.m. – 6:15 p.m. on Wednesday, 5 March 2008.**

All participants are encouraged to prepare and bring a poster to the Workshop. Posters will be on display for the entire Workshop period and provide participants an excellent opportunity for networking.

As with the session discussions, the poster session will be conducted off the record to encourage frank discussion and presentation of unconfirmed or partial results. Presentations on both research and field experience are solicited.

**SPE WORKSHOPS AND COMMERCIALISM**

The Workshop Programme Committee has a stated policy against the use of commercial trade names, company logos, or language that is commercial in tone. **Note that the Workshop Programme Committee will review all posters prior to display, and reserves the right to refuse permission to display any poster considered by the committee to be commercial in nature.**

The poster display should be designed for eye-level viewing and made from simple graphic materials. Size of the poster board will be advised at a later time.

The poster display may include printed materials, tables, graphs, photographs, or illustrations. All the materials should be of sufficient size so as to be easily read and should be prepared in a manner that will accomplish the following:

- Identify topic by title, presenter, affiliation, address, and phone number.
- Include a brief abstract that summarises the technology to be addressed.
- Make the display as self-explanatory as possible.
- Place the information sequentially; beginning with the main idea or problem, method used, result, etc. (Draw a plan keeping the size and number of illustrations in mind).
- Keep illustrations simple by using charts, graphs, drawings, and pictures to create interest and visually explain a point.
- Use contrasting colours.
- Use large print for narrative materials. (We suggest a minimum of 24 points or 3" high letters for the title).

Whether or not you elect to participate in the poster session or have been invited by the Programme Committee to present during one of the regular sessions, please come prepared to participate actively in the discussions. Open interaction will be encouraged. With the full cooperation and participation of all attendees, we anticipate an outstanding Workshop.

**SPE Applied Technology Workshop**

**WELL AND RESERVOIR MANAGEMENT – BEST PRACTICES FOR INCREASED PRODUCTION AND RESERVES ADDITION**

**Registration Form**

Please Print or Type in Black Ink

SPE Member:  Yes Membership No. \_\_\_\_\_  No

Name: \_\_\_\_\_  
(First/Forename) (Middle) (Last/Family Name)

Position: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

Town/City: \_\_\_\_\_ Zip/Postal Code: \_\_\_\_\_ Country: \_\_\_\_\_

Tel: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

**Would you be willing to give a brief (10 minute) presentation \_\_\_\_ (Yes/No) or a poster presentation \_\_\_\_ (Yes/No)?**

If yes, please provide a title and a detailed description of the presentation in the space below. (Use additional paper if required). One of the Programme Committee members will contact you to discuss your presentation.

\_\_\_\_\_

**Important:** Registrants for SPE Applied Technology Workshops are accepted on the basis of information submitted by each registrant.

**Technical Disciplines (Check One)**

- Drilling and Completions
- Management and Information
- Projects, Facilities & Construction
- Health, Safety, Security, Environment and Social Responsibility
- Production and Operation
- Reservoir Description and Dynamics

**Primary Responsibility (Check One)**

- Asset Management
- Production
- Economics
- Operation
- Drilling
- Reservoir
- Geology
- Management
- Geophysics
- Others \_\_\_\_\_

List background and experience. (Use additional paper if required).

\_\_\_\_\_

List your expectation for the Workshop, so that the committee can tailor a portion of the Workshop to answering attendees' concerns. (Use additional paper if required).

\_\_\_\_\_

**REGISTRATION FEE:** (Please select appropriate box)

**Registration Deadline : 5 February 2008**

- SPE MEMBER : US\$1,850.00/person on/before 5 February 2008**
- NONMEMBER : US\$1,950.00/person on/before 5 February 2008**

Fee includes workshop registration, workbooks, certificate, 4 nights **SINGLE** accommodation with daily breakfast, 1-welcome reception/dinner, 3 luncheons, 2 dinners and daily coffee breaks.

**PAYMENT BY CHEQUE**

- U.S. Dollars Cheque to **Society of Petroleum Engineers**. Payment Enclosed (Check No. \_\_\_\_\_)

**PAYMENT BY CREDIT CARD**

Credit Card Payment will be in U.S. Dollars only

- American Express
- Visa
- Master Card
- Diners Club

(Discover Cards are not accepted)

\_\_\_\_\_

Card Number

\_\_\_\_\_

Exp. Date

Signature (as it appears on your credit card)

Name as it appears on Card \_\_\_\_\_

Billing address of Card \_\_\_\_\_

Zipcode/Postal Code of Card \_\_\_\_\_

**Note: Forms will not be processed and space cannot be guaranteed unless accompanied by payment for total amount due.**

**CANCELLATION POLICY:**

- a) A processing fee of US\$100.00 will be charged for cancellation received before the registration deadline, **5 February 2008**.
- b) For cancellation received after the registration deadline, **5 February 2008**, a 25% refund will be made to the registrants.
- c) No refund on cancellation received seven (7) days, **26 February 2008**, prior to the starting of the Workshop date.
- d) Substitutions will not be accepted without prior Programme Committee Approval.
- e) No refund will be issued, if a registrant fails to show up at the Workshop.

**THIS FORM MAY BE USED AS A COMPANY INVOICE**

Mail completed registration form with remittance and any supporting material to:  
**Society of Petroleum Engineers**  
Suite 23-02, Level 23, Centrepoint South, Mid Valley City  
Lingkaran Syed Putra, 59200 Kuala Lumpur, Malaysia  
Tel: 60.3.2288.1233 • Fax: 60.3.2282.1220 • E-mail: spekl@spe.org

**To submit your registration online, please visit the SPE website at [www.spe.org](http://www.spe.org). The online payments are secured by VeriSign. (Credit Card Registration Only)**

**WELL AND RESERVOIR MANAGEMENT – BEST PRACTICES FOR INCREASED PRODUCTION AND RESERVES ADDITION**

**Poster Participation Form**

You are invited to prepare a poster display for presentation. If you are interested in participating, please complete the form and return it to the SPE Asia Pacific Office (Kuala Lumpur, Malaysia), address indicated below by **5 February 2008**.

*(Please print in black ink)*

**DATE:**

**SPE Member:**  Yes Membership No. \_\_\_\_\_  No

**NAME:** \_\_\_\_\_

**POSITION:** \_\_\_\_\_

**COMPANY:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**TELEPHONE:** \_\_\_\_\_ **FAX:** \_\_\_\_\_

**E-MAIL ADDRESS:** \_\_\_\_\_

**Please provide the topic with a short abstract of the proposed poster:**

**Topic:** \_\_\_\_\_

**Abstract:** \_\_\_\_\_

**PLEASE RETURN THE POSTER PARTICIPATION FORM BY 5 February 2008 TO:**

Jenny Chong, Senior Event Manager  
Society of Petroleum Engineers  
Suite 23-02, Level 23, Centrepoint South, Mid Valley City  
Lingkaran Syed Putra, 59200 Kuala Lumpur, Malaysia  
Tel: 60.3.2288.1233 • Fax: 60.3.2282.1220  
E-mail: [jchong@spe.org](mailto:jchong@spe.org) • Web Site: [www.spe.org](http://www.spe.org)