Date and Venue:

The fieldtrip was held from 15th to 17th May 2006 around Hanoi area, northeast Vietnam
Local Organizer: Vietnam Petroleum Institute

Participants:

Twelve (12) geoscientists from five (5) different agencies/institutes in Vietnam and China attended the fieldtrip.

The represented agencies/institutes were:

- Vietnam Petroleum Institute
- Geological Society of Vietnam
- Qingdao Institute of Marine Geology
- Guangzhou Marine Geological Survey
- China National Offshore Oil Corporation (CNOOC)
- CCOP TS

The detailed list of participants is attached as Annex 1.

Agenda:

The detailed agenda of the fieldtrip is provided as Annex 2.

Background of the Fieldtrip:

Yinggehai-Song Hong Basin Case Study Field Study was proposed during the ICB-CCOP Project 1st Vietnam Workshop December 2005 and conformed during the ICB-CCOP Project 1st Malaysia Workshop February 2006. This field study is composed of two parts, one part is the field study in Hainan Island, China, the eastern on shore area to the Yinggehai-Song Hong basin, another part is the field study in Hanoi Though, northeast Vietnam, the western on shore area to the Yinggehai-Song Hong basin. All these two fieldtrips are kindly financial sponsored and supported by Chinese and Vietnamese partner agencies. The objectives are as followed:

1. Building confidence between the Chinese and Vietnamese case study research team;
2. Enhancing the existing knowledge toward the case study;
3. Sharing the existent experience;
4. Exchanging the geoscientific views through the fieldtrip observation and discussion;
5. Accomplishment the fundamental works for the tectonic background, forming mechanism and basin evolution history of the Yinggehai-Song Hong basin.

**Record of the Fieldtrip:**

The local organizer, Vietnam Petroleum Institute, kindly invited the knowledgeable and experienced fieldtrip guide Dr. Tran Van Tri from Geological Society of Vietnam. Dr. Tran Van Tri is a distinguished geoscientist in the Southeast Asia. He is a very active geoloist not only in Vietnam but also in China and involved lots of international and regional geoscientific programmes as well as many CCOP activities before.

During the 3 days fieldtrip, under the fieldtrip guide’s informative instruction, participants observed all the exposures of stratigraphy sequences from Pre-Cambrian time to Quaternary time around Hanoi. The outcrops are included the oldest metamorphic basement rock, volcanic rock, pluton, marine sequence sedimentary rock, non-marine sequence sedimentary rock as well as some oil shale and coal bed. Some samples have been collected during the fieldtrip. The geological boundaries such as faults, folds and unconformity contacts have been observed. During the fieldtrip, the Chinese and Vietnamese geoscientists had very good discussions and exchanged their geo-scientific views on the regional geology as well as the geology of the Yinggehai-Song Hong basin. Noteworthy fieldtrip stop is the Tertiary fluvial-lacustrine sediments with oil-shale of the Dong Ho Formation. This stop was investigated by Sino-Vietnam joint research team back in 1962. This is the first time for Chinese and Vietnamese scientists to come back again after 44 years. It is not only extent the research cooperation relationship between China and Vietnam but also last the friendship between China and Vietnam. During the fieldtrip, the Chinese and Vietnamese participants took the late night time to work together on the seismic cross-section interpretation results correlation of the Yinggehai-Song Hong basin.

Input of the fieldtrip is most come from the knowledge and experience of Dr. Tran Van Tri and local geoscientist from VPI. In addiction, as mentioned before, most of the field study costs are kindly provided from the ICB-CCOP1 Project Vietnam partner agencies, and some Chinese participants came on their own cost. Their generous contributions are highly appreciated.

Apparently, there are significant output and of this joint fieldtrip. The direct and indirect achievements are as followed:

- The confidence of cooperation in this region has been built between the Chinese and the Vietnamese geoscientists.
- The rock samples have been collected during the fieldtrip, the test result will provide the solid data for the Yinggehai-Song Hong basin case study.
- The experienced Chinese and Vietnamese geoscientists exchanged their scientific views during the field study through analog analysis of the outcrops from the Chinese side and Vietnamese side.
The existing knowledge and experience has been shared through the discussion, which will benefits both side;

The partial preliminary seismic cross-section interpretation result has been correlated, which is the fundamental work for the structural map merging.

It is the latest joint study group of the Chinese and Vietnamese geoscientists from five different agencies/institutes in Vietnam and China to have the field study together in Hanoi area, northeast Vietnam. This is the one of some important fundamental works for the ICB-CCOP1 Project Yinggehai-Song Hong basin case study. Under the CCOP umbrella, through the ICB-CCOP1 Project, the members of the Yinggehai-Song Hong basin case study from both of China and Vietnam built the common trust and found the common interests which will do more help for them to understand more regional geology in this area, especially the hydrocarbon potential in this cross-border area, as well as understand each other. It is a kind of milestone since it will promote the regional peace and social economic sustainable development. Another impact is that both of the cross-border case study host countries noticed the ICB-CCOP1 Project cross-border case study will benefits them definitely. Therefore, both of them are willing to do more contributions on the input by themselves not only limited to scientific but also the finance, so that more outputs will be gotten from it. Some of the successful cross-border cooperation work flows have been identified. These kinds of experience will be applied in the other similar cross-border projects in the future.
## Annex 1

### CCOP-DANIDA Institutional Capacity Building Project ICB-CCOP1

**Yinggehai-Song Hong Basin Case Study Fieldtrip Study in Northeast Vietnam**  
**May 15-17, 2006**

<table>
<thead>
<tr>
<th>CHINA</th>
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<tbody>
<tr>
<td><strong>1) DR. CAI FENG</strong></td>
<td>Chief Researcher</td>
</tr>
<tr>
<td>Chief Researcher</td>
<td>Qingdao Institute of Marine Geology</td>
</tr>
<tr>
<td>Qingdao Institute of Marine Geology</td>
<td>62 Fuzhou Rd., Qingdao, Shandong, 266071</td>
</tr>
<tr>
<td>People’s Republic of China</td>
<td>Tel: (86-532) 8575 5821, Fax: (86-532) 8572 0553</td>
</tr>
<tr>
<td>Tel: (86-532) 8575 5821, Fax: (86-532) 8572 0553</td>
<td>E-mail: <a href="mailto:qdefeng@cgs.gov.cn">qdefeng@cgs.gov.cn</a></td>
</tr>
<tr>
<td><strong>2) DR. WANG LIAOLIANG</strong></td>
<td>Deputy Director</td>
</tr>
<tr>
<td>Deputy Director</td>
<td>Guangzhou Marine Geological Survey, CSG</td>
</tr>
<tr>
<td>Guangzhou Marine Geological Survey, CSG</td>
<td>No. 188, Guangzhou Road, Huangpu District, Guangzhou, People’s Republic of China</td>
</tr>
<tr>
<td>Guangzhou, People’s Republic of China</td>
<td>Tel: (86-20) 8225 1626, Fax: (86-20) 8776 5102</td>
</tr>
<tr>
<td>Tel: (86-20) 8225 1626, Fax: (86-20) 8776 5102</td>
<td>E-mail: <a href="mailto:liaoliangwang@163.com">liaoliangwang@163.com</a></td>
</tr>
<tr>
<td><strong>3) MR. TONG CHUANXIN</strong></td>
<td>Exploration Manager, Technology Department</td>
</tr>
<tr>
<td>Exploration Manager, Technology Department</td>
<td>China National Offshore Oil Corporation (CNOOC)</td>
</tr>
<tr>
<td>China National Offshore Oil Corporation (CNOOC)</td>
<td>P.O. Box 22, Potou District, Zhanjiang City</td>
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<tr>
<td>P.O. Box 22, Potou District, Zhanjiang City</td>
<td>Guangdong Province 524057,People’s Republic of China</td>
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<tr>
<td>Guangdong Province 524057,People’s Republic of China</td>
<td>Tel: (86-759) 390 1957, 13692325993</td>
</tr>
<tr>
<td>Tel: (86-759) 390 1957, 13692325993</td>
<td>Fax: (86-759) 391 0300 E-mail: <a href="mailto:tongchx@cnooc.com.cn">tongchx@cnooc.com.cn</a></td>
</tr>
<tr>
<td><strong>4) FAN CAIWEI</strong></td>
<td>Senior geologist, Technology Department</td>
</tr>
<tr>
<td>Senior geologist, Technology Department</td>
<td>China National Offshore Oil Corporation (CNOOC)</td>
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<tr>
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<td>Tel: (86-759) 3910352, 13671460557</td>
</tr>
<tr>
<td>Tel: (86-759) 3910352, 13671460557</td>
<td>Fax: (86-759) 391 0300 E-mail: <a href="mailto:fancw@cnooc.com.cn">fancw@cnooc.com.cn</a></td>
</tr>
<tr>
<td><strong>5) ZHANG DAOJUN</strong></td>
<td>Senior geologist, Technology Department</td>
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<tr>
<td>Senior geologist, Technology Department</td>
<td>China National Offshore Oil Corporation (CNOOC)</td>
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<tr>
<td>Guangdong Province 524057,People’s Republic of China</td>
<td>Tel: (86-759) 390 2020, 13671462771</td>
</tr>
<tr>
<td>Tel: (86-759) 390 2020, 13671462771</td>
<td>Fax: (86-759) 390 2020, 13671462771 E-mail: zhangdaojun @cnooc.com.cn</td>
</tr>
<tr>
<td><strong>6) LI SONG</strong></td>
<td>Exploration project Management, Exploration &amp; Development Department</td>
</tr>
<tr>
<td>Exploration project Management, Exploration &amp; Development Department</td>
<td>China National Offshore Oil Corporation (CNOOC)</td>
</tr>
<tr>
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<td>Guangdong Province 524057,People’s Republic of China</td>
</tr>
<tr>
<td>Guangdong Province 524057,People’s Republic of China</td>
<td>Tel: (86-759) 390 0271, 13692322456</td>
</tr>
<tr>
<td>Tel: (86-759) 390 0271, 13692322456</td>
<td>Fax: (86-759) 391 0300 E-mail: <a href="mailto:lis@cnooc.com.cn">lis@cnooc.com.cn</a></td>
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<td>VIETNAM</td>
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</table>
| **7) DR. TRAN VAN TRI**  
(FIELDTRIP GUIDE) |
| Head, International Cooperation  
Vice Chairman, IGCP National Committee  
President, Tectonic Association  
Geological Society of Vietnam  
6 Pham Ngu Lao Str., Hanoi, Vietnam  
Tel: (84-4)8253110/8260752, Fax: (84-4)8254734  
Email: gsv@hn.vnn.vn |
| **8) DR. NGUYEN TRONG TIN** |
| Manager of Petroleum Geology of VPI  
Vietnam Petroleum Institute  
Yen Hoa, Cau Giay, Hanoi, Vietnam  
Tel: (84-4) 784 4011, Fax: (84-4) 784 1849  
Mobile: 0904062646  
E-mail: tinnt@vpihn.pv.com.vn |
| **9) DR. NGUYEN THE HUNG** |
| Geophysicist, Geophysical Dep., Vietnam Petroleum Institute, Research team member of ICB-CCOP1 project  
Phone:84-4-7843061(158), Mobil:84-913248580  
Fax: 84-4-7844156  
hungnt@vpihn.pv.com.vn |
| **10) MR. VU ANH TUAN** |
| Geologist, Petroleum Geology Dep., Vietnam Petroleum Institute, Research team member of ICB-CCOP1 project  
Phone:84-4-7843061(138)  
Email:tuanva@vpihn.pv.com.vn |
| **11) MR. NGUYEN HOANG SON** |
| Geologist, Petroleum Geology Dep.,  
Mobile: 84-983492900  
Vietnam Petroleum Institute,  
Email: sonkdc@yahoo.com |

<table>
<thead>
<tr>
<th>CCOP TECHNICAL SECRETARIAT</th>
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<tr>
<td><strong>1) MR. LIU LIQUN</strong></td>
</tr>
</tbody>
</table>
| Project Coordinator ICB-CCOP1 Project  
CCOP Technical Secretariat  
Thai CC Tower, 24th Floor, Suite 244-245  
889 Sathorn Tai Road, Sathorn  
Bangkok 10120, Thailand  
Tel: (66-2) 672 3080, Fax: (66-2) 672 3082  
E-mail: liu@ccop.or.th |
Annex2

CCOP-DANIDA
Institutional Capacity Building Project ICB-CCOP1
Yinggehai-Song Hong Basin Case Study Fieldtrip Study in Northeast
Vietnam, May 15-17, 2006

Program

Day 1: Sunday 14 May.
Arrival of participants
Check in Bao Son Hotel

HÀ NỘI-HÀ LONG BAY TRIP.
07.30 Leave Ha Noi by car for Ha Long city
Stop 1: Sao Do area.
Continental red beds of Ha Coi Formation (Lower-Middle Jurassic).
Stop 2: Hoanh Bo area.
Tertiary fluvio-lacustrine sediments with oil-shale of the Dong Ho Formation.
12.00 Arrive in Ha Long City.
Check in and Lunch at Hotel.
13.30 Stop 3: Ha Long Bay
Observe the Ha Long Bay World Heritage.
Outstanding geological values.
17.00 Arrive in Ha Long City.
19.00 Dinner.

Day 3: Tuesday, 16 May.
HÀ LONG-SÀM SON
07.00 Breakfast.
07.30 Leave Ha Long City for Sàm Son Town.
Stop 4: West Ha Long City.
Coal-bearing continental deposits of the Hon Gai Formation
(Upper Triassic T3 n-r).
Stop 5: Ha Long City.
Cherty, sandstone of the Bai Chay Formation (upper Permian).

Stop 6: Do Son Town.
Devonian sandstone of Song Cau Formation (D1).

12.00 Lunch in Thái Bình City.

Stop 7: Tien Hai gas field.
Visit the Tien Hai gas Company.

(Due to the time limitation, to our regret, this stop has to be cancelled)

Stop 8: Nui Goi, Nam Dinh Province.
Percambrian gneiss.

Stop 9: Đồ Giao Town, Ninh Binh Province.
Karstic limestone of the Dong Giao Formation (Middle Triassic T2 a).

17.00 Arrive in Sầm Sơn Town, Thanh Hóa Province.
Check in and dinner.

Day 4: Wednesday, 17 May.

SÀM SƠN-HÀ NỘI
07.00 Breakfast.

Stop 10: Sầm Sơn Town.
Late Paleozoic granite massif of Mường Lát complex.
Leave Sầm Sơn Town for Hà Nội City.

Stop 11: Bà Triệu Temple.
Calcareous siltstone, limestone of Hàm Rồng Formation (Upper Cambrian-Lower Ordovician).

12.00 Lunch in Phụ Lý Town.
14.00 Arrive in Hà Nội City and Check in Hotel.
19.00 Dinner

Day 5: Friday, 18 May.

Check out from Hotel.
Back Home Trip
GEOLOGICAL MAP OF NORTHEAST VIET NAM

THE Field trip map with stop locations

Stop 1
Stop 2
Stop 3
Stop 4
Stop 5
Stop 6
Stop 7
Stop 8
Stop 9
Stop 10
Stop 11
The first day fieldtrip observe the oil shale on 15th May, 2006.
Seismic cross-section interpretation correlation of the Yinggehai-Song Hong basin

Continue the second day and third day fieldtrip

Exchanging Views

Discussion

Sample Collection

Enjoy the local snack