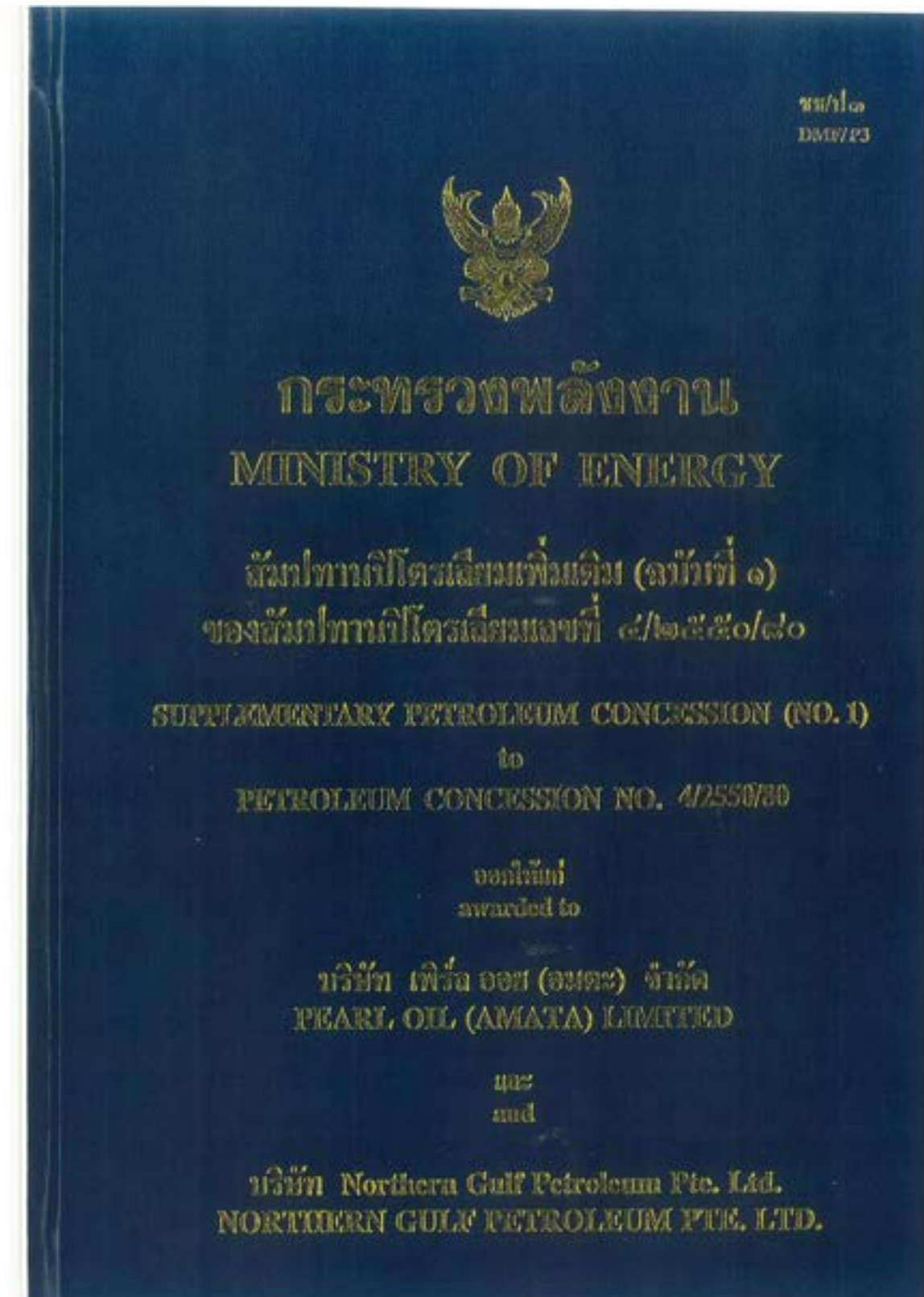


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รณ/ปต



กระทรวงพลังงาน

สัมปทานปิโตรเลียมเพิ่มเติม (ฉบับที่ ๑)
ของสัมปทานปิโตรเลียมเลขที่ ๔/๒๕๕๐/๘๐

ออกให้แก่

บริษัท เพิร์ล ออย (อมตะ) จำกัด

และ

บริษัท Northern Gulf Petroleum Pte. Ltd.

ณ วันที่ ๒๖ เดือน กรกฎาคม พ.ศ. ๒๕๕๐

-๒-

อาศัยอำนาจตามพระราชบัญญัติปิโตรเลียม พ.ศ. ๒๕๑๔ รัฐมนตรีว่าการกระทรวงพลังงาน (ซึ่งต่อไปในสัมปทานนี้เรียกว่า "รัฐมนตรี") โดยอนุมัติคณะรัฐมนตรีออกสัมปทานเพิ่มเติมนี้ให้แก่ บริษัท เพิร์ล ออย (อมตะ) จำกัด ซึ่งเป็นนิติบุคคลจัดตั้งขึ้นตามกฎหมายของประเทศไทย มีสำนักงานใหญ่อยู่ที่ ๑๔ อาคารไทยพาณิชย์ ปาร์ค พลาซ่า ดิเกวสต์ ชั้น ๑๐ ถนนรัชดาภิเษก แขวงจตุจักร เขตจตุจักร กรุงเทพมหานคร ๑๐๙๐๐ โดย **MR. ROBERT GEORGE SHANDRO SHAW** เป็นผู้มีอำนาจลงลายมือชื่อแทน และบริษัท Northern Gulf Petroleum Pte. Ltd. ซึ่งเป็นนิติบุคคลจัดตั้งขึ้นตามกฎหมายของประเทศสิงคโปร์ มีสำนักงานใหญ่อยู่ที่ 6 Temasek Boulevard, #09-05, Suntec Tower Four, SINGAPORE 038986 และสำนักงานในประเทศไทยอยู่ที่ ๑๒๓ อาคารชั้นหาวเวอร์ส บี ห้อง บี๒๐๕ ชั้น ๒ ถนนวิภาวดีรังสิต แขวงจอมพล เขตจตุจักร กรุงเทพมหานคร ๑๐๙๐๐ โดย **นายวรพัฒน์ อรรถยุกติ** เป็นผู้มีอำนาจลงลายมือชื่อแทน (ซึ่งต่อไปในสัมปทานนี้รวมเรียกว่า "ผู้รับสัมปทาน") โดยมีข้อกำหนดแห่งสัมปทาน ดังต่อไปนี้

ข้อ ๑

รัฐมนตรีอนุญาตให้ บริษัท Northern Gulf Petroleum Pte. Ltd. โอนสิทธิประโยชน์และพันธะตามสัมปทานปิโตรเลียมเลขที่ ๔/๒๕๕๐/๔๐ ในอัตราร้อยละ ๖๐ ของสัมปทาน ให้แก่ บริษัท เพิร์ล ออย (อมตะ) จำกัด ได้ตามมาตรา ๕๐ แห่งพระราชบัญญัติปิโตรเลียม พ.ศ. ๒๕๑๔ โดยมีผลตั้งแต่วันที่ออกสัมปทานเพิ่มเติมนี้ และเมื่อโอนแล้ว แต่ละบริษัทในสัมปทานดังกล่าวมีสิทธิ ประโยชน์และพันธะ คิดเป็นร้อยละซึ่งไม่แบ่งแยกดังต่อไปนี้

บริษัท เพิร์ล ออย (อมตะ) จำกัด

ร้อยละ ๖๐

บริษัท Northern Gulf Petroleum Pte. Ltd.

ร้อยละ ๔๐

-๓-

ข้อ ๒

บริษัท เพิร์ล ออย (อมตะ) จำกัด เป็นผู้ดำเนินงานและมีหน้าที่รับผิดชอบจัดการ และควบคุมในการดำเนินงาน ซึ่งผู้รับสัมปทานจะต้องปฏิบัติตามสัมปทานปิโตรเลียมดังกล่าว และสัมปทานเพิ่มเติมนี้

ข้อ ๓

บรรดาหนังสือหรือคำสั่งที่ต้องส่งให้แก่ บริษัท เพิร์ล ออย (อมตะ) จำกัด และ บริษัท Northern Gulf Petroleum Pte. Ltd. ให้ส่งไปยังผู้รับสัมปทาน ณ สถานที่ที่ระบุไว้ ข้างต้นของสัมปทานปิโตรเลียมเพิ่มเติมนี้ หรือที่อยู่อื่นตามที่แจ้งให้รัฐมนตรีทราบ

สัมปทานเพิ่มเติมนี้ทำขึ้นเป็นสองฉบับ มีข้อความถูกต้องตรงกันทุกประการ รัฐมนตรีและผู้รับสัมปทานต่างรักษาไว้ฝ่ายละฉบับ

(ลงลายมือชื่อ)..... รัฐมนตรีว่าการ
(นายปิยสวัสดิ์ อัมระนันทน์) กระทรวงพลังงาน

(ลงลายมือชื่อ)..... พยาน
[Redacted Signature]

(ลงลายมือชื่อ)..... พยาน
[Redacted Signature]

-๔-

ข้าพเจ้า บริษัท เพิร์ล ออย (อมตะ) จำกัด และ บริษัท Northern Gulf Petroleum Pte. Ltd. ผู้รับสัมปทานตกลงปฏิบัติตามข้อกำหนดแห่งสัมปทานเพิ่มเติมนี้โดยเคร่งครัด จึงลงลายมือชื่อไว้เป็นสำคัญต่อหน้าพยาน

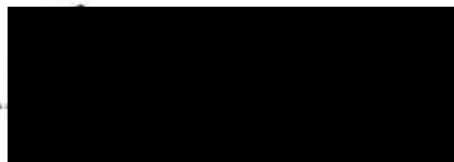
(ลงลายมือชื่อ)	{		}	ผู้รับสัมปทาน
		(MR. ROBERT GEORGE SHANDRO SHAW) บริษัท เพิร์ล ออย (อมตะ) จำกัด		
				
		(นายวรัตต - อรรถนฤติ) บริษัท Northern Gulf Petroleum Pte. Ltd.		

(ลงลายมือชื่อ)



พยาน

(ลงลายมือชื่อ)



พยาน

DMF/P3

(Translated from the original Thai text.) ^{1/}



MINISTRY OF ENERGY
SUPPLEMENTARY PETROLEUM CONCESSION (NO. 1)
to
PETROLEUM CONCESSION NO. 4/2550/80
awarded to
PEARL OIL (AMATA) LIMITED
and
NORTHERN GULF PETROLEUM PTE. LTD.

On this... **26th** day of **July** B.E. 2550 (2007)

^{1/} This English translation was prepared by officers of the Ministry of Energy. Although care was taken to render the translation as reliable as possible, it does not carry any legal authority. Only the original text in Thai has legal force.

-2-

In exercise of the power conferred by the Petroleum Act B.E. 2514, **THE MINISTER OF ENERGY** (hereinafter called "the Minister"), with the approval of the Council of Ministers, awards this Supplementary Concession to **PEARL OIL (AMATA) LIMITED**, a juristic person established under the laws of Thailand, having its head office at 18, SCB Park Plaza, West Tower, 10th Floor, Ratchadapisek Road, Chatuchak Sub-district, Chatuchak District, Bangkok 10900, represented by **MR. ROBERT GEORGE SHANDRO SHAW** who has the power to sign on behalf of the company, and **NORTHERN GULF PETROLEUM PTE. LTD.**, a juristic person established under the laws of Singapore, having its head office at 6 Temasek Boulevard, #09-05, Suntec Tower Four, SINGAPORE 038986 with an office in Thailand at 123 Sun Towers Building B, Room B205, 2nd Floor, Vibhavadi-Rangsit Road, Chomphon Sub-district, Chatuchak District, Bangkok 10900, represented by **MR. WORAPHAT ARTHAYUKTI** who has the power to sign on behalf of the company (hereinafter collectively called "the Concessionaire"), with the provisions of the Concession as follows :

CLAUSE 1

The Minister hereby permits **NORTHERN GULF PETROLEUM PTE. LTD.** to transfer its rights, benefits and obligations with the share equity of 60% under the Petroleum Concession No. 4/2550/80 to **PEARL OIL (AMATA) LIMITED** pursuant to Section 50 of the Petroleum Act B.E. 2514. Such transfer with effect from the date of this Supplementary Concession shall give the companies under the Concession the rights, benefits and obligations to be owned and borne in the following undivided percentages:

PEARL OIL (AMATA) LIMITED	60 %
NORTHERN GULF PETROLEUM PTE. LTD.	40 %

-3-

CLAUSE 2

PEARL OIL (AMATA) LIMITED shall be the operator and, as the operator, shall be responsible for and shall manage and control the operations which the Concessionaire must perform under the said Petroleum Concession and this Supplementary Concession.

CLAUSE 3

All communications or orders required to be given to **PEARL OIL (AMATA) LIMITED** and **NORTHERN GULF PETROLEUM PTE. LTD.** shall be delivered to them at their respective addresses set forth hereabove, or such other addresses as may be intimated to the Minister.

This Supplementary Concession is made in duplicate, both having the same text, one for the Minister and one for the Concessionaire.

(Signature).....**MR. PIYASVASTI AMRANAND**.....The Minister of Energy

(Signature).....[REDACTED].....Witness

(Signature).....[REDACTED].....Witness

-4-

We, **PEARL OIL (AMATA) LIMITED** and **NORTHERN GULF PETROLEUM PTE. LTD.**, the Concessionaire, hereby agree to perform in strict compliance with all of the provisions of this Supplementary Concession, and therefore, in witness whereof, have hereunto set our hands in the presence of witnesses.

(Signature) {	MR. ROBERT GEORGE SHANDRO SHAW PEARL OIL (AMATA) LIMITED	} The Concessionaire
	MR. WORAPHAT ARTHAYUKTI NORTHERN GULF PETROLEUM PTE. LTD.	

(Signature).....[Redacted].....Witness

(Signature).....[Redacted].....Witness

ชบ./ป๒



กระทรวงพลังงาน

สำนักงานปิโตรเลียม

เลขที่ ๔/๒๕๕๐/๘๐

ออกให้แก่

บริษัท Occidental Exploration Pte. Ltd.

ณ วันที่๘..... เดือน มกราคม พ.ศ. ๒๕๕๐

- ๒ -

อาศัยอำนาจตามพระราชบัญญัติปิโตรเลียม พ.ศ. ๒๕๑๔ รัฐมนตรีว่าการกระทรวงพลังงาน (ซึ่งต่อไปในสัมปทานนี้เรียกว่า “รัฐมนตรี”) โดยอนุมติคณะรัฐมนตรีออกสัมปทานนี้ให้แก่ บริษัท Occidental Exploration Pte. Ltd. ซึ่งเป็นนิติบุคคลจัดตั้งขึ้นตามกฎหมายของประเทศสิงคโปร์ มีสำนักงานใหญ่อยู่ที่ เลขที่ 6 Temasek Boulevard, #09-05, Suntec Tower Four, SINGAPORE สำนักงานในประเทศไทยอยู่ที่ เลขที่ ๔๔๔ อาคารโอลิมเปียไทยทาวเวอร์ ชั้น ๒๒ ถนนรัชดาภิเษก แขวงสามเสนนอก เขตห้วยขวาง กรุงเทพมหานคร ๑๐๓๒๐ โดย นายวรพัฒน์ อรรถยุกติ เป็นผู้มีอำนาจลงลายมือชื่อแทน (ซึ่งต่อไปในสัมปทานนี้เรียกว่า “ผู้รับสัมปทาน”) โดยมีข้อกำหนดแห่งสัมปทาน ดังต่อไปนี้

ข้อ ๑

บทนิยาม

ในสัมปทานนี้

“เขตสัมปทาน” หมายความว่า บรรดาแปลงสำรวจ พื้นที่ผลิตและพื้นที่ที่สงวนไว้ ซึ่งผู้รับสัมปทานมีสิทธิประกอบกิจการปิโตรเลียมตามสัมปทานนี้

ข้อ ๒

แปลงสำรวจ

แปลงสำรวจในวันที่ให้สัมปทานมีรายละเอียดของเขตพื้นที่ดังต่อไปนี้

แปลงสำรวจในทะเลอ่าวไทย หมายเลข G๖/๔๘ ซึ่งมีพื้นที่ล้อมรอบด้วยเส้นตรงที่ลากเชื่อม จุดที่ ๑ จนถึงจุดที่ ๒๘ ซึ่งมีพิกัดละติจูดและลองจิจูด ดังต่อไปนี้

	ละติจูดเหนือ			ลองจิจูดตะวันออก		
	(องศา)	ลิปดา	ฟิลิปดา)	(องศา)	ลิปดา	ฟิลิปดา)
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	ละติจูดเหนือ			ลองจิจูดตะวันออก		
	(องศา	ลิปดา	ฟิลิปดา)	(องศา	ลิปดา	ฟิลิปดา)
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จุดที่ ๒๔	๐๕	๐๖	๐.๐๐๐๐	๑๐๑	๑๒	๐.๐๐๐๐
จุดที่ ๒๕	๐๕	๐๖	๐.๐๐๐๐	๑๐๑	๑๒	๓๐.๐๐๐๐
จุดที่ ๒๖	๐๕	๐๔	๐.๐๐๐๐	๑๐๑	๑๒	๓๐.๐๐๐๐
จุดที่ ๒๗	๐๕	๐๔	๐.๐๐๐๐	๑๐๑	๑๔	๐.๐๐๐๐
จุดที่ ๒๘	๐๕	๐๐	๐.๐๐๐๐	๑๐๑	๑๔	๐.๐๐๐๐

รวมหนึ่งแปลง เป็นพื้นที่ประมาณ ๒,๒๘๐ ตารางกิโลเมตร ตามแผนที่แนบท้ายสัมปทาน
ถ้ารายละเอียดของเขตพื้นที่ที่ระบุไว้ข้างต้นไม่ตรงกับแนวเขตในแผนที่ ให้ถือตามรายละเอียดนั้น

- ๔ -

การกำหนดควมขึงเืดให้ถึอเนวณ ระดับน้ำทะเลปานกลาง แล่เส้นแบ่งเขตไหล่ทวีปส่วนที่อู่ในทะเลนั้น ให้เป็นไปตามหลักกฎหมายระหว่างประเทศที่ยอมรับกัน โดยทั่วไปและตามสัญญากับต่างประเทศ

ข้อ ๓

ระยะเวลาสำรวจปิโตรเลียม

(๑) ระยะเวลาสำรวจปิโตรเลียมในแปลงสำรวจตามข้อ ๒ มีกำหนดหกปี นับแต่วันที่.....๘.....มกราคม ๒๕๕๐ ถึงวันที่.....๘.....มกราคม ๒๕๕๖

(๒) ถ้าผู้รับสัมปทานประสงค์จะขอต่อระยะเวลาสำรวจปิโตรเลียม ให้ยื่นคำขอต่อกรมเชื้อเพลิงธรรมชาติ ก่อนถึงระยะเวลาสำรวจปิโตรเลียมไม่น้อยกว่าหกเดือน

ข้อ ๔

ข้อผูกพันสำหรับการสำรวจปิโตรเลียม

(๑) ข้อผูกพันสำหรับการสำรวจปิโตรเลียมในระยะเวลาตามข้อ ๓(๑) ให้แบ่งดังนี้

(ก) ช่วงที่หนึ่ง ได้แก่ ระยะเวลาสามปี นับแต่วันที่.....๘.....มกราคม ๒๕๕๐ ถึงวันที่.....๘.....มกราคม ๒๕๕๓

(ข) ช่วงที่สอง ได้แก่ ระยะเวลาสามปี นับแต่วันถัดจากวันสิ้นสุดช่วงที่หนึ่ง

(ค) ช่วงที่สาม ถ้ามีการต่อระยะเวลาสำรวจปิโตรเลียม ได้แก่ ระยะเวลาสำรวจปิโตรเลียมที่ได้รับการต่อนั้น

(๒) ผู้รับสัมปทานต้องสำรวจปิโตรเลียมตามข้อผูกพันในด้านปริมาณเงินและปริมาณงานดังต่อไปนี้

(ก) ในระหว่างข้อผูกพันช่วงที่หนึ่ง

ปีที่หนึ่ง

ผู้รับสัมปทานจะต้องทำการศึกษาทางด้านธรณีวิทยา และประมวลผลข้อมูลการสำรวจด้วยวิธีวัดความไหวสะเทือนที่มีอยู่เดิม โดยมีข้อผูกพันด้านปริมาณเงินค่าใช้จ่ายขั้นต่ำสุด ๑๕๐,๐๐๐ (หนึ่งแสนห้าหมื่น) ดอลลาร์สหรัฐ โดยแบ่งออกเป็น

ศึกษาทางด้านธรณีวิทยา	๕๐,๐๐๐ ดอลลาร์สหรัฐ
ประมวลผลข้อมูล	๑๐๐,๐๐๐ ดอลลาร์สหรัฐ

- ๕ -

ปีที่สอง

ผู้รับสัมปทานจะต้องทำการสำรวจด้วยวิธีวัดความไหวสะเทือนแบบสองมิติ เป็นระยะทางไม่น้อยกว่า ๕๐๐ กิโลเมตร โดยมีข้อมูลพิกัดด้านปริมาณเงินค่าใช้จ่ายขั้นต่ำสุด ๒๕๐,๐๐๐ (สองแสนห้าหมื่น) ดอลลาร์สหรัฐ

ปีที่สาม

ผู้รับสัมปทานจะต้องทำการเจาะหลุมสำรวจ ๑ หลุม โดยมีข้อมูลพิกัดด้านปริมาณเงิน ค่าใช้จ่ายขั้นต่ำสุด ๑,๕๐๐,๐๐๐ (หนึ่งล้านห้าแสน) ดอลลาร์สหรัฐ

ในกรณีที่การสำรวจตามข้อมูลพิกัดด้านปริมาณงานที่กำหนดไว้ของแต่ละปี มีค่าใช้จ่ายต่ำกว่าที่ประมาณไว้ ผู้รับสัมปทานมีสิทธิใช้จ่ายปริมาณเงินส่วนที่เหลือไปในการอื่น เพื่อประโยชน์ต่อการสำรวจตามสัมปทานได้ตามที่จะตกลงกับกรมเชื้อเพลิงธรรมชาติ

เมื่อสิ้นช่วงข้อมูลพิกัดช่วงที่หนึ่ง หรือสิ้นระยะเวลาปีใดปีหนึ่งในช่วงข้อมูลพิกัด ช่วงที่หนึ่งตามที่กำหนดไว้ข้างต้น หรือในกรณีที่มีการค้นพบที่แปลงสำรวจทั้งแปลงในช่วงข้อมูลพิกัด ช่วงที่หนึ่ง ถ้าผู้รับสัมปทานยังปฏิบัติตามข้อมูลพิกัดสำหรับการสำรวจปิโตรเลียมที่กำหนดข้างต้น ไม่ครบถ้วน ผู้รับสัมปทานต้องจ่ายเงินส่วนที่ยังมิได้ใช้จ่ายไปให้แก่กรมเชื้อเพลิงธรรมชาติภายใน สามสิบวันนับแต่วันสิ้นสุดช่วงข้อมูลพิกัดช่วงนี้ หรือระยะเวลาปีนั้น หรือวันค้นพบที่แปลงสำรวจ ทั้งแปลงแล้วแต่กรณี

ถ้าผู้รับสัมปทานได้ใช้หรือได้กระทำไปเกินข้อมูลพิกัดสำหรับการสำรวจ ปิโตรเลียมที่กำหนดในช่วงข้อมูลพิกัดช่วงที่หนึ่งหรือระยะเวลาปีใดปีหนึ่งข้างต้น ผู้รับสัมปทาน มีสิทธิหักปริมาณเงิน ปริมาณงาน หรือทั้งปริมาณเงินและปริมาณงานส่วนที่เกินออกจากข้อมูลพิกัด สำหรับการสำรวจในช่วงข้อมูลพิกัด หรือระยะเวลาปีถัดไปได้

(ข) ในระหว่างช่วงข้อมูลพิกัดช่วงที่สอง

ปริมาณเงินที่จะใช้จ่ายและปริมาณงานที่จะกระทำตลอดระยะเวลาช่วงข้อมูลพิกัด ช่วงที่สอง คือผู้รับสัมปทานจะต้องทำการเจาะหลุมสำรวจ ๑ หลุม โดยมีข้อมูลพิกัดด้านปริมาณเงิน ค่าใช้จ่ายขั้นต่ำสุด ๑,๕๐๐,๐๐๐ (หนึ่งล้านห้าแสน) ดอลลาร์สหรัฐ

ในกรณีที่การสำรวจตามข้อมูลพิกัดด้านปริมาณงานที่กำหนดไว้ของแต่ละปี มีค่าใช้จ่ายต่ำกว่าที่ประมาณไว้ ผู้รับสัมปทานมีสิทธิใช้จ่ายปริมาณเงินส่วนที่เหลือไปในการอื่น เพื่อประโยชน์ต่อการสำรวจตามสัมปทานได้ตามที่จะตกลงกับกรมเชื้อเพลิงธรรมชาติ

- ๖ -

ผู้รับสัมปทานจะต้องเสนอแผนงานสำหรับการสำรวจปิโตรเลียมในช่วงข้อผูกพันช่วงที่สอง โดยยื่นต่ออธิบดีก่อนสิ้นช่วงข้อผูกพันช่วงที่หนึ่งไม่น้อยกว่าสามเดือน แผนงานดังกล่าวต้องแยกปริมาณเงินและปริมาณงานที่ผู้รับสัมปทานจะใช้จ่าย หรือกระทำในแต่ละแปลงสำรวจออกเป็นรายปี

แผนงานสำหรับการสำรวจปิโตรเลียมจะต้องเป็นไปตามวิธีการปฏิบัติงานปิโตรเลียมที่ดีและต้องได้รับความเห็นชอบจากอธิบดี และผู้รับสัมปทานมีหน้าที่ต้องปฏิบัติตามข้อผูกพันสำหรับการสำรวจปิโตรเลียมที่ดีและต้องได้รับความเห็นชอบดังกล่าว เว้นแต่ในกรณีที่อธิบดีไม่เห็นชอบหรือไม่ได้แจ้งให้ผู้รับสัมปทานทราบก่อนสิ้นช่วงข้อผูกพันช่วงที่หนึ่งว่าเห็นชอบในแผนงานดังกล่าว ให้ถือว่าผู้รับสัมปทานผูกพันที่จะต้องใช้จ่ายเพื่อการสำรวจเป็นปริมาณเงินในช่วงข้อผูกพันช่วงที่สองเป็นรายปี โดยให้คำนวณแบ่งข้อผูกพันข้างต้นเป็นปริมาณเงินปีละเท่าๆ กัน ทั้งนี้เพื่อประโยชน์ในการปฏิบัติตามมาตรา ๓๒ และมาตรา ๓๕ แห่งพระราชบัญญัติปิโตรเลียม พ.ศ. ๒๕๑๔

แผนงานสำหรับการสำรวจปิโตรเลียม ให้ถือว่าเป็นส่วนหนึ่งของสัมปทานปิโตรเลียมนี้

(ก) ในระหว่างช่วงข้อผูกพันช่วงที่สาม

สำหรับข้อผูกพันในการดำเนินงานสำรวจปิโตรเลียมในช่วงข้อผูกพันช่วงที่สาม รัฐมนตรีและผู้รับสัมปทานจะเจรจาตกลงกันเมื่อผู้รับสัมปทานยื่นคำขอต่อระยะเวลาสำรวจปิโตรเลียม

ข้อ ๕

ระยะเวลาผลิตปิโตรเลียม

(๑) ระยะเวลาผลิตปิโตรเลียมในพื้นที่ผลิตมีกำหนดยี่สิบปี นับแต่วันถัดจากวันสิ้นระยะเวลาสำรวจปิโตรเลียม

(๒) ถ้าผู้รับสัมปทานประสงค์จะขอต่อระยะเวลาผลิตปิโตรเลียม ให้ยื่นคำขอต่อมการเชื้อเพลิงธรรมชาติ ก่อนสิ้นระยะเวลาผลิตปิโตรเลียมไม่น้อยกว่าหกเดือน

- ๓ -

ข้อ ๖

ผลประโยชน์พิเศษ

ผู้รับสัมปทานตกลงให้ผลประโยชน์พิเศษ ดังต่อไปนี้

(๑) ทุนการศึกษาและฝึกอบรม

ผู้รับสัมปทานตกลงจ่ายเงินปีละ ๒๐,๐๐๐ (สองหมื่น) ดอลลาร์สหรัฐ ตลอดระยะเวลาสำรวจช่วงข้อผูกพันช่วงที่หนึ่ง และช่วงที่สอง เพื่อใช้ในการจัดซื้อตำรา ข้อมูลและเครื่องมือ หรือ อุปกรณ์ทางเทคนิคให้แก่กรมเชื้อเพลิงธรรมชาติ และจัดส่งเจ้าหน้าที่กรมเชื้อเพลิงธรรมชาติ หรือ บุคคลสัญชาติไทยตามที่กรมเชื้อเพลิงธรรมชาติจะกำหนด เข้ารับการศึกษาและฝึกอบรมด้านปิโตรเลียมในสาขาวิชาวิทยาศาสตร์ ธรณีวิทยา วิศวกรรม เศรษฐศาสตร์ บัญชี กฎหมายและการจัดการ ในสถาบันหรือองค์กรที่น่าเชื่อถือทั้งในและต่างประเทศ รวมทั้งในบริษัทของผู้รับสัมปทานตามสาขาในประเทศต่างๆ

ในการจ่ายเงินดังกล่าว หากผู้รับสัมปทานไม่ได้ใช้จ่ายเงินหรือใช้จ่ายตามจำนวนเงินที่กำหนดในปีใดไม่ครบถ้วน ให้ผู้รับสัมปทานนำเงินดังกล่าวไปสมทบเพื่อใช้จ่ายในปีถัดๆ ไปได้ ทั้งนี้ ผู้รับสัมปทานจะจัดทำรายละเอียดของการใช้จ่ายเงินดังกล่าว เสนอให้กรมเชื้อเพลิงธรรมชาติพิจารณาให้ความเห็นชอบก่อนทุกครั้ง

(๒) โบนัสการผลิต

ผู้รับสัมปทานตกลงจ่ายเงิน ๓๐๐,๐๐๐ (สามแสน) ดอลลาร์สหรัฐ ให้แก่กระทรวงการคลังภายในสามสิบวันนับจากวันที่มีการผลิตปิโตรเลียมจากเขตสัมปทานได้เทียบเท่าน้ำมันดิบเฉลี่ยในระยะเวลาเก้าสิบวันต่อเนื่องกันถึงวันละ ๑๐,๐๐๐ บาร์เรลเป็นครั้งแรก

เพื่อประโยชน์ในการกำหนดปริมาณปิโตรเลียม ตามข้อ ๖(๒) นี้ ให้ถือว่าปริมาณความร้อนของก๊าซธรรมชาติจำนวนหกล้านบี ที ยู มีค่าเทียบเท่าปริมาณน้ำมันดิบหนึ่งบาร์เรล

(๓) การใช้บริการและวัสดุอุปกรณ์ภายในประเทศ

ผู้รับสัมปทานจะใช้บริการด้านขนพาหนะ การก่อสร้างทาง และอื่นๆ ที่เกี่ยวข้องกับการประกอบกิจการปิโตรเลียมจากผู้รับจ้างหรือวัสดุอุปกรณ์ที่มีอยู่ในประเทศเป็นอันดับแรก

ข้อ ๗

การเก็บรักษาและขนส่งปิโตรเลียม

(๑) ผู้รับสัมปทานจะให้บุคคลอื่นเก็บรักษาหรือขนส่งปิโตรเลียมที่ตนผลิตได้ เมื่อมีเหตุอันสมควร และได้รับอนุญาตเป็นหนังสือจากรัฐมนตรีแล้ว

- ๘ -

(๒) ในการเก็บรักษาและขนส่งปิโตรเลียม ผู้รับสัมปทานต้องปฏิบัติตามกฎหมายเกี่ยวกับการเก็บรักษาและขนส่งปิโตรเลียม และมีมาตรการป้องกันมิให้เกิดอุบัติเหตุหรืออันตรายแก่บุคคลหรือทรัพย์สินของผู้อื่น ตามวิธีการปฏิบัติงานปิโตรเลียมที่ดี

(๓) สถานที่และเครื่องอำนวยความสะดวกในการเก็บรักษาและขนส่งปิโตรเลียมของผู้รับสัมปทานต้องอยู่ห่างจากอาคารบ้านเรือนและชุมชนมากพอที่จะไม่คุกคามความปลอดภัยของบุคคลหรือทรัพย์สินของผู้อื่น ตามวิธีการปฏิบัติงานปิโตรเลียมที่ดี

(๔) ถ้าผู้รับสัมปทานประสงค์จะสร้างท่อสำหรับขนส่งปิโตรเลียมนอกเขตสัมปทานให้เสนอโครงการและแผนผังการวางท่อต่อกรมเชื้อเพลิงธรรมชาติเพื่อขอรับความเห็นชอบจากรัฐมนตรี

(๕) ในกรณีที่ผู้รับสัมปทานหลายรายขอสร้างท่อสำหรับขนส่งปิโตรเลียมในบริเวณเดียวกัน หรือผู้รับสัมปทานขอสร้างท่อสำหรับขนส่งปิโตรเลียมในบริเวณที่มีผู้ได้รับอนุมัติให้สร้างท่อสำหรับขนส่งปิโตรเลียมแล้ว รัฐมนตรีจะสั่งให้ผู้รับสัมปทานเหล่านั้นตกลงกันสร้างท่อสำหรับขนส่งปิโตรเลียมร่วมกันก็ได้ ถ้าผู้รับสัมปทานไม่สามารถตกลงกันได้ รัฐมนตรีจะเป็นผู้วินิจฉัยชี้ขาดตามความเป็นธรรมและเหมาะสม

(๖) ในกรณีที่ผู้รับสัมปทานเป็นเจ้าของท่อสำหรับขนส่งปิโตรเลียมที่ตนผลิตได้ และยังสามารถรับขนส่งปิโตรเลียมของผู้รับสัมปทานรายอื่นได้อีก เมื่อมีผู้รับสัมปทานรายใดรายหนึ่งแสดงความจำนงขอให้รับขนส่งปิโตรเลียม ผู้รับสัมปทานซึ่งมีท่อขนส่งปิโตรเลียมจะต้องรับขนส่งให้ตามเงื่อนไขที่ผู้รับสัมปทานทั้งสองฝ่ายจะได้ตกลงกัน ถ้าผู้รับสัมปทานตกลงกันไม่ได้ รัฐมนตรีจะเป็นผู้วินิจฉัยชี้ขาดตามความเป็นธรรมและเหมาะสม ส่วนค่าขนส่งปิโตรเลียมนั้นให้เรียกเก็บได้ในอัตราที่รัฐมนตรีเห็นชอบ

ในกรณีตามวรรคหนึ่ง ผู้รับสัมปทานซึ่งเป็นเจ้าของท่อสำหรับขนส่งปิโตรเลียมไม่มีพันธะในการติดตั้งเครื่องอำนวยความสะดวกเพิ่มเติมหรือลงทุนเพิ่มเติมหรือดำเนินการใดๆ เป็นพิเศษเพื่อที่จะขนส่งปิโตรเลียมของผู้รับสัมปทานรายอื่น

เมื่อผู้รับสัมปทานซึ่งเป็นเจ้าของท่อสำหรับขนส่งปิโตรเลียมผลิตปิโตรเลียมได้เพิ่มขึ้นและมีความจำเป็นต้องใช้ท่อสำหรับขนส่งปิโตรเลียมเพื่อขนส่งปิโตรเลียมที่ผลิตได้เพิ่มขึ้นจนถึงกับจำเป็นต้องลดปริมาณการรับขนส่ง หรือไม่สามารถรับขนส่งปิโตรเลียมของผู้รับสัมปทานรายอื่นได้ ให้มีสิทธิลดปริมาณการรับขนส่งหรือหยุดรับการขนส่งปิโตรเลียมของผู้รับสัมปทานรายอื่นได้ แต่ต้องแจ้งให้กรมเชื้อเพลิงธรรมชาติ และผู้รับสัมปทานรายอื่นดังกล่าวทราบล่วงหน้าไม่น้อยกว่าหนึ่งปี

- 8 -

(๗) ถ้าผู้รับสัมปทานขอร้องให้มีการก่อสร้างท่อสำหรับขนส่งปิโตรเลียมเพื่อใช้ร่วมกันในระหว่างผู้รับสัมปทาน และรัฐมนตรีรับจัดให้มีการก่อสร้างท่อสำหรับขนส่งปิโตรเลียมตามข้อกำหนด และเงื่อนไขที่รัฐมนตรีและผู้รับสัมปทานตกลงกัน ผู้รับสัมปทานต้องออกเงินค่าใช้จ่ายทั้งสิ้นเพื่อการนี้

ท่อสำหรับขนส่งปิโตรเลียมที่ก่อสร้างตามวรรคหนึ่งให้ตกเป็นของรัฐ และผู้รับสัมปทาน ซึ่งเป็นผู้ออกค่าใช้จ่ายในการก่อสร้างมีสิทธิขนส่งปิโตรเลียมที่ผลิตได้ โดยเสียค่าขนส่งในอัตรา ห่อหุ้มค่าดำเนินงานและค่าบำรุงรักษาท่อสำหรับขนส่งปิโตรเลียมนั้นตลอดระยะเวลาที่ผู้รับสัมปทาน มีสิทธิผลิตปิโตรเลียมตามสัมปทานนี้

ในกรณีท่อสำหรับขนส่งปิโตรเลียมนั้นยังอาจรับขนส่งปิโตรเลียมได้อีก และมีผู้รับสัมปทานซึ่งมิได้เป็นผู้ออกเงินค่าใช้จ่ายในการก่อสร้างท่อสำหรับขนส่งปิโตรเลียมขอใช้ ท่อนั้นขนส่งปิโตรเลียม เมื่อรัฐมนตรีเห็นสมควรจะอนุญาตให้ผู้รับสัมปทานนั้นขนส่งปิโตรเลียม โดยคิดค่าขนส่งตามอัตราที่รัฐมนตรีกำหนดตามความเป็นธรรมและเหมาะสม

ข้อ ๘

การให้ความช่วยเหลือแก่ผู้รับสัมปทาน

(๑) รัฐมนตรีจะให้ความสะดวกในการดำเนินงานของผู้รับสัมปทานตามสมควร และ ถ้าผู้รับสัมปทานร้องขอ รัฐมนตรีจะช่วยเหลือในการติดต่อของผู้รับสัมปทานกับส่วนราชการหรือ หน่วยงานอื่นของรัฐที่เกี่ยวข้อง

(๒) ถ้าผู้รับสัมปทานมีความจำเป็นต้องใช้ที่ดินเพื่อประกอบกิจการปิโตรเลียมและที่ดินนั้น บุคคลอื่นเป็นเจ้าของ มีสิทธิครอบครอง หรือมีอำนาจจัดการดูแลตามกฎหมาย ผู้รับสัมปทานจะต้องใช้ ความพยายามตามสมควรที่จะทำความตกลงขอใช้ เช่า หรือซื้อที่ดินนั้นกับบุคคลดังกล่าว ถ้าผู้รับสัมปทาน ไม่สามารถตกลงกับบุคคลเช่นว่านั้นได้ รัฐมนตรีจะดำเนินการช่วยเหลือตามสมควรในการให้ ผู้รับสัมปทานได้ใช้ที่ดินนั้น

ข้อ ๙

ของที่ได้รับยกเว้นการเสียภาษีอากร

ภายใต้บังคับกฎหมายว่าด้วยศุลกากร ประมวลรัษฎากรและกฎหมายอื่นที่เกี่ยวข้อง ผู้รับสัมปทานซึ่งได้นำของเข้ามาในราชอาณาจักร โดยได้รับการยกเว้นการเสียอากรขาเข้าหรือ ภาษีมูลค่าเพิ่มตามมาตรา ๙๐ แห่งพระราชบัญญัติปิโตรเลียม พ.ศ. ๒๕๑๔ ย่อมมีข้อผูกพันตาม สัมปทานดังต่อไปนี้

- ๑๐ -

(๑) ในกรณีที่ผู้รับสัมปทานประสงค์จะโอนของซึ่งได้รับการยกเว้นอากรขาเข้าหรือภาษีมูลค่าเพิ่มตามมาตรา ๗๐ แห่งพระราชบัญญัติปิโตรเลียม พ.ศ. ๒๕๑๔ ให้แก่บุคคลอื่นหรือนำของนั้นไปใช้ในการอื่น ผู้รับสัมปทานจะต้องปฏิบัติตามดังต่อไปนี้

(ก) ถ้าของนั้นเป็นของที่กำหนดไว้ว่า การโอนหรือการนำไปใช้ในการอื่นจะต้องได้รับอนุญาต ผู้รับสัมปทานจะต้องยื่นคำขอเพื่อให้อธิบดีอนุญาตก่อน

(ข) ถ้าของนั้นเป็นของอื่นนอกจากของตาม (ก) ผู้รับสัมปทานอาจโอนให้แก่บุคคลอื่นหรือนำของนั้นไปใช้ในการอื่นได้โดยไม่ต้องขออนุญาตจากอธิบดีก่อน แต่ผู้รับสัมปทานจะต้องทำบันทึกรายงานแสดงรายการและจำนวนของที่ได้โอนให้แก่บุคคลอื่นหรือนำไปใช้ในการอื่นยื่นต่ออธิบดีเป็นรายปี ทั้งนี้ตามแบบและหลักเกณฑ์ที่อธิบดีกำหนด

(๒) ในกรณีที่ผู้รับสัมปทานทำสัญญาจ้างเหมาโดยตรงในการประกอบกิจการปิโตรเลียม และผู้รับจ้างเหมาจะนำของเข้ามาในราชอาณาจักร โดยได้รับการยกเว้นการเสียอากรขาเข้าหรือภาษีมูลค่าเพิ่มตามมาตรา ๗๐ แห่งพระราชบัญญัติปิโตรเลียม พ.ศ. ๒๕๑๔ ผู้รับสัมปทานมีหน้าที่ดังต่อไปนี้

(ก) ผู้รับสัมปทานจะไม่ทำสัญญาจ้างเหมาโดยตรงกับบุคคลที่กรมเชื้อเพลิงธรรมชาติมีหนังสือแจ้งให้ผู้รับสัมปทานทราบว่า ผู้ที่จะทำสัญญาจ้างเหมากับผู้รับสัมปทานเป็นบุคคลที่ทางราชการเห็นว่ามีความผิดกรณีฉ้อโกงหรือการฉ้อโกงหรือหลีกเลี่ยงกฎหมายว่าด้วยศุลกากร

(ข) สัญญาจ้างเหมาโดยตรงระหว่างผู้รับสัมปทานกับผู้รับจ้างเหมาจะต้องมีข้อกำหนดดังต่อไปนี้ระบุไว้ในสัญญานั้นด้วย คือ

๑. ผู้รับจ้างเหมาจะต้องปฏิบัติตามระเบียบที่กรมเชื้อเพลิงธรรมชาติกำหนดขึ้นเพื่อการติดตามและควบคุมของที่นำเข้ามาในราชอาณาจักรเพื่อประกอบกิจการปิโตรเลียม โดยได้รับการยกเว้นการเสียอากรขาเข้าหรือภาษีมูลค่าเพิ่มตามมาตรา ๗๐ แห่งพระราชบัญญัติปิโตรเลียม พ.ศ. ๒๕๑๔

๒. ในกรณีที่ผู้รับจ้างเหมาไม่ปฏิบัติตามระเบียบที่กรมเชื้อเพลิงธรรมชาติกำหนดตาม ๑. ให้ถือว่าผู้รับจ้างเหมากระทำการผิดเงื่อนไขในสัญญาจ้างเหมาซึ่งผู้รับสัมปทานมีสิทธิบอกเลิกสัญญาได้

(ค) ให้ผู้รับสัมปทานมีหนังสือแจ้งการทำสัญญาจ้างเหมาโดยตรงในการประกอบกิจการปิโตรเลียม พร้อมทั้งจัดส่งรายละเอียดที่เกี่ยวข้องไปให้กรมเชื้อเพลิงธรรมชาติทราบภายในสิบสี่วันนับแต่วันทำสัญญา เว้นแต่ในกรณีที่ผู้รับจ้างเหมาไม่สามารถแจ้งได้ภายในกำหนดเวลาดังกล่าวเพราะเหตุสุดวิสัยหรือมีเหตุอันควรให้ผู้รับสัมปทานมีหนังสือแจ้งให้กรมเชื้อเพลิงธรรมชาติทราบโดยเร็ว

การแจ้งแก้ไขเปลี่ยนแปลงสัญญาหรือยกเลิกสัญญาดังกล่าว ให้ใช้วิธีเดียวกันโดยอนุโลม

- ๑๑ -

ข้อ ๑๐

ค่าสงวนพื้นที่ ค่าภาคหลวง ผลประโยชน์ตอบแทนพิเศษ และภาษีเงินได้

(๑) ผู้รับสัมปทานต้องเสียค่าสงวนพื้นที่ตามอัตราที่กำหนดในกฎกระทรวง ซึ่งใช้บังคับอยู่ในวันที่ยื่นขอสงวนพื้นที่

(๒) ผู้รับสัมปทานต้องเสียค่าภาคหลวงเป็นรายเดือนสำหรับปิโตรเลียมที่ผลิตได้จากแปลงสำรวจแต่ละแปลง ตามมูลค่าของปิโตรเลียมที่ขายหรือจำหน่าย ดังต่อไปนี้

(ก) ในกรณีที่เสียค่าภาคหลวงเป็นตัวเงิน ให้เสียค่าภาคหลวงในอัตราดังต่อไปนี้

ร้อยละของมูลค่าของปิโตรเลียม
ที่ขายหรือจำหน่ายในรอบเดือน

ขั้นที่ ๑	ปริมาณปิโตรเลียมทุกชนิดที่ขายหรือจำหน่าย ได้ในรอบเดือนไม่เกิน ๖๐,๐๐๐ บาร์เรล	๕.๐๐
ขั้นที่ ๒	ปริมาณปิโตรเลียมทุกชนิดที่ขายหรือจำหน่าย ได้ในรอบเดือนส่วนที่เกิน ๖๐,๐๐๐ บาร์เรล แต่ไม่เกิน ๑๕๐,๐๐๐ บาร์เรล	๖.๒๕
ขั้นที่ ๓	ปริมาณปิโตรเลียมทุกชนิดที่ขายหรือจำหน่าย ได้ในรอบเดือนส่วนที่เกิน ๑๕๐,๐๐๐ บาร์เรล แต่ไม่เกิน ๓๐๐,๐๐๐ บาร์เรล	๑๐.๐๐
ขั้นที่ ๔	ปริมาณปิโตรเลียมทุกชนิดที่ขายหรือจำหน่าย ได้ในรอบเดือนส่วนที่เกิน ๓๐๐,๐๐๐ บาร์เรล แต่ไม่เกิน ๖๐๐,๐๐๐ บาร์เรล	๑๒.๕๐
ขั้นที่ ๕	ปริมาณปิโตรเลียมทุกชนิดที่ขายหรือจำหน่าย ได้ในรอบเดือนส่วนที่เกิน ๖๐๐,๐๐๐ บาร์เรล	๑๕.๐๐

ปริมาณปิโตรเลียมที่ขายหรือจำหน่ายในรอบเดือน หมายถึงปริมาณปิโตรเลียมทั้งหมดทุกชนิดที่ผู้รับสัมปทานขายหรือจำหน่ายในเดือนนั้น

เพื่อประโยชน์ในการกำหนดปริมาณปิโตรเลียม ให้ถือว่าปริมาณความร้อนของก๊าซธรรมชาติจำนวนสิบล้านบีทียู มีค่าเทียบเท่าปริมาณปิโตรเลียมหนึ่งบาร์เรล

- ๑๒ -

(ข) ในกรณีที่เสียค่าภาคหลวงเป็นปีโตรเลียม ให้เสียเป็นปริมาณปีโตรเลียมที่คำนวณเป็นมูลค่าได้เท่ากับจำนวนค่าภาคหลวงที่พึงเสียเป็นตัวเงินตาม (ก) ทั้งนี้โดยให้คำนวณปีโตรเลียมที่เสียเป็นค่าภาคหลวงรวมเป็นปีโตรเลียมที่ขายหรือจำหน่ายด้วย

(๓) ผู้รับสัมปทานต้องเสียผลประโยชน์ตอบแทนพิเศษตามหลักเกณฑ์แห่งหมวด ๘ ทวิ แห่งพระราชบัญญัติปิโตรเลียม พ.ศ. ๒๕๑๔ ซึ่งแก้ไขเพิ่มเติมโดยพระราชบัญญัติปิโตรเลียม (ฉบับที่ ๔) พ.ศ. ๒๕๓๒

ในการคำนวณผลประโยชน์ตอบแทนพิเศษ ให้กำหนดค่าคงที่แสดงสภาพทางธรณีวิทยาของแปลงสำรวจ และค่าลดหย่อนพิเศษสำหรับแปลงสำรวจแต่ละแปลงดังต่อไปนี้

ค่าคงที่แสดงสภาพทางธรณีวิทยา	ค่าลดหย่อนพิเศษสำหรับ
ของแปลงสำรวจ (เมตร)	แปลงสำรวจ (ร้อยละ)
แปลงสำรวจหมายเลข G๖/๔๘	๖๐๐,๐๐๐
	๓๕

ในการคำนวณรายได้ปีโตรเลียมในรอบปีของผู้รับสัมปทานในแปลงสำรวจ เพื่อคำนวณผลประโยชน์ตอบแทนพิเศษ ให้ปรับมูลค่าของรายได้ปีโตรเลียมด้วยค่าเงินเฟ้อ และค่าการเปลี่ยนแปลงของอัตราแลกเปลี่ยนเงินตรา ตามหลักเกณฑ์และวิธีการที่กำหนดโดยกฎกระทรวงซึ่งใช้บังคับอยู่ในวันสิ้นสุดรอบระยะเวลาบัญชี

(๔) ผู้รับสัมปทานต้องเสียภาษีเงินได้ในอัตราร้อยละห้าสิบของกำไรสุทธิที่ได้จากกิจการปิโตรเลียมตามที่กำหนดไว้ในพระราชกฤษฎีกากำหนดอัตราภาษีเงินได้ปิโตรเลียม พ.ศ. ๒๕๑๔

ข้อ ๑๑

ข้อผูกพันและหน้าที่ของผู้รับสัมปทาน

(๑) ผู้รับสัมปทานจะต้องประกอบกิจการปิโตรเลียมตามสัมปทานนี้ด้วยความเข้มแข็งเท่าที่ควร และจะใช้ความพยายามอย่างสุดกำลังที่จะพัฒนาแหล่งปิโตรเลียมที่ค้นพบให้กว้างขวางมากที่สุดตามวิธีการปฏิบัติงานปิโตรเลียมที่ดี ทั้งนี้ต้องคำนึงอยู่ตลอดเวลาถึงสถานการณ์ตลาดจำหน่ายปิโตรเลียม โดยผู้รับสัมปทานจะพยายามผลิตปิโตรเลียมที่ค้นพบด้วยวิธีการผลิตที่ทันสมัยที่สุดในอัตราที่มั่นใจได้ว่าส่วนของปิโตรเลียมสำรองที่ค้นพบอันอาจผลิต ขายหรือจำหน่ายได้โดยมีกำไรนั้นจะได้รับการผลิตอย่างเต็มกำลังความสามารถของตนตลอดอายุสัมปทานนี้ โดยเฉพาะอย่างยิ่งผู้รับสัมปทานรับจะดำเนินการให้ถูกต้องตามหลักเทคนิคและวิศวกรรมที่เหมาะสมในการอนุรักษ์ทรัพยากรปิโตรเลียมและในการดำเนินการอื่นๆ ที่ได้รับอนุญาตตามสัมปทานนี้

- ๑๓๓ -

(๒) ผู้รับสัมปทานจะให้ความพยายามอย่างเต็มที่ที่จะไม่ใช้วิธีประกอบกิจการปิโตรเลียมใดๆ ซึ่งขัดต่อสาธารณประโยชน์หรือกระทบกระเทือนต่อเศรษฐกิจหรือประโยชน์สุขของประชาชน และในกรณีที่มีการประกอบกิจการปิโตรเลียมของผู้รับสัมปทานก่อให้เกิดความเสียหายต่อสาธารณประโยชน์หรือประชาชน ผู้รับสัมปทานมีหน้าที่นำบักปิดป้องและแก้ไขความเสียหายนั้นโดยทันที

เพื่อเป็นหลักประกันพันธะในการนำบักปิดป้องและแก้ไขความเสียหายดังกล่าว ผู้รับสัมปทานจะต้องจัดให้มีการทำประกันภัยกับบริษัทประกันภัยที่รัฐเชื่อถือ ภายในวงเงินที่เหมาะสมกับกิจการของคนโดยความเห็นชอบของอธิบดี และจะต้องส่งสำเนากรมธรรม์ประกันภัยและหลักฐานการชำระเบี้ยประกันภัยดังกล่าวให้อธิบดีทราบทุกปีตลอดอายุของสัมปทานนี้

(๓) ผู้รับสัมปทานต้องจ้างผู้ซึ่งมีสัญชาติไทยเพื่อประกอบกิจการปิโตรเลียมตามสัมปทานนี้ในตำแหน่งหน้าที่ระดับต่างๆ ให้มากที่สุดเท่าที่จะกระทำได้ตามคุณสมบัติของบุคคลเหล่านั้น อนึ่งหากยังหาผู้ซึ่งมีสัญชาติไทยที่มีความชำนาญงานเหมาะสมแก่ตำแหน่งหน้าที่บางตำแหน่งมิได้ ผู้รับสัมปทานจะพยายามอย่างดีที่สุดที่จะฝึกฝนผู้ซึ่งมีสัญชาติไทยให้มีความชำนาญงานมากขึ้นจนเหมาะสมที่จะรับตำแหน่งต่างๆ ทุกระดับในกิจการปิโตรเลียมได้ภายในระยะเวลาอันสมควร

(๔) ในการถือเอาประโยชน์จากก๊าซธรรมชาติที่ผลิตได้ ผู้รับสัมปทานต้องปฏิบัติตามลำดับก่อนหลังดังต่อไปนี้

(ก) ใช้ในการอนุรักษ์ทรัพยากรปิโตรเลียม โดยเฉพาะอย่างยิ่งเพื่อรักษาแรงกดดันในแหล่งปิโตรเลียมที่ผู้รับสัมปทานกำลังผลิตอยู่ หรือส่งไปให้ผู้รับสัมปทานรายอื่นใช้เพื่อรักษาแรงกดดันหรือเพื่อช่วยในการผลิตปิโตรเลียมที่ยังดกค้างอยู่ในแหล่งปิโตรเลียมของผู้รับสัมปทานรายอื่นนั้นในเมื่อได้รับความเห็นชอบจากรัฐมนตรีแล้ว

(ข) ขายหรือจำหน่ายภายในประเทศ รวมทั้งขายหรือจำหน่ายให้แก่รัฐบาลเพื่อใช้ในโครงการใดๆ ซึ่งรัฐบาลส่งเสริม

(ค) ส่งออกไปขายหรือจำหน่ายนอกประเทศ

(๕) ในกรณีที่ผู้รับสัมปทานผลิตก๊าซธรรมชาติที่ผู้รับสัมปทานมีหน้าที่ต้องชำระให้แก่รัฐ และเงินดังกล่าวนั้นมีใช้ค่าภาคหลวง ผลประโยชน์ตอบแทนพิเศษ หรือภาษีเงินได้ปิโตรเลียม ผู้รับสัมปทานต้องเสียดอกเบี้ยสำหรับเงินนั้นในอัตราร้อยละสิบห้าต่อปี นับแต่วันที่ผลิต

(๖) ในการขนส่งปิโตรเลียม เติบียง หรือวัสดุอุปกรณ์ เพื่อใช้ในการประกอบกิจการปิโตรเลียมระหว่างชายฝั่งกับแท่นขุดเจาะสำรวจหรือผลิตปิโตรเลียมในทะเล ผู้รับสัมปทานต้องให้บริการขนส่งโดยเรือไทยหรือเรืออื่นซึ่งได้รับสิทธิและประโยชน์เช่นเดียวกับเรือไทยตามกฎหมายว่าด้วย

- ๑๔ -

การส่งเสริมการพาณิชย์นาวี ทั้งนี้ เว้นแต่ในกรณีที่ค่าบริการขนส่งโดยเรือดังกล่าวสูงกว่าอัตราปกติ หรือในกรณีที่มิเหตุจำเป็นเร่งด่วน หรือมีเหตุฉุกเฉินเกี่ยวกับความปลอดภัยในการขุดเจาะสำรวจหรือผลิตปิโตรเลียมในทะเล และไม่สามารถจัดหาเรือที่ได้มาตรฐานเพื่อให้บริการขนส่งได้ทัน ผู้รับสัมปทาน จึงจะขนส่งปิโตรเลียม เติบียง หรือวัสดุอุปกรณ์โดยเรืออื่นได้ แต่ต้องแจ้งเป็นหนังสือต่ออธิบดีถึงเหตุผล ที่ต้องใช้เรืออื่น โดยทันทีด้วย

ข้อ ๑๒

การขอขออนุญาตขึ้นมุลฐาน

(๑) รัฐมนตรีให้ความมั่นใจว่า ในระหว่างที่สัมปทานนี้ยังมีอายุอยู่ จะไม่เปลี่ยนแปลง แต่ฝ่ายเดียวซึ่งหลักเกณฑ์เกี่ยวกับประโยชน์ สิทธิ และหน้าที่ของผู้รับสัมปทานในเรื่องดังต่อไปนี้

(ก) การใช้ที่ดินที่เป็นแปลงสำรวจและพื้นที่ผลิตเพื่อการประกอบกิจการปิโตรเลียม รวมทั้งการใช้ที่ดินนอกแปลงสำรวจหรือพื้นที่ผลิตในการเก็บรักษาหรือขนส่งปิโตรเลียม

(ข) การนำคนต่างด้าว เครื่องจักร เครื่องมือ เครื่องใช้ โครงก่อสร้าง ยานพาหนะ ส่วนประกอบ อุปกรณ์ และวัสดุอื่นๆ ซึ่งจำเป็นในการประกอบกิจการปิโตรเลียมเข้ามาในราชอาณาจักร

(ค) การคืนพื้นที่

(ง) การได้รับยกเว้นบางประการในการเสียภาษีอากร และเงินที่ส่วนราชการต่างๆ เรียกเก็บ

(จ) การกำหนดและประกาศราคาปิโตรเลียม

(ฉ) การส่งปิโตรเลียมออก

(ช) การเก็บรักษาและส่งเงินตราต่างประเทศ

(ซ) การเสียดำภาคหลวง ผลประโยชน์ตอบแทนพิเศษ และภาษีเงินได้ตลอดจนการคำนวณ ค่าภาคหลวง ผลประโยชน์ตอบแทนพิเศษ และภาษีเงินได้

(๒) ในกรณีที่มีการเปลี่ยนแปลงขึ้นมุลฐานในหลักเกณฑ์เกี่ยวกับประโยชน์ สิทธิ และหน้าที่ของผู้รับสัมปทานตาม (๑) ในประเทศในภูมิภาคเดียวกันหรือในประเทศอื่นที่มีปริมาณการผลิตปิโตรเลียมทัดเทียมกับประเทศไทย และส่งปิโตรเลียมออกไปขายในตลาดเดียวกันกับประเทศไทย รัฐมนตรีและผู้รับสัมปทานอาจตกลงร่วมกันแก้ไขหลักเกณฑ์เกี่ยวกับประโยชน์ สิทธิและหน้าที่ดังกล่าวให้สอดคล้องกับการเปลี่ยนแปลงนั้นได้ ทั้งนี้เมื่อรัฐมนตรีขอให้มีการเจรจาในเรื่องดังกล่าว ผู้รับสัมปทานจะสนองตอบในการเจรจาอย่างจริงจัง

- ๑๕ -

ข้อ ๑๓

การระงับข้อพิพาท

(๑) เมื่อมีข้อพิพาทที่เกี่ยวกับการที่รัฐมนตรีสั่งให้ผู้รับสัมปทานแก้ไขเหตุที่จะส่งผลกระทบต่อสัมปทานตามมาตรา ๕๒ แห่งพระราชบัญญัติปิโตรเลียม พ.ศ. ๒๕๑๔ หรือข้อพิพาทที่เกี่ยวกับปัญหาที่ว่าได้มีการปฏิบัติตามสัมปทานหรือไม่เกิดขึ้น ในขั้นแรกให้คู่กรณีพยายามหาทางตกลงกันด้วยดี ถ้าไม่สามารถตกลงกันได้ให้ดำเนินการระงับข้อพิพาทโดยอนุญาโตตุลาการตามวิธีการดังต่อไปนี้

(๒) เมื่อคู่กรณีฝ่ายใดฝ่ายหนึ่งเสนอให้ระงับข้อพิพาทโดยอนุญาโตตุลาการ ให้คู่กรณีแต่ละฝ่ายแต่งตั้งอนุญาโตตุลาการฝ่ายละหนึ่งคน และให้อนุญาโตตุลาการดังกล่าว ร่วมกันแต่งตั้งผู้ชี้ขาดหนึ่งคน

(๓) ให้คู่กรณีแต่ละฝ่ายแจ้งชื่ออนุญาโตตุลาการที่ตนแต่งตั้งให้คู่กรณีอีกฝ่ายหนึ่งทราบภายในหกสิบวันนับแต่วันที่คู่กรณีฝ่ายหนึ่งเสนอให้ระงับข้อพิพาทโดยอนุญาโตตุลาการ หากคู่กรณีฝ่ายใดฝ่ายหนึ่งไม่แจ้งชื่ออนุญาโตตุลาการภายในกำหนดเวลาดังกล่าว คู่กรณีอีกฝ่ายหนึ่งอาจร้องขอให้ประธานธนาคารระหว่างประเทศเพื่อการบูรณะและพัฒนา (ซึ่งต่อไปในสัมปทานนี้เรียกว่า "ธนาคารโลก") แต่งตั้งอนุญาโตตุลาการแทนคู่กรณีฝ่ายแรก

(๔) ให้อนุญาโตตุลาการแต่งตั้งผู้ชี้ขาดภายในหกสิบวันนับแต่วันที่แต่งตั้งอนุญาโตตุลาการครบทั้งสองคนแล้ว ถ้าอนุญาโตตุลาการไม่แต่งตั้งหรือไม่สามารถตกลงกันแต่งตั้งผู้ชี้ขาดภายในกำหนดเวลาดังกล่าว คู่กรณีฝ่ายใดฝ่ายหนึ่งหรือทั้งสองฝ่ายอาจร้องขอให้ประธานธนาคารโลก แต่งตั้งผู้ชี้ขาดแทน

(๕) ถ้าอนุญาโตตุลาการหรือผู้ชี้ขาดถึงแก่กรรม ลาออก ปฏิเสธ หรือไม่สามารถที่จะทำการก่อนที่จะให้คำวินิจฉัย ให้ดำเนินการตามวิธีการที่กำหนดไว้ใน (๑) หรือ (๔) แล้วแต่กรณี

(๖) ถ้ามีการตั้งองค์การระหว่างประเทศขึ้นใหม่โดยมีลักษณะและอำนาจหน้าที่คล้ายคลึงกับธนาคารโลกดังกล่าว หรือรับอำนาจหน้าที่ส่วนใหญ่ที่ตกทอดหรือโอนมาจากธนาคารโลกดังกล่าว ให้ถือว่าอำนาจหน้าที่ของประธานธนาคารโลกดังกล่าวตาม (๑) หรือ (๔) เป็นอำนาจหน้าที่ของประธานองค์การระหว่างประเทศที่ตั้งขึ้นใหม่ได้ โดยคู่กรณีทั้งสองฝ่ายจะต้องตกลงกันใหม่

(๗) โดยเหตุผลอันใดก็ตาม ถ้าไม่มีการแต่งตั้งอนุญาโตตุลาการหรือผู้ชี้ขาด หรือมิได้มีการแต่งตั้งผู้แทนผู้ที่พ้นจากตำแหน่งตาม (๑) หรือ (๔) หรือ (๕) คู่กรณีฝ่ายใดฝ่ายหนึ่งอาจร้องขอให้ประธานศาลสหพันธ์แห่งสมาพันธ์รัฐสวิสเป็นผู้แต่งตั้งให้

- ๑๖ -

(๘) ค่าใช้จ่ายของอนุญาตไต่สวนการของคู่กรณีฝ่ายใด ให้คู่กรณีฝ่ายนั้นทรงจ่ายไปก่อน ไม่ว่าคู่กรณีฝ่ายนั้นจะเป็นผู้แต่งตั้งหรือไม่ ส่วนค่าใช้จ่ายของผู้ชี้ขาดให้คู่กรณีทั้งสองฝ่ายทรงจ่ายไปฝ่ายละเท่า ๆ กันก่อนด้วย

(๙) สถานที่พิจารณาของอนุญาตไต่สวนการให้เป็นกรุงเทพมหานคร ประเทศไทย เว้นแต่ คู่กรณีทั้งสองจะตกลงกันเป็นอย่างอื่น

(๑๐) ผู้ชี้ขาดพึงกำหนดวิธีพิจารณาของอนุญาตไต่สวนการโดยอาศัยหลักเกณฑ์ที่เกี่ยวข้อง ตามกฎข้อบังคับแห่งศาลยุติธรรมระหว่างประเทศ ลงวันที่ ๖ พฤษภาคม พ.ศ. ๒๕๔๘ และตามที่แก้ไขเพิ่มเติมภายหลังโดยอนุโลม

(๑๑) ในการให้คำวินิจฉัย อนุญาตไต่สวนการหรือผู้ชี้ขาดแล้วแต่กรณี จะต้องวินิจฉัยตาม บทบัญญัติของกฎหมายไทยและคำนึงถึงหลักกฎหมายระหว่างประเทศที่จะพื้งนำมาใช้บังคับด้วย และให้กำหนดจำนวนเงินค่าใช้จ่ายและค่าธรรมเนียมของอนุญาตไต่สวนการและผู้ชี้ขาดที่จะให้ คู่กรณีฝ่ายใดเป็นผู้เสียแต่ฝ่ายเดียว หรือให้คู่กรณีทั้งสองฝ่ายเป็นผู้เสียตามส่วนที่เห็นสมควรไว้ใน คำวินิจฉัยด้วย

(๑๒) คำวินิจฉัยของอนุญาตไต่สวนการหรือคำวินิจฉัยของผู้ชี้ขาดในกรณีที่อนุญาตไต่สวนการ มีความเห็นแตกต่างกันให้เป็นที่สุด และมีผลผูกพันคู่กรณีทั้งสองฝ่าย

(๑๓) ข้อพิพาทเกี่ยวกับการปฏิบัติตามพระราชบัญญัติภาษีเงินได้ปิโตรเลียม พ.ศ. ๒๕๑๔ มิให้ระงับโดยอนุญาตไต่สวนการและให้ใช้วิธีตามมาตรา ๖๐ แห่งพระราชบัญญัติดังกล่าว แต่ในกรณีที่ พระราชบัญญัติดังกล่าวระบุให้ปฏิบัติหรือให้เป็นไปตามกฎหมายว่าด้วยปิโตรเลียม หากมีการระงับ ข้อพิพาทโดยอนุญาตไต่สวนการในส่วนที่เกี่ยวกับกฎหมายว่าด้วยปิโตรเลียม คำวินิจฉัยของ อนุญาตไต่สวนการในส่วนนั้นให้นำมาใช้บังคับได้

(๑๔) เรื่องดังต่อไปนี้มิให้บังคับโดยอนุญาตไต่สวนการ

(ก) ความผิดทางอาญาตามพระราชบัญญัติปิโตรเลียม พ.ศ. ๒๕๑๔

(ข) ข้อพิพาทเกี่ยวกับพระราชบัญญัติปิโตรเลียม พ.ศ. ๒๕๑๔ ที่ผู้รับสัมปทานได้ยื่นฟ้อง ต่อศาลไทยแล้ว

(ค) ข้อพิพาทเกี่ยวกับคำวินิจฉัยหรือคำสั่งที่เป็นที่สุดตามพระราชบัญญัติปิโตรเลียม พ.ศ. ๒๕๑๔

- ๑๗ -

ข้อ ๑๔

การเพิกถอนสัมปทาน

- (๑) นอกจากที่บัญญัติไว้ในมาตรา ๕๑ และมาตรา ๕๓ แห่งพระราชบัญญัติปิโตรเลียม พ.ศ. ๒๕๑๔ รัฐมนตรีมีอำนาจเพิกถอนสัมปทาน เมื่อผู้รับสัมปทาน
- (ก) ไม่ชำระผลประโยชน์พิเศษตามที่กำหนดไว้ในข้อ ๖
 - (ข) ไม่เริ่มสำรวจปิโตรเลียมในแปลงสำรวจที่ได้รับอนุญาตตามที่กำหนดไว้ในข้อ ๓ ภายในหกเดือนนับแต่วันออกสัมปทาน
 - (ค) ผ่าฝืนบทบัญญัติของมาตรา ๔๗ หรือมาตรา ๕๐ แห่งพระราชบัญญัติปิโตรเลียม พ.ศ. ๒๕๑๔
 - (ง) จงใจฝ่าฝืน หรือไม่ปฏิบัติตามข้อ ๘ หรือข้อ ๑๑(๑) (๔) (๕) หรือ (๖) เป็นประจำ
 - (จ) ไม่ประกอบกิจการปิโตรเลียมด้วยความเข้มแข็งเท่าที่ควรหรือไม่ปฏิบัติตามข้อ ๑๑(๒)
 - (ฉ) เป็นบุคคลล้มละลาย
- (๒) การเพิกถอนสัมปทานไม่ละเมิดความรับผิดชอบใดๆ ที่เกิดขึ้นตามข้อกำหนดในสัมปทาน

ข้อ ๑๕

การสิ้นสุดสัมปทาน

- (๑) สัมปทานนี้สิ้นสุดด้วยเหตุอย่างใดอย่างหนึ่ง ดังต่อไปนี้
- (ก) กำหนดระยะเวลาผลิตปิโตรเลียมสิ้นสุดลง
 - (ข) เขตสัมปทานหมดสิ้นไปโดยผลแห่งพระราชบัญญัติปิโตรเลียม พ.ศ. ๒๕๑๔ หรือโดยการกินพื้นที่ด้วยความสมัครใจของผู้รับสัมปทาน
 - (ค) สัมปทานถูกเพิกถอน
 - (ง) เมื่อสภาพการเป็นนิติบุคคลของผู้รับสัมปทานสิ้นสุดลง
- (๒) เมื่อสัมปทานนี้สิ้นสุด บรรดาข้อผูกพันทั้งปวงระหว่างรัฐมนตรีกับผู้รับสัมปทาน ย่อมสิ้นสุดลง เว้นแต่ข้อผูกพันทางการเงินหรือผลประโยชน์พิเศษซึ่งยังมิได้มีการปฏิบัติครบถ้วนและข้อผูกพันที่กำหนดในสัมปทานว่าจะต้องปฏิบัติถึงจากสัมปทานนี้สิ้นสุด
- (๓) ในระหว่างห้าปีสุดท้ายของระยะเวลาผลิตปิโตรเลียมหรือระยะเวลาผลิตปิโตรเลียมที่ได้รับการต่อ ผู้รับสัมปทานจะไม่รื้อถอน ขยาย ให้ จำหน่าย จ่าย หรือโอนทรัพย์สินที่ระบุไว้ใน (๔) เว้นแต่จะได้รับความยินยอมเป็นหนังสือจากรัฐมนตรี

- ๑๘ -

(๔) เมื่อสิ้นระยะเวลาผลิตปิโตรเลียม หรือสิ้นระยะเวลาผลิตปิโตรเลียมที่ได้รับการต่อในพื้นที่ผลิตแปลงใด หรือเมื่อผู้รับสัมปทานพื้นที่ผลิตแปลงใดทั้งแปลง หรือผู้รับสัมปทานถูกเพิกถอนสัมปทานก่อนสิ้นระยะเวลาดังกล่าว ผู้รับสัมปทานต้องส่งมอบที่ดิน อาคาร ถนน รถไฟ ท่อส่งปิโตรเลียม เครื่องสูบน้ำ เครื่องจักร ขนเจาะ ถังเก็บน้ำมัน สถานี สถานีย่อย สถานีปลายทาง โรงงาน ท่าเรือ สิ่งติดตั้งและเครื่องอำนวยความสะดวกอื่นๆ อันจำเป็นต่อการสำรวจ ผลิต เก็บรักษาหรือขนส่งปิโตรเลียม หรืออันมีลักษณะที่ใช้เป็นสาธารณูปโภคได้ เช่น ระบบไฟฟ้า ก๊าซ น้ำ สื่อสารหรือโทรคมนาคม ที่เกี่ยวกับพื้นที่ผลิตแปลงนั้น ให้แก่รัฐบาลไทยโดยไม่คิดมูลค่า ส่วนทรัพย์สินที่ใช้ประโยชน์มิได้ ผู้รับสัมปทานต้องรื้อถอนตามที่รัฐมนตรีสั่งให้เสร็จสิ้นภายในสามเดือนนับแต่วันที่สั่ง

ข้อ ๑๖

การละเมิดสิทธิ

ในกรณีที่รัฐมนตรีหรือผู้รับสัมปทานมิได้เรียกร้องให้มีการปฏิบัติตามข้อกำหนดข้อใด ไม่ถือว่าเป็นการละเมิดสิทธิที่จะเรียกร้องให้มีการปฏิบัติตามข้อกำหนดข้อนั้นในเวลาต่อไป และการที่ไม่เรียกร้องให้มีการปฏิบัติตามข้อกำหนดข้อใดในกรณีหนึ่ง ไม่ถือว่าเป็นการละเมิดสิทธิที่จะเรียกร้องให้มีการปฏิบัติตามข้อกำหนดข้อนั้นในอีกกรณีหนึ่ง ไม่ว่าการผิดดังกล่าวจะมีลักษณะคล้ายคลึงกันหรือไม่ก็ตาม

ข้อ ๑๗

การแจ้งให้ทราบ

(๑) บรรดาหนังสือที่ต้องส่งให้แก่รัฐมนตรีให้ส่งไปยังรัฐมนตรีว่าการกระทรวงพลังงาน กระทรวงพลังงาน ถนนพระรามที่หนึ่ง แขวงรองเมือง เขตปทุมวัน กรุงเทพมหานคร ๑๐๑๓๐ ประเทศไทย พร้อมกับส่งสำเนาฉบับหนึ่งไปยังอธิบดีกรมเชื้อเพลิงธรรมชาติ กรมเชื้อเพลิงธรรมชาติ เลขที่ ๑๐๑๐ อาคารชินวัตรทาวเวอร์ ๓ ชั้น ๒๕ ถนนวิภาวดีรังสิต แขวงจตุจักร เขตจตุจักร กรุงเทพมหานคร ๑๐๕๐๐ ประเทศไทย

(๒) บรรดาหนังสือหรือคำสั่งที่ต้องส่งให้แก่ผู้รับสัมปทานให้ส่งไปยังผู้รับสัมปทาน ณ สถานที่ทำงานในประเทศไทย ซึ่งตั้งอยู่ ณ

บริษัท Occidental Exploration Pte. Ltd.

๔๔๔ อาคารโอลิมเปียไทยทาวเวอร์ ชั้น ๒๒

ถนนรัชดาภิเษก แขวงสามเสนนอก

เขตห้วยขวาง กรุงเทพมหานคร ๑๐๓๒๐

- ๑๕ -

(๓) หากมีการเปลี่ยนแปลงสถานที่ส่งหนังสือหรือคำสั่งที่ระบุไว้ใน (๑) หรือ (๒) ให้รัฐมนตรีหรือผู้รับสัมปทานแล้วแต่กรณีมีหนังสือแจ้งให้อีกฝ่ายหนึ่งทราบ

ข้อ ๑๘

เบ็ดเตล็ด

ถ้าผู้รับสัมปทานได้ปฏิบัติตามสัมปทานทุกประการและขอต่อระยะเวลาผลิตปิโตรเลียม ก่อนสิ้นระยะเวลาผลิตปิโตรเลียมไม่น้อยกว่าหกเดือน ผู้รับสัมปทานจะได้รับการพิจารณาต่อ ระยะเวลาผลิตปิโตรเลียม เมื่อได้ตกลงในเรื่องข้อกำหนด ขอบเขตพื้นที่และเงื่อนไขที่อยู่ทั่วไป ในขณะนั้น อีกครั้งหนึ่งเป็นเวลาไม่เกินสิบปี

สัมปทานนี้ทำขึ้นเป็นสองฉบับ มีข้อความถูกต้องตรงกันทุกประการรัฐมนตรีและ ผู้รับสัมปทานต่างรักษาไว้ฝ่ายละฉบับ

(ลงลายมือชื่อ) รัฐมนตรีว่าการกระทรวงพลังงาน
(นายปิยสวัสดิ์ อัมระนันทน์)

(ลงลายมือชื่อ) พยาน
([REDACTED])

(ลงลายมือชื่อ) พยาน
([REDACTED])

- ๒๐ -

ข้าพเจ้า บริษัท Occidental Exploration Pte. Ltd. ผู้รับสัมปทานตกลงรับปฏิบัติตาม
ข้อกำหนดของสัมปทานนี้ โดยเคร่งครัดจึงลงลายมือชื่อไว้เป็นสำคัญต่อหน้าพยาน



Occidental
Exploration

(ลงลายมือชื่อ)

Phongt Aek

ผู้รับสัมปทาน

(นายพรพัฒน์ อรรถยุกติ)

บริษัท Occidental Exploration Pte. Ltd.

Hyun

(ลงลายมือชื่อ)

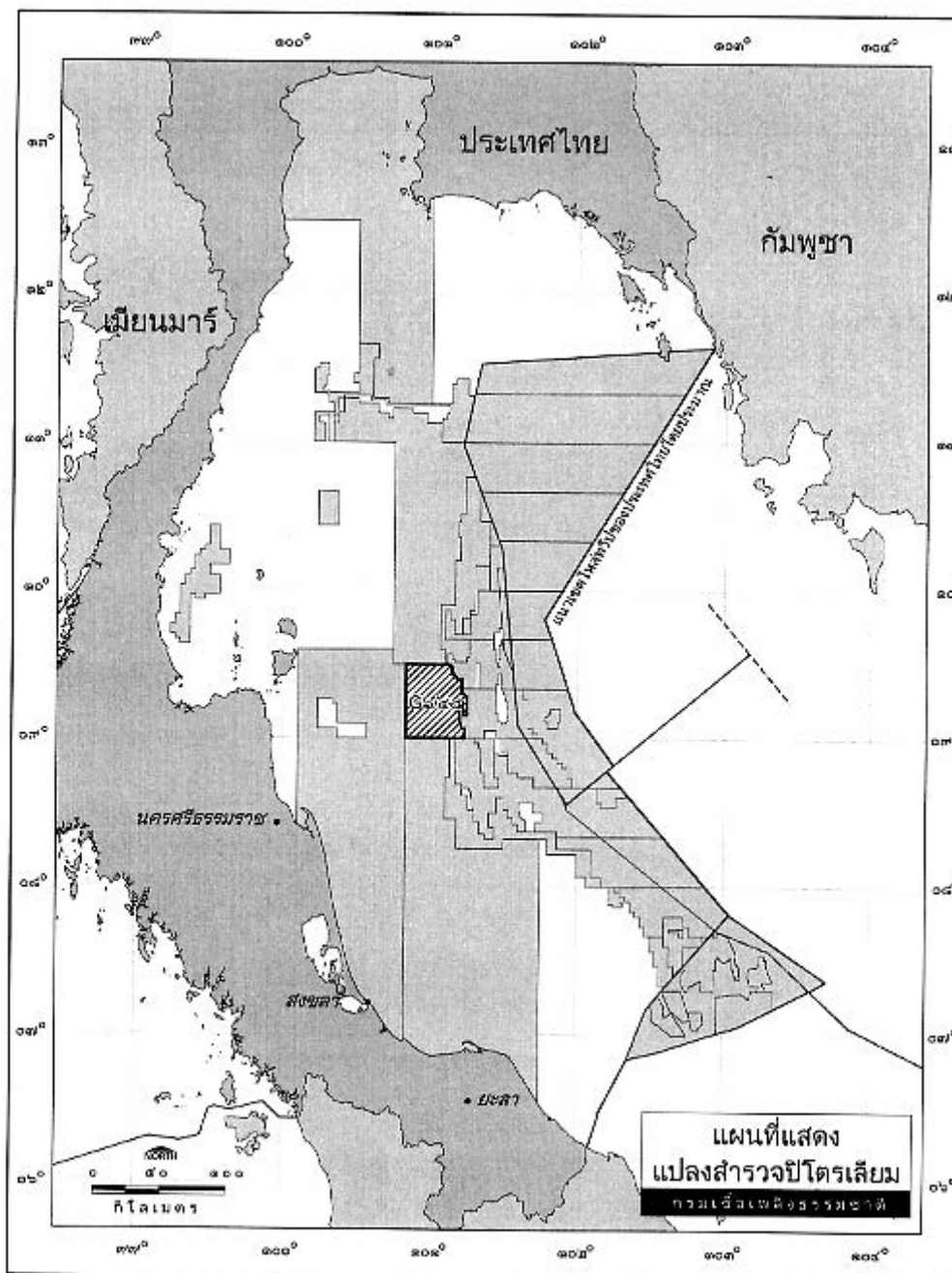
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(ลงลายมือชื่อ)

พยาน

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แผนที่แนบท้ายสัมปทานปิโตรเลียมเลขที่ ๔/๒๕๕๐/๘๐

ภาคผนวก 2 รายงานแสดงรายละเอียดของแท่นขุดเจาะ

VANTAGE DRILLING COMPANY				
EMERALD DRILLER				
BAKER MARINE PACIFIC CLASS 375 JACK-UP				
GENERAL SPECIFICATIONS				
Shipyard Delivery	Dec-08			
Classification Agency	ABS E A1 HAB+, Self-Elevating Unit			
Dimensions	236' x 224' x 27.9'			
Water Depth	Maximum:	375 ft		
	Minimum:	30 ft		
Max. Drilling Depth	30,000 ft			
Cantilever Reach	75 ft aft, 30' transverse			
Leg Length	506 ft			
Leg Spacing	155.2' transverse			
	145.3' longitudinal			
Spudcan Diameter	55.5 ft			
Variable Deck Load	Operating:	7497 kips		
	Survival:	6000 kips		
	Transit:	5000 kips		
Operating Draft	18.8 ft			
Transit Draft	19.5 ft			
Max. Wave Height	Operating:	45 ft		
	Survival:	70 ft w/ 200 ft WD		
Helideck Capacity	Sikorsky S-61N or equivalent (20,500 lbs)			
DRILLING EQUIPMENT				
Derrick	Loadmaster - 1,400,000 lb capacity; 160 ft high; 45 x 45 ft @ base; 18 x 18 ft @ top			
Drawworks	Maritime Hydraulics GH 3000 EG-AC-SV-CL (3000 hp)			
Rotary Table	Maritime Hydraulics RTSS - 49 1/2"			
Top Drive	Maritime Hydraulics DDM-650-AC (1150 hp)			
CAPACITIES				
Diesel	3900 bbls	Drillwater	16,700 bbls	
Potable Water	3600 bbls	Bulk Storage	11,654 ft ³	
Sack Storage	5000 sacks	Base Oil	1200 bbls	
Brine	1200 bbls	Liquid Mud	4150 bbls	
OTHER PARTICULARS				
Accommodations	113 Persons			
Mud Pumps	3 x MH/Wirth TPK 7 1/2" x 14" (2200 hp)			
Shakers	5 x VSM 300			
BOP Stack	18 1/2" Cameron Type D annular 10k psi, 18 1/2" Cameron TL Double ram (2), 15k psi, HPHT, H ₂ S			
Deck Cranes	1 x Baker Marine 2250 w/ 120 ft boom, 68 mt @ 25 ft, 15 mt @ 120 ft (static) 1 x Baker Marine 1600 w/ 120 ft boom, 39 mt @ 25 ft, 8 mt @ 120 ft (static) 1 x Baker Marine 900 w/ 100 ft boom, 22 mt @ 20 ft, 7 mt @ 100 ft (static)			
Offline Tubular	Derrick Stand Building Crane			
Main Engines	5 x CAT 3516-B			
Emergency Power	1 x CAT 3508TA			
				

VANTAGE
DRILLING COMPANY

ภาคผนวก 3 การออกแบบหลุมเจาะสำรวจ

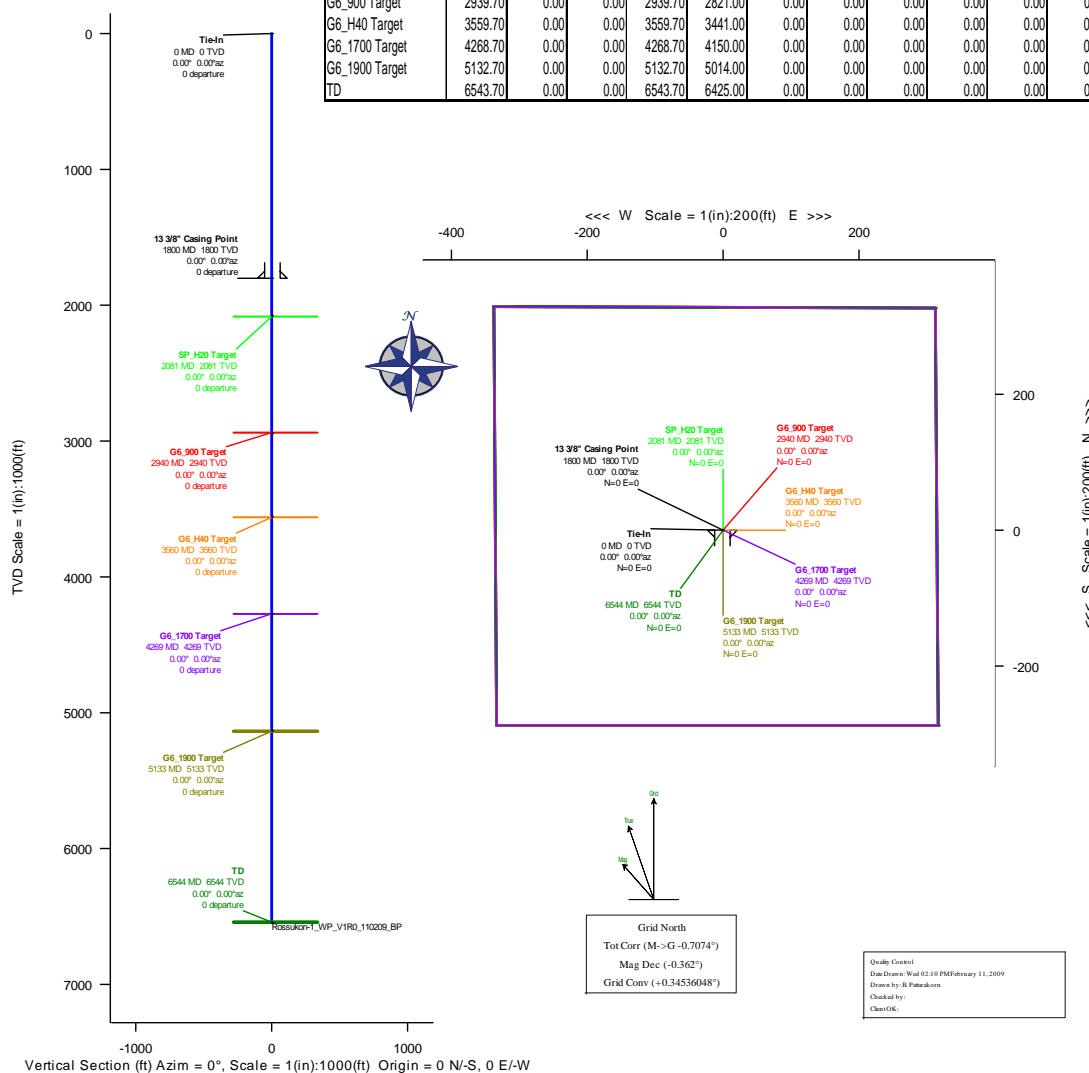
Schlumberger



WELL	FIELD	STRUCTURE
Rossukon-1	Pearl - G06	Rossukon

Magnum Parameters	Drp	300"	Date	February 11, 2009	Surface Location	Lat	N0 27 5.717	Northing	106915.00m	Grid Conv	+0.3436048"	Wellbore	Rossukon-1	TVD Ref	R06 (11570 ft above MSL)
Model	8500/228	MagDec	4.362°	PS	45540.0"	Lon	E 101 6.646	Easting	72076.00m	Scale Fact	1.00029146	Plan	Rossukon-1_WP_V190_110209_BP	Day Date	February 11, 2009

Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Sub-Sea TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg/100 ft)	Build Rate (deg/100 ft)	Walk Rate (deg/100 ft)
Tie-In	0.00	0.00	0.00	0.00	-118.70	0.00	0.00	0.00	0.00	0.00	0.00
13 3/8" Casing Point	1800.00	0.00	0.00	1800.00	1681.30	0.00	0.00	0.00	0.00	0.00	0.00
SP_H2O Target	2080.70	0.00	0.00	2080.70	1962.00	0.00	0.00	0.00	0.00	0.00	0.00
G6_900 Target	2939.70	0.00	0.00	2939.70	2821.00	0.00	0.00	0.00	0.00	0.00	0.00
G6_H40 Target	3559.70	0.00	0.00	3559.70	3441.00	0.00	0.00	0.00	0.00	0.00	0.00
G6_1700 Target	4268.70	0.00	0.00	4268.70	4150.00	0.00	0.00	0.00	0.00	0.00	0.00
G6_1900 Target	5132.70	0.00	0.00	5132.70	5014.00	0.00	0.00	0.00	0.00	0.00	0.00
TD	6543.70	0.00	0.00	6543.70	6425.00	0.00	0.00	0.00	0.00	0.00	0.00



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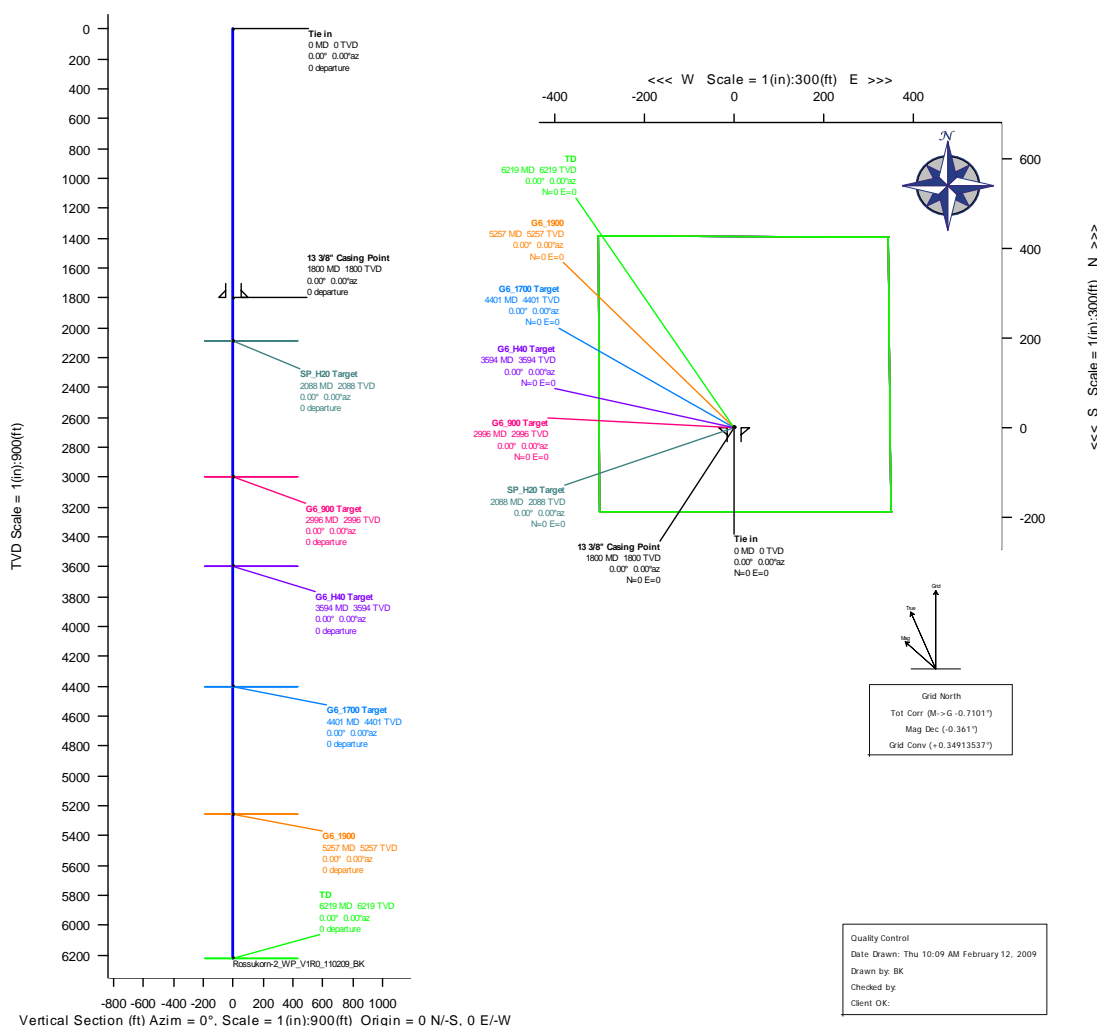
Schlumberger

Pearl Oil (Thailand) Ltd.



WELL				FIELD				STRUCTURE			
Rossukorn-2				Pearl - G06				Rossukorn-2			
Well/Parameters	Dip	3.78°	Date	February 11, 2009	Subsea Location	N0.28 15.207	Water 1075.17 (Mean 4% - Range)	Moduli/Mod	Rossukorn-2	TVD Ref	RKB (118.70% above MBL)
Model	BGS2008	Mag Dec	4288°	PS	4985.1 ft	Lat	8°10' 7" N 102°00'	Heading	19456.0 m	Grid Conv	423402337
						Long	102°00' 00" E	Scale/Fac	1:2000000	Plan	Rossukorn-2_WP_V1R0_110209_BK
										Plan	RKB (118.70% above MBL)
											February 12, 2009

Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Sub-Sea TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg/100 ft)	Build Rate (deg/100 ft)	Walk Rate (deg/100 ft)
Tie in	0.00	0.00	0.00	0.00	-118.70	0.00	0.00	0.00	0.00	0.00	0.00
13 3/8" Casing Point	1800.00	0.00	0.00	1800.00	1681.30	0.00	0.00	0.00	0.00	0.00	0.00
SP_H20 Target	2087.70	0.00	0.00	2087.70	1969.00	0.00	0.00	0.00	0.00	0.00	0.00
G6_900 Target	2995.70	0.00	0.00	2995.70	2877.00	0.00	0.00	0.00	0.00	0.00	0.00
G6_H40 Target	3593.70	0.00	0.00	3593.70	3475.00	0.00	0.00	0.00	0.00	0.00	0.00
G6_1700 Target	4400.70	0.00	0.00	4400.70	4282.00	0.00	0.00	0.00	0.00	0.00	0.00
G6_1900	5256.70	0.00	0.00	5256.70	5138.00	0.00	0.00	0.00	0.00	0.00	0.00
TD	6218.70	0.00	0.00	6218.70	6100.00	0.00	0.00	0.00	0.00	0.00	0.00

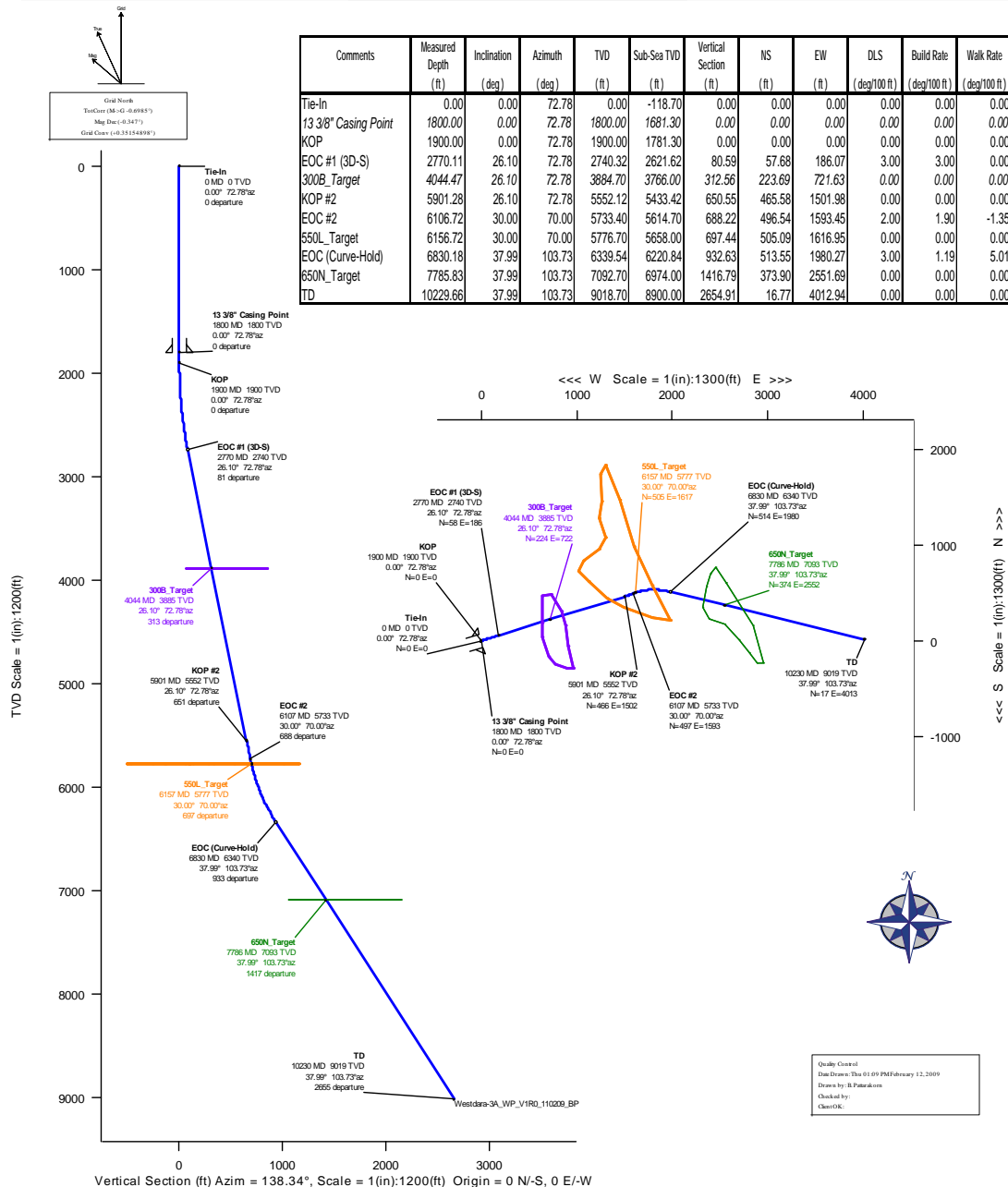


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Pearl Oil (Thailand) Ltd.



WELL	WestDara-3A				FIELD	Pearl - G06				STRUCTURE	WestDara-3A			
Magnetic Parameters					Surface Location					Measurement				
Model 8023A2208					Lat 10 15 33.95					Index 105 (1050m 47N - Bangkok)				
Dip 3.23°					Northing 10220.0 m					Grid Conv 432614588°				
Mag Dec -434°					Easting 14007.0 m					Scale Factor 1.00033804				
Date February 11, 2009					Plan					TVD Ref RKB 116.705 (above MSL)				
PL 4504.1 mT					Site WestDara-3A					Stop Date February 11, 2009				



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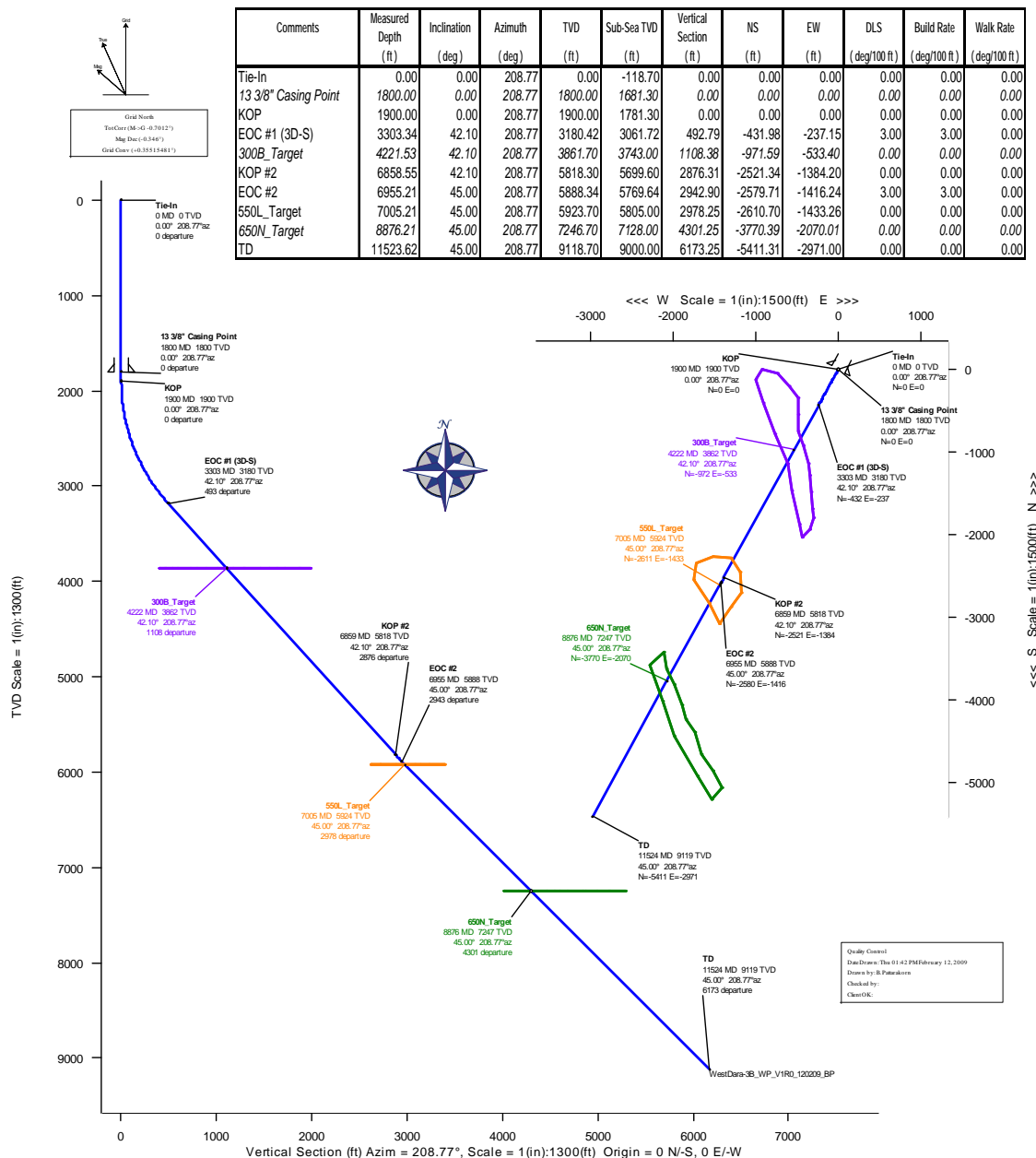
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Pearl Oil (Thailand) Ltd.



WELL WestDara-3B				FIELD Pearl - G06				STRUCTURE WestDara-3B			
Magnetic Parameters	Model	Dip	Date	Surface Location	Index	Grid Conv.	Scale Factor	Measurement	Site	TVD Ref	Remarks
	800M2008	3.29°	February 12, 2009	Lat: 13° 15' 14.404"	North: 102546.0 m	Grid Conv: 423555481"	1.00000000	Measure	WestDara-3B	FWB (118.708 above MSL)	Relay Date: February 12, 2009
		Mag Dec: 0.346°	PS: #158,217	Lon: E 101° 12' 15.84"	East: 740007.0 m			Plan		Shy Date	



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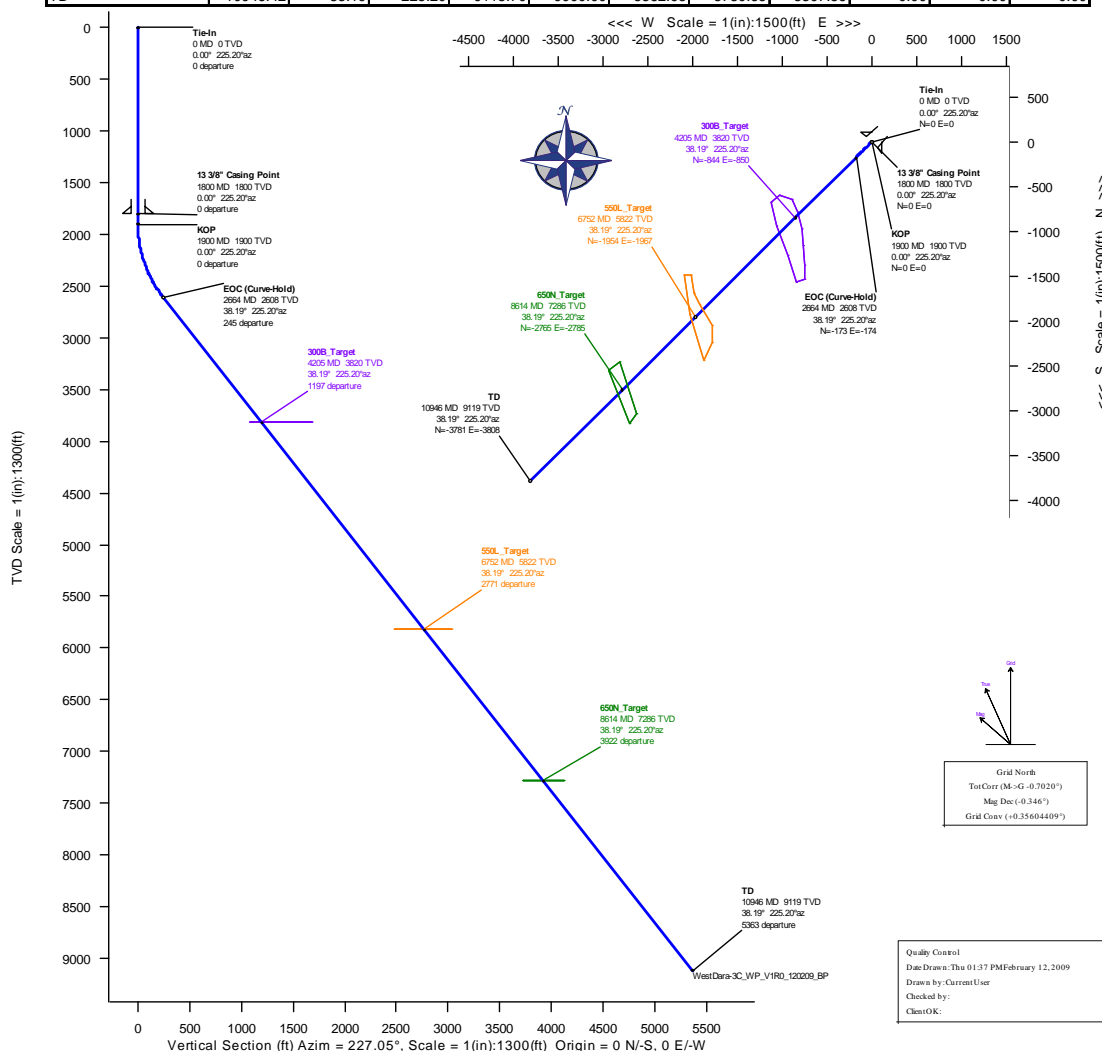
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Pearl Oil (Thailand) Ltd.



WELL WestDara-3C				FIELD Pearl - G06				STRUCTURE WestDara-3C			
Map/Well Parameters	Dip	3.25°	Date	February 12, 2009	Subsurface Location	N 10° 15' 15" E 100m 4% - 50m 4%	Grid Conv	4:3554409	Module Name	WestDara-3C	TVD Ref
Model	BGS02008	Mag Dec	4294°	PG	45350-07	Lat	N 10° 15' 15" E	100m 4% - 50m 4%	Grid Conv	4:3554409	PG Ref
						Lon	E 10° 15' 15" E	100m 4% - 50m 4%	Grid Conv	4:3554409	PG Ref

Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Sub-Sea TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg/100 ft)	Build Rate (deg/100 ft)	Walk Rate (deg/100 ft)
Tie-In	0.00	0.00	225.20	0.00	-118.70	0.00	0.00	0.00	0.00	0.00	0.00
13 3/8" Casing Point	1800.00	0.00	225.20	1800.00	1681.30	0.00	0.00	0.00	0.00	0.00	0.00
KOP	1900.00	0.00	225.20	1900.00	1781.30	0.00	0.00	0.00	0.00	0.00	0.00
EOC (Curve-Hold)	2663.72	38.19	225.20	2608.42	2489.72	245.09	-172.78	-174.01	5.00	5.00	0.00
300B_Target	4204.77	38.19	225.20	3819.70	3701.00	1197.29	-844.05	-850.05	0.00	0.00	0.00
550L_Target	6751.81	38.19	225.20	5821.70	5703.00	2771.10	-1953.52	-1967.42	0.00	0.00	0.00
650N_Target	8614.39	38.19	225.20	7285.70	7167.00	3921.97	-2764.84	-2784.52	0.00	0.00	0.00
TD	10946.42	38.19	225.20	9118.70	9000.00	5362.93	-3780.65	-3807.56	0.00	0.00	0.00



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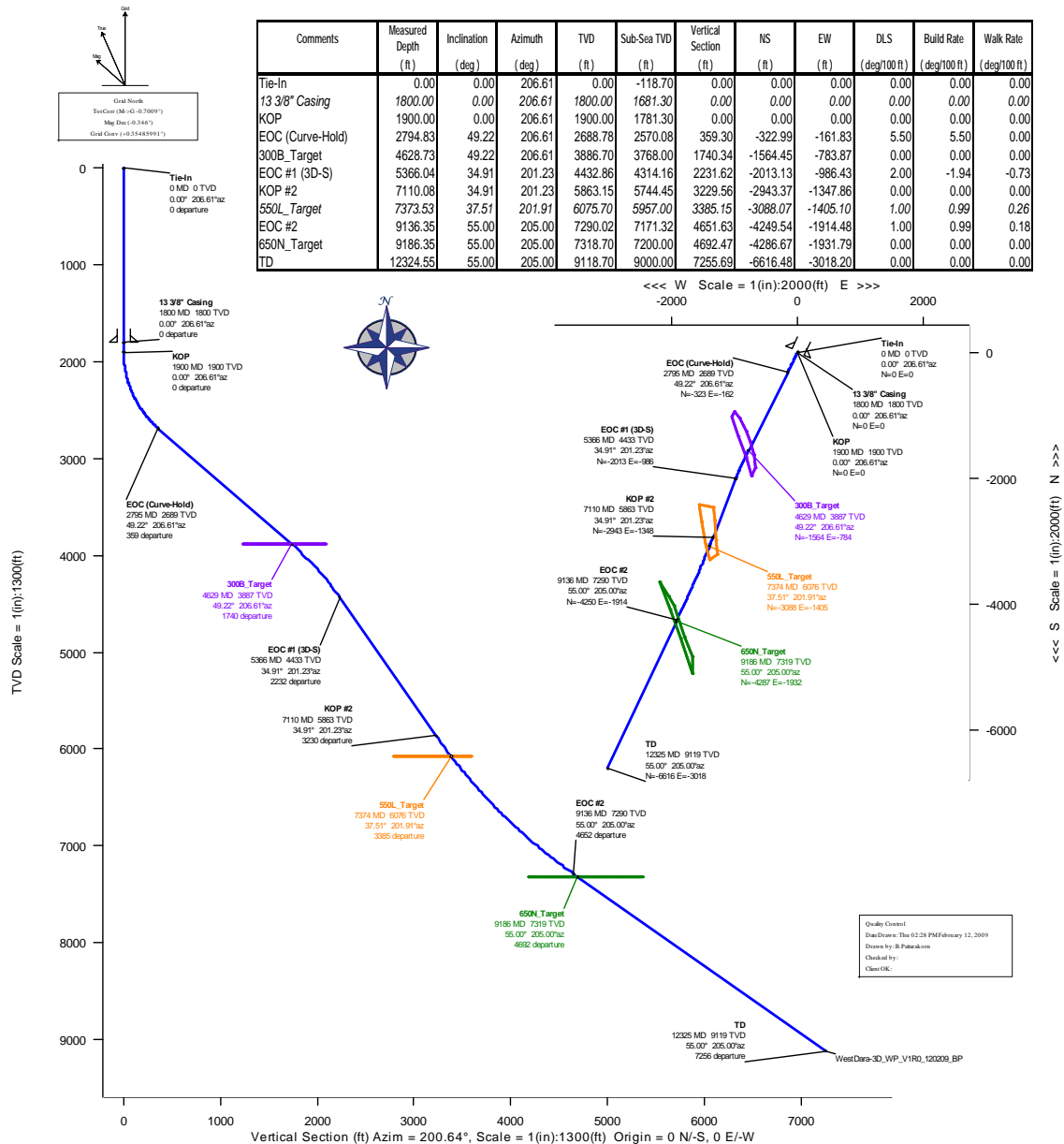
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Pearl Oil (Thailand) Ltd.



WELL				FIELD				STRUCTURE					
WestDara-3D				Pearl - G06				WestDara-3D					
Magnetic Parameters				Subsurface Location				Miscellaneous					
Model	BGM2008	Dip	3.34°	Date	February 12, 2009	Lat	N 15 52.396	Index	107517/Zone-4N - Bangkok	Modelline	WestDara-3D	TVD Ref	RKB (118.70N above MSL)
		Mag Dec	42.94°	File	455647.rtf	Lon	E 101 12 11.222	North	10497.0 m	Grid Conv	42.948581°	Plan	WestDara-3D_VP_V1R0_120208_BP
						East	74180.0 m	Scale/Fact	1.00000000				February 12, 2009



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ภาคผนวก 4 ผลการวิเคราะห์เศษหินและโคลนขุดเจาะแปลง สัมปทาน B4/27

ผลการตรวจวิเคราะห์เศษหินจากการขุดเจาะของเพิร์ล

เพิร์ล ได้ดำเนินการขุดเจาะหลุม Jasmine (WHP-D) เมื่อเดือนมิถุนายน 2551 ได้เก็บตัวอย่างเศษหินและโคลนจากหลุม Jasmine (WHP-D) โดยใช้ตัวอย่างโคลนที่ระดับขุดเจาะ D-05 (ระดับความลึก 3,000 ฟุต) และตัวอย่างเศษหินที่ระดับขุดเจาะ D-18i (ระดับความลึก 5,340-5,370 ฟุต)

ผลการวิเคราะห์พบว่า ปริมาณโลหะหนัก และปริมาณไฮโดรคาร์บอนทั้งหมด (Total Hydrocarbon) ของตัวอย่างเศษหินและโคลนจากการขุดเจาะทั้ง 2 ตัวอย่าง มีค่าอยู่ในมาตรฐานตามประกาศกระทรวงอุตสาหกรรม เรื่อง การกำจัดสิ่งปฏิกูลหรือวัสดุที่ไม่ใช้แล้ว พ.ศ.2548 (ราชกิจจานุเบกษา ฉบับประกาศและงานทั่วไป 123 ตอนพิเศษ 11ง. (25 มกราคม 2549) รายละเอียดผลการตรวจวิเคราะห์แสดงดังตารางที่ 1

ตารางที่ 1 : ผลการตรวจวิเคราะห์เศษหินและโคลนจากหลุม Jasmine

พารามิเตอร์	ผลการตรวจวิเคราะห์ (มิลลิกรัมกิโลกรัม)		มาตรฐาน*
	โคลนจาก D-05 (3000 ฟุต)	เศษหินจาก D-18i (5340-5370 ฟุต)	
สารหนู (As)	11	15	500
แคดเมียม (Cd)	7	7	100
โครเมียม (Cr)	12	28	2,500
ทองแดง (Cu)	18	15	2,500
ตะกั่ว (Pb)	21	15	1,000
ปรอท (Hg)	0.1	<0.1	20.0
สังกะสี (Zn)	17	34	5,000
ปริมาณไฮโดรคาร์บอนทั้งหมด	538.32	200.32	-

หมายเหตุ: * ประกาศกระทรวงอุตสาหกรรม เรื่อง การกำจัดสิ่งปฏิกูลหรือวัสดุที่ไม่ใช้แล้ว พ.ศ. 2548 (ราชกิจจานุเบกษา ฉบับประกาศและงานทั่วไป 123 ตอนพิเศษ 11ง. (25 มกราคม 2549)



ที่ คค 0309/ 4187

กรมการขนส่งทางน้ำและพาณิชยนาวี
ถนนโยธา กทม. 10100

๙๑ ตุลาคม 2550

เรื่อง แสดงความจำนงเป็นผู้ให้บริการจัดเก็บและบำบัดของเสียจากเรือ

เรียน กรรมการผู้จัดการบริษัท เวสต์ แมเนจเม้นท์ สยาม จำกัด

อ้างถึง หนังสือบริษัท เวสต์ แมเนจเม้นท์ สยาม จำกัด เลขที่ 2007-095/WMS/COO/EAC/ms
ลงวันที่ 6 กันยายน 2550

สิ่งที่ส่งมาด้วย ประกาศกรมการขนส่งทางน้ำและพาณิชยนาวี ที่ 429/2550 ลงวันที่ 17 ตุลาคม 2550

ตามหนังสือที่อ้างถึง บริษัท เวสต์ แมเนจเม้นท์ สยาม จำกัด เสนอขอเป็นผู้ให้บริการ
จัดเก็บและบำบัดของเสียจากเรือตามประกาศกรมการขนส่งทางน้ำและพาณิชยนาวี โดยจัดส่งเอกสาร
รายละเอียดให้กรมการขนส่งทางน้ำและพาณิชยนาวีพิจารณา ความละเอียดแจ้งแล้ว นั้น

กรมการขนส่งทางน้ำและพาณิชยนาวี พิจารณาแล้วเห็นว่าบริษัท เวสต์ แมเนจเม้นท์
สยาม จำกัด มีคุณสมบัติเหมาะสมตามประกาศกรมเจ้าท่าที่ 329/2545 และประกาศกรมการขนส่งทางน้ำ
และพาณิชยนาวี ที่ 143/2546 และได้ดำเนินการประกาศ บริษัทฯ ของท่านเป็นผู้ให้บริการจัดเก็บและ
บำบัดของเสียจากเรือได้ ตามสิ่งที่ส่งมาด้วย ทั้งนี้ขอให้ปฏิบัติตามประกาศกรมการขนส่งทางน้ำและ
พาณิชยนาวีและกฎหมายอื่นที่เกี่ยวข้องอย่างเคร่งครัดต่อไป

จึงเรียนมาเพื่อโปรดทราบ

ขอแสดงความนับถือ

เรือตรี

(ปรีชา เพ็ชรวงศ์)

รองอธิบดี ปฏิบัติราชการแทน

อธิบดีกรมการขนส่งทางน้ำและพาณิชยนาวี

สำนักความปลอดภัยและสิ่งแวดล้อมทางน้ำ

โทรศัพท์/โทรสาร 0 2234 3832



ประกาศกรมการขนส่งทางน้ำและพาณิชยนาวี

ที่ 429 / 2550

เรื่อง การบริการจัดเก็บและนำมัดของเสียจากเรือ

ตามที่ กรมการขนส่งทางน้ำและพาณิชยนาวี ได้มีประกาศกรมเจ้าท่าที่ 329/2545 และ ประกาศกรมการขนส่งทางน้ำและพาณิชยนาวี ที่ 143/2546 ให้ผู้ที่มีความประสงค์จะให้บริการรับของเสียจาก เรือในเขตท่าเรือกรุงเทพ ท่าเรือศรีราชา ท่าเรือมาบตาพุด ท่าเรือสงขลา และท่าเรือภูเก็ตจัดทำรายละเอียดแจ้ง กรมการขนส่งทางน้ำและพาณิชยนาวี เพื่อพิจารณาประกาศรายชื่อเป็นผู้มีคุณสมบัติเหมาะสมที่จะให้บริการ รับของเสียจากเรือ นั้น

บัดนี้ ได้มีผู้แสดงความจำนงเป็นผู้ให้บริการซึ่งกรมการขนส่งทางน้ำฯ พิจารณาแล้วเห็นว่าเป็น ผู้ที่มีคุณสมบัติเหมาะสม จึงขอแจ้งให้ผู้ประกอบการทำเทียบเรือ เจ้าของเรือ ตัวแทนเจ้าของเรือและผู้ที่มีส่วน เกี่ยวข้องได้รับทราบ ตามรายละเอียด ดังนี้

1. บริษัท เวสต์ แมเนจเม้นท์ สยาม จำกัด สำนักงานใหญ่ตั้งอยู่ที่อาคารยูบีซี ชั้น 22 เลขที่ 591 ซอยสุขุมวิท 33 ถนนสุขุมวิท แขวงคลองตัน เขตวัฒนา กรุงเทพมหานคร 10110 โทรศัพท์ : 0 2261 0264-7 โทรสาร : 0 2261 0269 Email : info@wms-thailand.com Website : www.wms-thailand.com และสถานที่ ประกอบการตั้งอยู่ที่นิคมอุตสาหกรรมเหมราชชลบุรี เลขที่ 88 หมู่ 8 ตำบลบ่อวิน อำเภอศรีราชา จังหวัดชลบุรี 20230 โทรศัพท์ 0 3834 6364-7 โทรสาร 0 3834 5623-5 ได้รับการแต่งตั้งจากบริษัท ปูนซิเมนต์นครหลวง จำกัด (มหาชน) ให้เป็นผู้รวบรวม จัดหา และขนส่งกากอุตสาหกรรมและวัสดุที่ไม่ใช้แล้วเพื่อนำไปเผาในเตาปูนซิเมนต์ของโรงงาน (ประกอบกิจการโรงงานประเภท 101) และ บริษัท อีสเทิร์น ซิเบอร์ค เอ็นไวรอนเม้นทอลคอมเพล็กซ์ จำกัด (ประกอบกิจการโรงงานประเภท 101 105 และ 106 ในเขตนิคมอุตสาหกรรม) ให้เป็นผู้จัดเก็บ และขนส่งของเสียมาทำการนำมัดและกำจัด ณ สถานที่ประกอบการของบริษัท ฯ ซึ่งตั้งอยู่ในเขตนิคมอุตสาหกรรมเหมราชชลบุรี เลขที่ 88 หมู่ 8 ตำบลบ่อวิน อำเภอศรีราชา จังหวัดชลบุรี 20230

2. ในการเรียกใช้บริการให้ตัวแทนเรือที่ได้รับแจ้งจากนายเรือเป็นผู้ติดต่อและแจ้งกำหนดการ ให้บริการให้นายท่าทราบล่วงหน้าไม่น้อยกว่า 24 ชั่วโมง

/ 3. ให้นายเรือ...

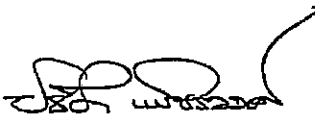
3. ให้นำเรือลงนามกำกับในบันทึกการให้บริการหรือใบกำกับการขนส่งของบริษัทผู้ให้บริการและเก็บสำเนาไว้เป็นหลักฐานทุกครั้ง

4. หากการให้บริการของบริษัท ฯ ขาดประสิทธิภาพทำให้เรือต้องเสียเวลาเกินสมควรจนก่อให้เกิดความเสียหายให้นายเรือหรือตัวแทนเรือทำหนังสือรายงานต่อกรมการขนส่งทางน้ำและพาณิชยนาวี

จึงประกาศมาเพื่อทราบทั่วกัน

ประกาศ ณ วันที่ 17 ตุลาคม พ.ศ. 2550

เรือตรี



(ปรีชา เพ็ชรวงศ์)

รองอธิบดี ปฏิบัติราชการแทน

อธิบดีกรมการขนส่งทางน้ำและพาณิชยนาวี

เงื่อนไขประกอบการอนุญาตเป็นผู้คุณสมบัติเหมาะสมในการเป็นผู้ให้บริการจัดเก็บและบำบัดของเสียจากเรือ
บริษัท เวสท์ แมเนจเม้นท์ สยาม จำกัด

1. ต้องปฏิบัติตามมาตรการความปลอดภัยในการขนถ่าย จัดเก็บและบำบัดของเสียจากเรืออย่างเคร่งครัด
2. ต้องจัดให้มีการฝึกซ้อมตามแผนฉุกเฉินในการขนถ่าย จัดเก็บ และบำบัดของเสียจากเรือ รวมทั้งแผนฉุกเฉินเมื่อเกิดอุบัติเหตุต่าง ๆ จากสารเคมี อย่างน้อยปีละ 2 ครั้ง
3. ต้องปฏิบัติตามมาตรการป้องกันและลดผลกระทบสิ่งแวดล้อมตามที่ได้ระบุไว้ในรายงานการวิเคราะห์ผลกระทบสิ่งแวดล้อมอย่างเคร่งครัด และเมื่อผลการติดตามตรวจสอบแสดงให้เห็นถึงปัญหาสิ่งแวดล้อม บริษัทฯ จะต้องดำเนินการปรับปรุงแก้ไขปัญหานั้นโดยเร็ว
4. ต้องปฏิบัติตามประกาศกระทรวงอุตสาหกรรม เรื่องระบบเอกสารกำกับการขนส่งของเสียอันตราย พ.ศ.2547 ลงวันที่ 27 ธันวาคม 2547 อย่างเคร่งครัด
5. ให้แจ้งรายชื่อเรือ/ท่าเรือ ที่ให้บริการกำจัดของเสีย โดยต้องระบุวัน เวลา รายการของเสีย ปริมาณที่รับ บำบัด/กำจัด วิธีการบำบัด/กำจัด และผลการดำเนินการของบริษัทให้กรมการขนส่งทางน้ำและพาณิชยนาวีทราบทุก 3 เดือน
6. ต้องจัดทำการประกันภัยความรับผิดชอบต่อบุคคลภายนอกให้มีความคุ้มครองตลอดระยะเวลาดำเนินการของบริษัท และให้จัดส่งสำเนาการต่ออายุกรมธรรม์ประกันภัยความรับผิดชอบต่อบุคคลภายนอกให้กรมการขนส่งทางน้ำและพาณิชยนาวีทราบทุกครั้ง
7. หากบริษัทมีความประสงค์จะเปลี่ยนแปลงใด ๆ ในกระบวนการจัดเก็บและบำบัดของเสียจากเรือ บริษัทจะต้องแจ้งการเปลี่ยนแปลงดังกล่าวแก่กรมการขนส่งทางน้ำและพาณิชยนาวีเพื่อพิจารณา
8. หากเกิดเหตุการณ์ใด ๆ ที่อาจก่อให้เกิดผลกระทบต่อสิ่งแวดล้อมจากกิจกรรมของโครงการ เจ้าของโครงการจะต้องรีบดำเนินการแก้ไขและต้องรับผิดชอบในทุกกรณีและแจ้งให้กรมการขนส่งทางน้ำและพาณิชยนาวีทราบโดยเร็ว
9. ต้องปฏิบัติตามกฎหมายอื่น ๆ ที่เกี่ยวข้อง
10. เงื่อนไขนี้อาจมีการเปลี่ยนแปลงได้ตามความเหมาะสม

ข้าพเจ้า บริษัท เวสท์ แมเนจเม้นท์ สยาม จำกัด ผู้ได้รับอนุญาตเป็นผู้คุณสมบัติเหมาะสมในการเป็นผู้ให้บริการจัดเก็บและบำบัดของเสียจากเรือตามประกาศกรมการขนส่งทางน้ำและพาณิชยนาวี ที่ 429/2550 ลงวันที่ 17 ตุลาคม 2550 จากกรมการขนส่งทางน้ำและพาณิชยนาวี รับทราบเงื่อนไขดังกล่าวข้างต้นแล้ว และยินดีจะปฏิบัติตามทุกประการ จึงลงลายมือชื่อไว้เป็นหลักฐาน

(พงษ์ภพ ดุจวรรณพิรุณ)

ผู้ให้บริการจัดเก็บและบำบัดของเสียจากเรือ/ผู้รับมอบอำนาจ

วันที่ 2 / 11 / 2550

ฝ่ายควบคุมภาวะมลพิษทางทะเล สำนักความปลอดภัยและสิ่งแวดล้อมทางน้ำ กรมการขนส่งทางน้ำและพาณิชยนาวี



ที่ คค 0309/4186

กรมการขนส่งทางน้ำและพาณิชยนาวี
ถนนโยธา กทม. 10100

๒๙ ตุลาคม 2550

เรื่อง แสดงความจำนงเป็นผู้ให้บริการจัดเก็บและบำบัดของเสียจากเรือ

เรียน กรรมการผู้จัดการบริษัท อีสเทิร์น ซีบอร์ด เอนไวรอนเมนทอล คอมเพล็กซ์ จำกัด

อ้างถึง หนังสือบริษัท อีสเทิร์น ซีบอร์ด เอนไวรอนเมนทอล คอมเพล็กซ์ จำกัด เลขที่ 2007-078/ESBEC/EAC/ms ลงวันที่ 29 สิงหาคม 2550

สิ่งที่ส่งมาด้วย ประกาศกรมการขนส่งทางน้ำและพาณิชยนาวี ที่ 428/2550 ลงวันที่ 17 ตุลาคม 2550

ตามหนังสือที่อ้างถึง บริษัท อีสเทิร์น ซีบอร์ด เอนไวรอนเมนทอล คอมเพล็กซ์ จำกัด เสนอขอเป็นผู้ให้บริการจัดเก็บและบำบัดของเสียจากเรือตามประกาศกรมการขนส่งทางน้ำและพาณิชยนาวี โดยจัดส่งเอกสารรายละเอียดให้กรมการขนส่งทางน้ำและพาณิชยนาวีพิจารณา ความละเอียดแจ้งแล้ว นั้น

กรมการขนส่งทางน้ำและพาณิชยนาวี พิจารณาแล้วเห็นว่าบริษัท อีสเทิร์น ซีบอร์ด เอนไวรอนเมนทอล คอมเพล็กซ์ จำกัด มีคุณสมบัติเหมาะสมตามประกาศกรมเจ้าท่าที่ 329/2545 ประกาศกรมการขนส่งทางน้ำและพาณิชยนาวี ที่ 143/2546 และประกาศกรมการขนส่งทางน้ำและพาณิชยนาวี ที่ 89/2548 และได้ดำเนินการประกาศ บริษัทฯ ของท่านเป็นผู้ให้บริการจัดเก็บและบำบัดของเสียจากเรือได้ตามสิ่งที่ส่งมาด้วย ทั้งนี้ขอให้ปฏิบัติตามประกาศกรมการขนส่งทางน้ำและพาณิชยนาวีและกฎหมายอื่นที่เกี่ยวข้องอย่างเคร่งครัดต่อไป

จึงเรียนมาเพื่อโปรดทราบ

ขอแสดงความนับถือ

เรือตรี

(ปรีชา เพ็ชรวงศ์)

รองอธิบดี ปฏิบัติราชการแทน

อธิบดีกรมการขนส่งทางน้ำและพาณิชยนาวี

สำนักความปลอดภัยและสิ่งแวดล้อมทางน้ำ

โทรศัพท์/โทรสาร 0 2234 3832



ประกาศกรมการขนส่งทางน้ำและพาณิชยนาวี

ที่ 428/2550

เรื่อง การบริการจัดเก็บและนำมัดของเสียจากเรือ

ตามที่ กรมการขนส่งทางน้ำและพาณิชยนาวี ได้มีประกาศกรมเจ้าท่าที่ 329/2545 ประกาศกรมการขนส่งทางน้ำและพาณิชยนาวี ที่ 143/2546 และประกาศกรมการขนส่งทางน้ำและพาณิชยนาวี ที่ 89/2548 ให้ผู้ที่มีความประสงค์จะให้บริการรับของเสียจากเรือในเขตท่าเรือกรุงเทพ ท่าเรือศรีราชา ท่าเรือมาบตาพุด ท่าเรือสงขลา และท่าเรือภูเก็ตจัดทำรายละเอียดแจ้งกรมการขนส่งทางน้ำและพาณิชยนาวี เพื่อพิจารณาประกาศรายชื่อเป็นผู้มีคุณสมบัติเหมาะสมที่จะให้บริการรองรับของเสียจากเรือ นั้น

บัดนี้ ได้มีผู้แสดงความจำนงเป็นผู้ให้บริการซึ่งกรมการขนส่งทางน้ำฯ พิจารณาแล้วเห็นว่าเป็นผู้ที่มีคุณสมบัติเหมาะสม จึงขอแจ้งให้ผู้ประกอบการทำเทียบเรือ เจ้าของเรือ ตัวแทนเจ้าของเรือและผู้ที่มีส่วนเกี่ยวข้องได้รับทราบ ตามรายละเอียด ดังนี้

1. บริษัท อีสเทิร์น ซีบอร์ด เอนไวรอนเม้นทอล คอมเพิลล์ซ์ จำกัด สำนักงานตั้งอยู่ที่นิคมอุตสาหกรรมเหมราชชลบุรี เลขที่ 88 หมู่ 8 ตำบลบ่อวิน อำเภอศรีราชา จังหวัดชลบุรี 20230 โทรศัพท์ 0 3834 6364-7 โทรสาร 0 3834 5623-5 Email : info@wms-thailand.com Website : www.wms-thailand.com ได้รับอนุญาตประกอบกิจการโรงงานประเภทลำดับที่ 101, 105 และ 106 ในขณินคมอุตสาหกรรมเหมราชชลบุรีจากการนิคมอุตสาหกรรมแห่งประเทศไทย
2. ในการเรียกใช้บริการให้ตัวแทนเรือที่ได้รับแจ้งจากนายเรือเป็นผู้ติดต่อและแจ้งกำหนดการให้บริการให้นายท่าทราบล่วงหน้าไม่น้อยกว่า 24 ชั่วโมง
3. ให้นายเรือลงนามกำกับในบันทึกการให้บริการหรือใบกำกับการขนส่งของบริษัทผู้ให้บริการและเก็บสำเนาไว้เป็นหลักฐานทุกครั้ง
4. หากการให้บริการของบริษัท ฯ ขาดประสิทธิภาพทำให้เรือต้องเสียเวลาเกินสมควรจนก่อให้เกิดความเสียหายให้นายเรือหรือตัวแทนเรือทำหนังสือรายงานต่อกรมการขนส่งทางน้ำและพาณิชยนาวี

จึงประกาศมาเพื่อทราบทั่วกัน

ประกาศ ณ วันที่ 17 ตุลาคม พ.ศ. 2550

เรือตรี

(ปรีชา เพ็ชรวงศ์)

รองอธิบดี ปฏิบัติราชการแทน

อธิบดีกรมการขนส่งทางน้ำและพาณิชยนาวี

เงื่อนไขประกอบการอนุญาตเป็นผู้คุณสมบัติเหมาะสมในการเป็นผู้ให้บริการจัดเก็บและบำบัดของเสียจากเรือ
บริษัท อีสเทิร์น ซีบอร์ด เอนไวรอนเมนทอล คอมเพล็กซ์ จำกัด

1. ต้องปฏิบัติตามมาตรการความปลอดภัยในการขนถ่าย จัดเก็บและบำบัดของเสียจากเรืออย่างเคร่งครัด
2. ต้องจัดให้มีการฝึกซ้อมตามแผนฉุกเฉินในการขนถ่าย จัดเก็บ และบำบัดของเสียจากเรือ รวมทั้งแผนฉุกเฉินเมื่อเกิดอุบัติเหตุต่าง ๆ จากสารเคมี อย่างน้อยปีละ 2 ครั้ง
3. ต้องปฏิบัติตามมาตรการป้องกันและลดผลกระทบสิ่งแวดล้อมตามที่ได้ระบุไว้ในรายงานการวิเคราะห์ผลกระทบสิ่งแวดล้อมอย่างเคร่งครัด และเมื่อผลการติดตามตรวจสอบแสดงให้เห็นถึงปัญหาสิ่งแวดล้อม บริษัทฯ จะต้องดำเนินการปรับปรุงแก้ไขปัญหานั้น โดยเร็ว
4. ต้องปฏิบัติตามประกาศกระทรวงอุตสาหกรรม เรื่องระบบเอกสารกำกับการขนส่งของเสียอันตราย พ.ศ.2547 ลงวันที่ 27 ธันวาคม 2547 อย่างเคร่งครัด
5. ให้แจ้งรายชื่อเรือ/ท่าเรือ ที่ใช้บริการกำจัดของเสีย โดยต้องระบุวัน เวลา รายการของเสีย ปริมาณที่ได้รับ บำบัด/กำจัด วิธีการบำบัด/กำจัด และผลการดำเนินการของบริษัทให้กรมการขนส่งทางน้ำและพาณิชยนาวีทราบทุก 3 เดือน
6. ต้องจัดทำการประกันภัยความรับผิดชอบต่อบุคคลภายนอกให้มีความคุ้มครองตลอดระยะเวลาดำเนินการของบริษัท และให้จัดส่งสำเนาการต่ออายุกรมธรรม์ประกันภัยความรับผิดชอบต่อบุคคลภายนอกให้กรมการขนส่งทางน้ำและพาณิชยนาวีทราบทุกครั้ง
7. หากบริษัทมีความประสงค์จะเปลี่ยนแปลงใด ๆ ในกระบวนการจัดเก็บและบำบัดของเสียจากเรือ บริษัทจะต้องแจ้งการเปลี่ยนแปลงดังกล่าวแก่กรมการขนส่งทางน้ำและพาณิชยนาวีเพื่อพิจารณา
8. หากเกิดเหตุการณ์ใด ๆ ที่อาจก่อให้เกิดผลกระทบต่อสิ่งแวดล้อมจากกิจกรรมของโครงการ เจ้าของโครงการจะต้องรีบดำเนินการแก้ไขและต้องรับผิดชอบในทุกกรณีและแจ้งให้กรมการขนส่งทางน้ำและพาณิชยนาวีทราบโดยเร็ว
9. ต้องปฏิบัติตามกฎหมายอื่น ๆ ที่เกี่ยวข้อง
10. เงื่อนไขนี้อาจมีการเปลี่ยนแปลงได้ตามความเหมาะสม

ข้าพเจ้า บริษัท อีสเทิร์น ซีบอร์ด เอนไวรอนเมนทอล คอมเพล็กซ์ จำกัด ผู้ได้รับอนุญาตเป็นผู้คุณสมบัติเหมาะสมในการเป็นผู้ให้บริการจัดเก็บและบำบัดของเสียจากเรือตามประกาศกรมการขนส่งทางน้ำและพาณิชยนาวี ที่ 428/2550 ลงวันที่ 17 ตุลาคม 2550 จากกรมการขนส่งทางน้ำและพาณิชยนาวี รับทราบเงื่อนไขดังกล่าวข้างต้นแล้ว และยินดีจะปฏิบัติตามทุกประการ จึงลงลายมือชื่อไว้เป็นหลักฐาน

(นางพรกมล สุวรรณพญา)

ผู้ให้บริการจัดเก็บและบำบัดของเสียจากเรือ/ผู้รับมอบอำนาจ

วันที่ 2 / 14 / 2550

ฝ่ายควบคุมภาวะมลพิษทางทะเล สำนักความปลอดภัยและสิ่งแวดล้อมทางน้ำ กรมการขนส่งทางน้ำและพาณิชยนาวี

- ISO 9001/ISO 14001 Certificate

SGS

Certificate TH07/0063EM

The management system of

Waste Management Siam Ltd.

22nd Floor, 591 UBC II Building,
Sukhumvit 33 Rd., Kwang Klongton Nua,
Khet Wattana, Bangkok 10110, Thailand

88 Moo 8, T. Bowin, Sriracha,
Chonburi 20230, Thailand

has been assessed and certified as meeting the requirements of

ISO 14001:2004

For the following activities

The provision of waste management of Eastern Seaboard
Environmental Complex Co., Ltd including Transportation,
Segregation of recyclable materials, disposal and treatment of
industrial non-hazardous waste under the control of Department of
Industrial Works.

This certificate is valid from 9 February 2007 until 8 February 2010
Issue 1. Certified since February 2007

Authorised by

P. Earl

SGS United Kingdom Ltd. Systems & Services Certification
Rossmore Business Park, Ellesmere Port, Cheshire CH65 3EN UK
t +44 (0)151 350 6666 f +44 (0)151 350 6600 www.sgs.com



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Certificate TH04/0444QM

The management system of

Waste Management Siam Ltd.

22nd Floor, 591 UBC II Building,
Sukhumvit 33 Rd., Kwang Klongton Nua,
Khet Wattana, Bangkok 10110, Thailand

88 Moo 8, T. Bowin, Sriracha,
Chonburi 20230, Thailand

has been assessed and certified as meeting the requirements of

ISO 9001:2000

For the following activities

The provision of waste management of Eastern Seaboard
Environmental Complex Co., Ltd including Transportation,
Segregation of recyclable materials, disposal and treatment of
industrial non-hazardous waste under the control of Department of
Industrial Works.

Further clarifications regarding the scope of this certificate and the applicability of
ISO 9001:2000 requirements may be obtained by consulting the organization

This certificate is valid from 9 March 2007 until 8 March 2010
Issue 2. Certified since March 2004

Authorised by

P. Earl

SGS United Kingdom Ltd Systems & Services Certification
Rossmore Business Park, Ellesmere Port, Cheshire CH65 3EN UK
t +44 (0)151 350 6666 f +44 (0)151 350 6600 www.sgs.com



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- GCL Insurance (Copy)

**PT Asuransi AIU Indonesia**Indonesia Stock Exchange Building, Tower 2, Floor 3A,
Jl. Jend. Sudirman Kav. 52-53, Jakarta 12190

Tel : (62-21) 5291 4888

Fax : (62-21) 5291 4889

Certificate of Insurance

THIS IS TO CERTIFY that the COMPANY named herein has issued, to the Insured named herein, policies of Insurance which provide, subject to the insuring agreements, exclusions, conditions and declarations contained therein; and during their effective period, coverage as described below:

1. Name and Address of Insured:

MA Environmental Holdings Ltd and/or WM Holdings Ltd and/or Modern Asia Environmental Holdings Inc and/or PT. Prasadha Pamunah Limbah Industri (PPLI) and/or PT. Waste Management Indonesia and/or Modern Asia Environmental Ltd and/or Waste Management Siam Ltd (WMS) and/or Eastern Seaboard Environmental Complex Co. Ltd, and/or Bangpoo Environmental Complex Co. Ltd and/or Nong Jok Environmental Complex Co. Ltd and/or Modern Asia Environmental Holding Pte Ltd and/or Technochem Environmental Complex Pte. Ltd, for their respective rights, interests and liabilities

2. PT. ASURANSI AIU INDONESIA is the Insurer for all coverage listed below.

3. Policies in force:

COVERAGE	POLICY No.	EFFECTIVE DATE	EXPIRATION DATE	LIMIT OF LIABILITY
Comprehensive General Liability Insurance	0301001557	June 30, 2008	June 30, 2009	US\$ 5,000,000.00 any one occurrence Deductible : US\$ 25,000 any one occurrence in respect of Third Party Property Damage only

4. Description of operations and locations covered:

Integrated Environmental and Waste Management Services

5. In the event of any material change or cancellation of any said policies, Notice thereof will be mailed to the party, described in item 1 above, but no responsibility is undertaken for failure to do so.

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A Member of American International Group, Inc.



PT Asuransi AIU Indonesia

Indonesia Stock Exchange Building, Tower 2, Floor 3A,
Jl. Jend. Sudirman Kav. 52-53, Jakarta 12190
Tel : (62-21) 5291 4888
Fax : (62-21) 5291 4889

Certificate of Insurance

6. The following is included as Additional Insured:-

- (1) Chevron Thailand Exploration and Production (CTEP)
- (2) Chevron Offshore (Thailand) Limited
- (3) Chevron Overseas Petroleum (Cambodia) Limited

but only with respect to liability arising out of operations performed for such Insured by or on behalf of the Named Insured,

MA Environmental Holdings Ltd and/or WM Holdings Ltd and/or Modern Asia Environmental Holdings Inc and/or PT. Prasadha Pamunah Limbah Industri (PPLI) and/or PT. Waste Management Indonesia and/or Modern Asia Environmental Ltd and/or Waste Management Siam Ltd (WMS) and/or Eastern Seaboard Environmental Complex Co. Ltd, and/or Bangpoo Environmental Complex Co. Ltd and/or Nong Jok Environmental Complex Co. Ltd and/or Modern Asia Environmental Holding Pte Ltd and/or Technochem Environmental Complex Pte. Ltd. for their respective rights, interests and liabilities

7. Cancellation Notice

It is hereby noted and agreed that in the event of material changes and cancellation of this insurance, the insurer will give 45 days prior written notice or without notice for non payment of Insurance Premium.

8. Primary Insurance

The insurance afforded by this policy is primary insurance, except when stated to apply in excess of or contingent upon the absence of other insurance.

Date of issue: July 2, 2008

Signed By
PT ASURANSI AIU INDONESIA

Authorized Representative



A Member of American International Group, Inc.

- Customer reference

Type of business	Company Name	Location	Type of service
Oil & Gas	Sino-U.S.	Phitsanulok	Drilling Mud service and Disposal
Petroleum	PTT Thai Oleo	Rayong	Waste Disposal
	Pearl Oil Thailand Limited	Sattahip	Waste Management Service and Disposal
	Auo Siam Marine (PTTEP)	Chumporn	Waste Management Service and Disposal
	PTT Exploration and Productions (PTTEP)	Songkla	Tank cleaning and waste disposal
	Chevron Thailand Exploration (CTEP)	Songkla	Waste Management Service and Disposal
	Chevron Offshore Thailand Limited (COTL)	Sattahip	Waste Management Service and Disposal
	Halliburton Energy Services, Inc	Songkla	Waste Management Service and Disposal
	M-I Swarco	Songkla	Waste Disposal
	Bangchak Refinery	Bangkok	Waste Disposal
	Schlumberger	Songkla	Waste Management Service and Disposal
Petrochemical	Purac Thailand Limited	Rayong	Waste Disposal
	GE Toshiba Silicone Monomer	Rayong	Waste Disposal
	Asia Silicone Monomer	Rayong	Waste Disposal
	Air Liquide (Thailand)	Rayong	Waste Disposal
	H.C.Strack (Thailand) Ltd.	Rayong	Waste Disposal
	Rayong Olefin Co.,Ltd.	Rayong	Waste Disposal
	Indorama Petrochem Co.,Ltd.	Rayong	Waste Disposal
	DOW Chemical Thailand	Rayong	Waste Disposal
	PTT Chemical Ltd.	Rayong	Waste Disposal
Chemical	Thai Organics Chemical	Rayong	Waste Disposal
	Carriant Emulsion (Thailand)	Rayong	Waste Disposal
	Surface Special List Limited	Rayong	Waste Disposal
	PQ Chemical (Thailand)	Chonburi	Waste Disposal
	Arakawa Chemical (Thailand)	Rayong	Waste Disposal
Auto Assembly and Auto Part	Auto Alliance (Thailand) Ltd. (AAT)	Rayong	Waste Disposal
	General Motors (Thailand) Limited	Rayong	Waste Disposal
	Toyota Motors (Thailand) Co.,Ltd.	Chachoengsao	Waste Disposal
	AGC Automotive Co.,Ltd.	Chonburi	Waste Disposal
	Michelin Siam Co.,Ltd.	Laemchabang	Waste Disposal
	Kitakawa (Thailand) Co.,Ltd.	Chonburi	Waste Disposal
	Zexel Valeo (Thailand) Co.,Ltd.	Rayong	Waste Disposal
	Zexel Clutch (Thailand) Co.,Ltd.	Rayong	Waste Disposal
	Siam AT Industrial Co.,Ltd.	Chonburi	Waste Disposal
	Y-Tech (Thailand) Co.,Ltd.	Prachinburi	Waste Disposal
	Thai Leakless (Thailand) Co.,Ltd.	Songkla	Waste Disposal
	SEI Break System (Thailand)	Rayong	Waste Disposal
Electronics	HOYA Optic (Thailand) Co.,Ltd.	Lamphune	Waste Disposal
	Matsushita Electronics Component	Samutprakarn	Waste Disposal
	Toei Denshi (Thailand) Co.,Ltd.	Chonburi	Waste Disposal
	National Thai Co.,Ltd.	Samutprakarn	Waste Disposal
	Microchip (Thailand) Co.,Ltd.	Chachoengsao	Waste Disposal
	Honeywell Electronics Material	Chonburi	Waste Disposal
	LG Electronic (Thailand) Co.,Ltd.	Rayong	Waste Disposal
	Hitachi Consumer Products	Rayong	Waste Disposal

	Mitsubishi Consumer Products	Chonburi	Waste Disposal
	JFE Ferrite (Thailand) Co.,Ltd.	Rayong	Waste Disposal



Plastic Products	GE Plastic (Thailand) Co.,Ltd.	Rayong	Cleaning Service and Waste Disposal
	Moltan Asia (Thailand) Co.,Ltd.	Chonburi	Waste Disposal
Consumer Products	Quality Coffee Products	Chachoengsao	Waste Management Service and Disposal
	Nestle Manufacturing Thailand Ltd.	Samutprakarn	Cleaning Service and Waste Disposal
	GE Toshiba Silicone	Rayong	Waste Disposal
	Procter & Gramble Thailand Limited	Chachoengsao	Waste Management Service and Disposal
	Bayer Droff (Thailand) Co.,Ltd.	Samutprakarn	Waste Disposal
	Unilever Thai Holding Co.,Ltd.	Bangkok	Waste Disposal
	Nuskin Products (Thailand) Co.,Ltd.	Bangkok	Waste Disposal
	Cereboss (Thailand) Co.,Ltd.	Chonburi	Waste Disposal
	Inseason Food (Thailand) Co.,Ltd.	Chonburi	Waste Disposal
	KAO Industry (Thailand) Co.,Ltd.	Samutprakarn	Waste Disposal
Paint Products	Nippon Paint (Thailand) Co.,Ltd.	Chonburi	Waste Disposal
	Modern Dystuff (Thailand) Co.,Ltd.	Chonburi	Waste Disposal
Steel/Steel wire and Metal	Thai Wire Products Co.,Ltd.	Rayong	Cleaning Service and Waste Disposal
	Rayong Wire Products PCL	Rayong	Waste Disposal
	The Siam United Steel	Rayong	Waste Disposal
	Sheng Tai Industrial (Thailand) Co.,Ltd.	Chonburi	Waste Disposal
	Mayer Industries Co.,Ltd.	Chonburi	Waste Disposal
	Thainox Steel Limited	Rayong	Waste Disposal
Power Plant	Bowin Power Plant	Chonburi	Waste Disposal
	Alstom Power Plant	Samutprakarn	Waste Disposal
	Rayong Electricity Generate	Rayong	Waste Disposal
	Grow IPP Co.,Ltd.	Rayong	Waste Disposal
	EGAT (Government)	Chachoengsao	Waste Disposal
	Fortum Energy Solution	Chonburi	Waste Disposal
	National Power Plant	Prachinburi	Waste Disposal
Foot Product	Union Footwear Co.,Ltd.	Chachoengsao	Waste Disposal
	Union Shoes Co.,Ltd.	Chachoengsao	Waste Disposal
	Pan Asia Leather Co.,Ltd.	Chonburi	Waste Disposal
	International Curity Footwear	Chonburi	Waste Disposal
	RAMA Shoes (Thailand) Co.,Ltd.	Chonburi	Waste Disposal
	Acushnet Footjoy (Thailand) Limited	Chonburi	Waste Disposal
Other Products	CSR Insulation (Thailand) Co.,Ltd.	Rayong	Waste Disposal
	CPPC (Thailand) Co.,Ltd.	Rayong	Waste Disposal

ภาคผนวก 6 ผลการสำรวจและวิเคราะห์

- 6.1 รายงานผลการตรวจวิเคราะห์คุณภาพน้ำทะเล ตะกอนพื้นทะเล
แพลงก์ตอนพืช แพลงก์ตอนสัตว์ สัตว์ทะเลหน้าดิน และโลหะหนักในปลา
- 6.2 ใบรับรองเครื่องมือตรวจวิเคราะห์
- 6.3 ใบรับรองห้องปฏิบัติการของบริษัท เอสจีเอส (ประเทศไทย) จำกัด

6.1 รายงานผลการตรวจวิเคราะห์คุณภาพน้ำทะเล ตะกอนพื้นทะเล แพลงก์ตอนพืช แพลงก์ตอนสัตว์ สัตว์ทะเลหน้าดิน และโลหะหนักในปลา

(ดูเอกสารในหน้าถัดไป)

Report No. : 2009-00202 / 001-2 (page 1 of 1)

Issued date : April 20, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seawater Quality Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48 (Rossukon-2), Blank

Parameters	Unit	Value		Standard*
		Field Blank	Preservation Blank	
Oil & Grease	mg/l	<1.0 (invisible)	<1.0 (invisible)	Not visible to naked eyes
Suspended Solids (SS)	mg/l	<1.0	-	See ^{1/}
Total Petroleum Hydrocarbon (TPH)	µg/l	<0.05	<0.05	≤0.5
Total Organic Carbon (TOC)	mg/l	<0.2	<0.2	-
Total Mercury (Hg)	µg/l	<0.05	<0.05	≤0.1
Cadmium (Cd)	µg/l	<0.1	<0.1	≤5.0
Total Chromium (Cr)	µg/l	<25.0	<25.0	≤100
Lead (Pb)	µg/l	<0.2	<0.2	≤8.5
Copper (Cu)	µg/l	<0.4	<0.4	≤8.0
Manganese (Mn)	µg/l	<25.0	<25.0	≤100
Zinc (Zn)	µg/l	<4.0	<4.0	≤50.0
Iron (Fe)	µg/l	<25.0	<25.0	≤300
Arsenic (As)	µg/l	<1.0	<1.0	≤10.0
Barium (Ba)	µg/l	<25.0	<25.0	-
Nickel (Ni)	µg/l	<0.15	<0.15	-

Remarks : - Analysis Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

^{1/} The results should not be changed more than the sum of daily average and standard deviation. For daily averages was calculates from hourly measurement or at least 5 samples taken at equal time interval within one day.

Source : * The Marine Water Quality Standards Class 1 for natural resource preservation areas, prescribed by Notification of the National Environmental Board No. 27, B.E. 2549 (2006).

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

SK/SA/BS/Pp

(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SGS (THAILAND) LIMITED

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00202 / 001-1 (page 1 of 1)

Issued date : April 20, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Seawater Quality Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E
SAMPLING DATE : March 30, 2009
SAMPLING TIME : 06.55-07.40 hr.
DEPTH : 59.0 meter

Parameters	Unit	LOQ	Value (Rossukon-2, Station 1)				Standard*
			1 m. below surface	20 m. below surface	40 m. below surface	1 m. above bottom	
Color	-	-	3 (Bluish Green)				Not unpleasant ^{1/}
Transparency	m.	-	20.0				$\Delta \leq 10\%$ ^{2/}
Floatable Solids	-	-	none				Not unpleasant
Oil & Grease	mg/l	1.0	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	Not visible to naked eyes
Odour	-	-	none	none	none	none	Not unpleasant ^{3/}
Temperature	°C	-	29.4	29.4	28.9	28.0	$\Delta \leq 1.0$ ^{4/}
pH	-	-	8.11	8.14	8.10	8.08	7.0-8.5
Suspended Solids (SS)	mg/l	-	4.0	2.0	3.0	5.0	See ^{5/}
Salinity	ppt	-	32.7	33.3	33.5	33.6	$\Delta \leq 10\%$ ^{6/}
Total Petroleum Hydrocarbon (TPH)	µg/l	0.05	0.16	0.13	0.07	0.06	≤ 0.5
Dissolved Oxygen (DO)	mg/l	-	6.33	6.25	6.20	6.08	≥ 4.0
Conductivity	mS/cm	-	49.7	50.6	50.9	51.1	-
Total Organic Carbon (TOC)	mg/l	0.2	1.22	1.27	1.17	1.14	-
Total Mercury (Hg)	µg/l	0.05	<0.05	<0.05	<0.05	<0.05	≤ 0.1
Cadmium (Cd)	µg/l	0.1	<0.1	<0.1	<0.1	<0.1	≤ 5.0
Total Chromium (Cr)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Lead (Pb)	µg/l	0.2	<0.2	<0.2	<0.2	<0.2	≤ 8.5
Copper (Cu)	µg/l	0.4	1.0	0.9	0.5	0.7	≤ 8.0
Manganese (Mn)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Zinc (Zn)	µg/l	4.0	4.0	8.0	4.0	10.0	≤ 50.0
Iron (Fe)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 300
Arsenic (As)	µg/l	1.0	3.21	3.27	3.18	3.72	≤ 10.0
Barium (Ba)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	-
Nickel (Ni)	µg/l	0.15	0.33	0.18	0.30	0.74	-

- Remarks :**
- Analysis Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.
 - LOQ = Limit of Quantitation
 - ^{1/} The color of marine water measured in scale of the Forel-Ule solution, ranging from 1 to 22.
 - ^{2/} The results decrease from natural condition should not be exceed 10% of the minimum transparency based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.
 - ^{3/} No offensive smell from sources, such as crude oil, "rotten egg", chemicals, litter and decaying organic matters.
 - ^{4/} An increase of the results should not be exceed 1°C from the natural temperature.
 - ^{5/} The results should not be changed more than the sum of daily average and standard deviation. For daily averages was calculates from hourly measurement or at least 5 samples taken at equal time interval within one day.
 - ^{6/} The results should not be changed exceed 10% of the minimum salinity based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.
- Source :**
- * The Marine Water Quality Standards Class 1 for natural resource preservation areas, prescribed by Notification of the National Environmental Board No. 27, B.E. 2549 (2006).

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 001-16 (page 1 of 1)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

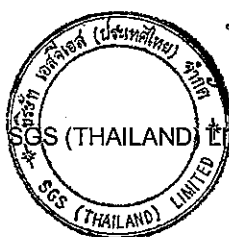
SAMPLE DESIGNATED AS : Seawater Quality Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, Blank

Parameters	Unit	LOQ	Value			Standard*
			Field Blank	Trip Blank	Preservation Blank	
Oil & Grease	mg/l	1.0	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	Not visible to naked eyes
Suspended Solids (SS)	mg/l	-	<1.0	<1.0	-	See ^{1/}
Total Petroleum Hydrocarbon (TPH)	µg/l	0.05	<0.05	<0.05	<0.05	≤0.5
Total Organic Carbon (TOC)	mg/l	0.2	<0.2	<0.2	<0.2	-
Total Mercury (Hg)	µg/l	0.05	<0.05	<0.05	<0.05	≤0.1
Cadmium (Cd)	µg/l	0.1	<0.1	<0.1	<0.1	≤5.0
Total Chromium (Cr)	µg/l	25.0	<25	<25.0	<25.0	≤100
Lead (Pb)	µg/l	0.2	<0.2	<0.2	<0.2	≤8.5
Copper (Cu)	µg/l	0.4	<0.4	<0.4	<0.4	≤8.0
Manganese (Mn)	µg/l	25.0	<25.0	<25.0	<25.0	≤100
Zinc (Zn)	µg/l	4.0	<4.0	<4.0	<4.0	≤50.0
Iron (Fe)	µg/l	25.0	<25.0	<25.0	<25.0	≤300
Arsenic (As)	µg/l	1.0	<1.0	<1.0	<1.0	≤10.0
Barium (Ba)	µg/l	25.0	<25.0	<25.0	<25.0	-
Nickel (Ni)	µg/l	0.15	<0.15	<0.15	<0.15	-

Remarks : - Analysis Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.
 - LOQ = Limit of Quantitation
^{1/} The results should not be changed more than the sum of daily average and standard deviation. For daily averages was calculates from hourly measurement or at least 5 samples taken at equal time interval within one day.

Source : * The Marine Water Quality Standards Class 1 for natural resource preservation areas, prescribed by Notification of the National Environmental Board No. 27, B.E. 2549 (2006).

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 001-15 (page 1 of 1)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.

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Analysis Report

SAMPLE DESIGNATED AS : Seawater Quality Analysis

SAMPLING METHOD : Grab Sampling

SAMPLING LOCATION : Concession Block G6/48, Control 3

COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 4' 57.78" E

SAMPLING DATE : February 10, 2009

SAMPLING TIME : 07.30-08.20 hr.

DEPTH : 59.6 meter

Parameters	Unit	LOQ	Value				Standard*
			1 m. below surface	20 m. below surface	40 m. below surface	1 m. above bottom	
Color	-	-	3 (Bluish Green)				Not unpleasant ^{1/}
Transparency	m.	-	16.0				$\Delta \leq 10\%$ ^{2/}
Floatable Solids	-	-	none				Not unpleasant
Oil & Grease	mg/l	1.0	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	Not visible to naked eyes
Odour	-	-	none	none	none	none	Not unpleasant ^{3/}
Temperature	°C	-	27.8	27.6	27.4	27.2	$\Delta \leq 1.0$ ^{4/}
pH	-	-	8.27	8.27	8.25	8.29	7.0-8.5
Suspended Solids (SS)	mg/l	-	3.0	4.0	3.0	4.0	See ^{5/}
Salinity	ppt	-	33.8	33.2	33.5	33.8	$\Delta \leq 10\%$ ^{6/}
Total Petroleum Hydrocarbon (TPH)	µg/l	0.05	0.13	0.16	0.22	0.22	≤ 0.5
Dissolved Oxygen (DO)	mg/l	-	6.30	6.28	6.22	6.20	≥ 4.0
Conductivity	mS/cm	-	49.8	50.4	50.8	51.4	-
Total Organic Carbon (TOC)	mg/l	0.2	3.46	3.50	3.39	3.52	-
Total Mercury (Hg)	µg/l	0.05	<0.05	<0.05	<0.05	<0.05	≤ 0.1
Cadmium (Cd)	µg/l	0.1	<0.1	<0.1	<0.1	<0.1	≤ 5.0
Total Chromium (Cr)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Lead (Pb)	µg/l	0.2	<0.2	<0.2	0.3	0.4	≤ 8.5
Copper (Cu)	µg/l	0.4	0.6	<0.4	<0.4	<0.4	≤ 8.0
Manganese (Mn)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Zinc (Zn)	µg/l	4.0	<4.0	<4.0	<4.0	6.0	≤ 50.0
Iron (Fe)	µg/l	25.0	<25.0	26.0	<25.0	<25.0	≤ 300
Arsenic (As)	µg/l	1.0	2.51	2.11	2.00	2.11	≤ 10.0
Barium (Ba)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	-
Nickel (Ni)	µg/l	0.15	0.16	0.17	0.18	0.22	-

Remarks : - Analysis Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

- LOQ = Limit of Quantitation

^{1/} The color of marine water measured in scale of the Forel-Ule solution, ranging from 1 to 22.

^{2/} The results decrease from natural condition should not be exceed 10% of the minimum transparency based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

^{3/} No offensive smell from sources, such as crude oil, "rotten egg", chemicals, litter and decaying organic matters.

^{4/} An increase of the results should not be exceed 1°C from the natural temperature.

^{5/} The results should not be changed more than the sum of daily average and standard deviation. For daily averages was calculates from hourly measurement or at least 5 samples taken at equal time interval within one day.

^{6/} The results should not be changed exceed 10% of the minimum salinity based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

Source : * The Marine Water Quality Standards Class 1 for natural resource preservation areas, prescribed by Notification of the National Environmental Board No. 27, B.E. 2549 (2006).

Siriporn Imwilaiwan
(Siriporn Imwilaiwan)

License ID : 2-010-A-1793



Sompong Kiatiporn
(Sompong Kiatiporn)

Environmental Manager

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This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 001-14 (page 1 of 1)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Seawater Quality Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, North Dara-7
COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.93" E

SAMPLING DATE : February 9, 2009
SAMPLING TIME : 15.00-15.40 hr.
DEPTH : 57.6 meter

Parameters	Unit	LOQ	Value				Standard*
			1 m. below surface	20 m. below surface	40 m. below surface	1 m. above bottom	
Color	-	-	4 (Bluish Green)				Not unpleasant ^{1/}
Transparency	m.	-	17				$\Delta \leq 10\%^{2/}$
Floatable Solids	-	-	none				Not unpleasant
Oil & Grease	mg/l	1.0	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	Not visible to naked eyes
Odour	-	-	none	none	none	none	Not unpleasant ^{3/}
Temperature	°C	-	28.1	28.0	28.0	27.9	$\Delta \leq 1.0^4/$
pH	-	-	8.29	8.30	8.29	8.25	7.0-8.5
Suspended Solids (SS)	mg/l	-	4.0	2.0	2.0	6.0	See ^{5/}
Salinity	ppt	-	32.7	32.8	33.3	33.6	$\Delta \leq 10\%^{6/}$
Total Petroleum Hydrocarbon (TPH)	µg/l	0.05	0.16	0.14	0.20	0.22	≤ 0.5
Dissolved Oxygen (DO)	mg/l	-	6.45	6.40	6.35	6.20	≥ 4.0
Conductivity	mS/cm	-	49.8	50.0	50.6	51.2	-
Total Organic Carbon (TOC)	mg/l	0.2	3.49	3.31	3.45	3.36	-
Total Mercury (Hg)	µg/l	0.05	<0.05	<0.05	<0.05	<0.05	≤ 0.1
Cadmium (Cd)	µg/l	0.1	<0.1	<0.1	<0.1	<0.1	≤ 5.0
Total Chromium (Cr)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Lead (Pb)	µg/l	0.2	<0.2	<0.2	0.2	0.4	≤ 8.5
Copper (Cu)	µg/l	0.4	<0.4	0.5	<0.4	<0.4	≤ 8.0
Manganese (Mn)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Zinc (Zn)	µg/l	4.0	<4.0	<4.0	<4.0	<4.0	≤ 50.0
Iron (Fe)	µg/l	25.0	<25.0	26.0	25.0	34.0	≤ 300
Arsenic (As)	µg/l	1.0	2.23	1.54	<1.0	2.16	≤ 10.0
Barium (Ba)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	-
Nickel (Ni)	µg/l	0.15	0.31	0.16	0.17	0.28	-

Remarks :

- Analysis Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.
- LOQ = Limit of Quantitation
- ^{1/} The color of marine water measured in scale of the Forel-Ule solution, ranging from 1 to 22.
- ^{2/} The results decrease from natural condition should not be exceed 10% of the minimum transparency based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.
- ^{3/} No offensive smell from sources, such as crude oil, "rotten egg", chemicals, litter and decaying organic matters.
- ^{4/} An increase of the results should not be exceed 1°C from the natural temperature.
- ^{5/} The results should not be changed more than the sum of daily average and standard deviation. For daily averages was calculates from hourly measurement or at least 5 samples taken at equal time interval within one day.
- ^{6/} The results should not be changed exceed 10% of the minimum salinity based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

Source : * The Marine Water Quality Standards Class 1 for natural resource preservation areas, prescribed by Notification of the National Environmental Board No. 27, B.E. 2549 (2006).

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

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Report No. : 2009-00051 / 001-13 (page 1 of 1)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Seawater Quality Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E
SAMPLING DATE : February 9, 2009
SAMPLING TIME : 17.00-17.45 hr.
DEPTH : 57.0 meter

Parameters	Unit	LOQ	Value				Standard*
			1 m. below surface	20 m. below surface	40 m. below surface	1 m. above bottom	
Color	-	-	3 (Bluish Green)				Not unpleasant ^{1/}
Transparency	m.	-	16.0				$\Delta \leq 10\%$ ^{2/}
Floatable Solids	-	-	none				Not unpleasant
Oil & Grease	mg/l	1.0	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	Not visible to naked eyes
Odour	-	-	none	none	none	none	Not unpleasant ^{3/}
Temperature	°C	-	28.1	28.1	27.7	27.5	$\Delta \leq 1.0$ ^{4/}
pH	-	-	8.31	8.31	8.27	8.27	7.0-8.5
Suspended Solids (SS)	mg/l	-	5.0	<1.0	1.0	4.0	See ^{5/}
Salinity	ppt	-	32.8	33.0	33.4	33.7	$\Delta \leq 10\%$ ^{6/}
Total Petroleum Hydrocarbon (TPH)	µg/l	0.05	0.25	0.15	0.30	0.09	≤ 0.5
Dissolved Oxygen (DO)	mg/l	-	6.32	6.23	6.17	6.12	≥ 4.0
Conductivity	mS/cm	-	49.8	50.3	50.8	51.3	-
Total Organic Carbon (TOC)	mg/l	0.2	3.19	3.88	3.09	3.19	-
Total Mercury (Hg)	µg/l	0.05	<0.05	<0.05	<0.05	<0.05	≤ 0.1
Cadmium (Cd)	µg/l	0.1	<0.1	<0.1	<0.1	<0.1	≤ 5.0
Total Chromium (Cr)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Lead (Pb)	µg/l	0.2	<0.2	<0.2	<0.2	<0.2	≤ 8.5
Copper (Cu)	µg/l	0.4	0.4	0.8	<0.4	0.9	≤ 8.0
Manganese (Mn)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Zinc (Zn)	µg/l	4.0	<4.0	<4.0	<4.0	<4.0	≤ 50.0
Iron (Fe)	µg/l	25.0	25.0	35.0	27.0	36.0	≤ 300
Arsenic (As)	µg/l	1.0	2.98	3.06	2.09	2.98	≤ 10.0
Barium (Ba)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	-
Nickel (Ni)	µg/l	0.15	0.24	0.18	0.15	0.55	-

Remarks : - Analysis Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

- LOQ = Limit of Quantitation

^{1/} The color of marine water measured in scale of the Forel-Ule solution, ranging from 1 to 22.

^{2/} The results decrease from natural condition should not be exceed 10% of the minimum transparency based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

^{3/} No offensive smell from sources, such as crude oil, "rotten egg", chemicals, litter and decaying organic matters.

^{4/} An increase of the results should not be exceed 1°C from the natural temperature.

^{5/} The results should not be changed more than the sum of daily average and standard deviation. For daily averages was calculates from hourly measurement or at least 5 samples taken at equal time interval within one day.

^{6/} The results should not be changed exceed 10% of the minimum salinity based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

Source : * The Marine Water Quality Standards Class 1 for natural resource preservation areas, prescribed by Notification of the National Environmental Board No. 27, B.E. 2549 (2006).

Siriporn L.
 (Siriporn Imwilaiwan)

License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 001-12 (page 1 of 1)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Seawater Quality Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 00.71" E
SAMPLING DATE : February 9, 2009
SAMPLING TIME : 18.10-19.00 hr.
DEPTH : 57.8 meter

Parameters	Unit	LOQ	Value				Standard*
			1 m. below surface	20 m. below surface	40 m. below surface	1 m. above bottom	
Color	-	-	3 (Bluish Green)				Not unpleasant ^{1/}
Transparency	m.	-	16.0				$\Delta \leq 10\%^{2/}$
Floatable Solids	-	-	none				Not unpleasant
Oil & Grease	mg/l	1.0	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	Not visible to naked eyes
Odour	-	-	none	none	none	none	Not unpleasant ^{3/}
Temperature	°C	-	28.0	27.7	27.4	27.3	$\Delta \leq 1.0^{4/}$
pH	-	-	8.31	8.32	8.30	8.27	7.0-8.5
Suspended Solids (SS)	mg/l	-	2.0	<1.0	5.0	3.0	See ^{5/}
Salinity	ppt	-	32.6	32.8	33.4	33.6	$\Delta \leq 10\%^{6/}$
Total Petroleum Hydrocarbon (TPH)	µg/l	0.05	0.18	0.15	0.21	0.36	≤ 0.5
Dissolved Oxygen (DO)	mg/l	-	6.20	6.20	6.17	6.10	≥ 4.0
Conductivity	mS/cm	-	49.6	49.8	50.7	51.2	-
Total Organic Carbon (TOC)	mg/l	0.2	3.33	3.65	3.38	3.69	-
Total Mercury (Hg)	µg/l	0.05	<0.05	<0.05	<0.05	<0.05	≤ 0.1
Cadmium (Cd)	µg/l	0.1	<0.1	<0.1	<0.1	<0.1	≤ 5.0
Total Chromium (Cr)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Lead (Pb)	µg/l	0.2	<0.2	<0.2	<0.2	0.2	≤ 8.5
Copper (Cu)	µg/l	0.4	<0.4	<0.4	<0.4	<0.4	≤ 8.0
Manganese (Mn)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Zinc (Zn)	µg/l	4.0	<4.0	<4.0	<4.0	<4.0	≤ 50.0
Iron (Fe)	µg/l	25.0	<25.0	<25.0	<25.0	33.0	≤ 300
Arsenic (As)	µg/l	1.0	3.32	2.74	2.18	3.03	≤ 10.0
Barium (Ba)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	-
Nickel (Ni)	µg/l	0.15	<0.15	0.24	0.23	0.19	-

Remarks : - Analysis Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

^{1/} LOQ = Limit of Quantitation

^{2/} The color of marine water measured in scale of the Forel-Ule solution, ranging from 1 to 22.

^{3/} The results decrease from natural condition should not be exceed 10% of the minimum transparency based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

^{4/} No offensive smell from sources, such as crude oil, "rotten egg", chemicals, litter and decaying organic matters.

^{5/} An increase of the results should not be exceed 1°C from the natural temperature.

^{6/} The results should not be changed more than the sum of daily average and standard deviation. For daily averages was calculates from hourly measurement or at least 5 samples taken at equal time interval within one day.

^{7/} The results should not be changed exceed 10% of the minimum salinity based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

Source : * The Marine Water Quality Standards Class 1 for natural resource preservation areas, prescribed by Notification of the National Environmental Board No. 27, B.E. 2549 (2006).

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 0-010-A-1793

SGS (THAILAND) LIMITED

(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 001-11 (page 1 of 1)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.

CONTACT : Khun Morakot Suvarnapruksa

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Analysis Report

SAMPLE DESIGNATED AS : Seawater Quality Analysis

SAMPLING DATE : February 9, 2009

SAMPLING METHOD : Grab Sampling

SAMPLING TIME : 13.10-14.10 hr.

SAMPLING LOCATION : Concession Block G6/48, North Dara-4

DEPTH : 58.0 meter

COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E

Parameters	Unit	LOQ	Value				Standard*
			1 m. below surface	20 m. below surface	40 m. below surface	1 m. above bottom	
Color	-	-	3 (Bluish Green)				Not unpleasant ^{1/}
Transparency	m.	-	18.0				$\Delta \leq 10\%$ ^{2/}
Floatable Solids	-	-	none				Not unpleasant
Oil & Grease	mg/l	1.0	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	Not visible to naked eyes
Odour	-	-	none	none	none	none	Not unpleasant ^{3/}
Temperature	°C	-	29.0	28.1	28.0	27.6	$\Delta \leq 1.0$ ^{4/}
pH	-	-	8.22	8.27	8.28	8.25	7.0-8.5
Suspended Solids (SS)	mg/l	-	6.0	<1.0	<1.0	3.0	See ^{5/}
Salinity	ppt	-	32.8	32.9	33.4	33.8	$\Delta \leq 10\%$ ^{6/}
Total Petroleum Hydrocarbon (TPH)	µg/l	0.05	0.20	0.21	0.11	0.25	≤ 0.5
Dissolved Oxygen (DO)	mg/l	-	6.40	6.27	6.20	6.16	≥ 4.0
Conductivity	mS/cm	-	49.8	50.0	50.7	51.4	-
Total Organic Carbon (TOC)	mg/l	0.2	3.08	3.49	3.28	3.45	-
Total Mercury (Hg)	µg/l	0.05	<0.05	<0.05	<0.05	<0.05	≤ 0.1
Cadmium (Cd)	µg/l	0.1	<0.1	<0.1	<0.1	<0.1	≤ 5.0
Total Chromium (Cr)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Lead (Pb)	µg/l	0.2	<0.2	<0.2	<0.2	<0.2	≤ 8.5
Copper (Cu)	µg/l	0.4	1.6	<0.4	<0.4	2.7	≤ 8.0
Manganese (Mn)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Zinc (Zn)	µg/l	4.0	<4.0	<4.0	<4.0	<4.0	≤ 50.0
Iron (Fe)	µg/l	25.0	31.0	25.0	34.0	40.0	≤ 300
Arsenic (As)	µg/l	1.0	2.08	3.14	2.65	2.72	≤ 10.0
Barium (Ba)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	-
Nickel (Ni)	µg/l	0.15	0.18	<0.15	<0.15	0.33	-

Remarks : - Analysis Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

- LOQ = Limit of Quantitation

^{1/} The color of marine water measured in scale of the Forel-Ule solution, ranging from 1 to 22.

^{2/} The results decrease from natural condition should not be exceed 10% of the minimum transparency based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

^{3/} No offensive smell from sources, such as crude oil, "rotten egg", chemicals, litter and decaying organic matters.

^{4/} An increase of the results should not be exceed 1°C from the natural temperature.

^{5/} The results should not be changed more than the sum of daily average and standard deviation. For daily averages was calculates from hourly measurement or at least 5 samples taken at equal time interval within one day.

^{6/} The results should not be changed exceed 10% of the minimum salinity based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

Source : * The Marine Water Quality Standards Class 1 for natural resource preservation areas, prescribed by Notification of the National Environmental Board No. 27, B.E. 2549 (2006).

Siriporn 2
 (Siriporn Imwilaiwan)

License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SGS (THAILAND) LIMITED

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 001-10 (page 1 of 1)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Seawater Quality Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, Control 2
COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E
SAMPLING DATE : February 7, 2009
SAMPLING TIME : 17.10-19.30 hr.
DEPTH : 60.4 meter

Parameters	Unit	LOQ	Value				Standard*
			1 m. below surface	20 m. below surface	40 m. below surface	1 m. above bottom	
Color	-	-	3 (Bluish Green)				Not unpleasant ^{1/}
Transparency	m.	-	18.0				$\Delta \leq 10\%$ ^{2/}
Floatable Solids	-	-	none				Not unpleasant
Oil & Grease	mg/l	1.0	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	Not visible to naked eyes
Odour	-	-	none	none	none	none	Not unpleasant ^{3/}
Temperature	°C	-	27.7	27.6	27.5	27.3	$\Delta \leq 1.0$ ^{4/}
pH	-	-	8.16	8.16	8.15	8.14	7.0-8.5
Suspended Solids (SS)	mg/l	-	4.0	<1.0	<1.0	<1.0	See ^{5/}
Salinity	ppt	-	32.8	33.0	33.4	33.7	$\Delta \leq 10\%$ ^{6/}
Total Petroleum Hydrocarbon (TPH)	µg/l	0.05	0.14	0.05	0.13	0.25	≤ 0.5
Dissolved Oxygen (DO)	mg/l	-	6.31	6.26	6.29	6.10	≥ 4.0
Conductivity	mS/cm	-	49.8	50.3	50.8	51.3	-
Total Organic Carbon (TOC)	mg/l	0.2	3.43	3.54	3.69	3.52	-
Total Mercury (Hg)	µg/l	0.05	<0.05	<0.05	<0.05	<0.05	≤ 0.1
Cadmium (Cd)	µg/l	0.1	0.2	<0.1	<0.1	<0.1	≤ 0.5
Total Chromium (Cr)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Lead (Pb)	µg/l	0.2	0.5	<0.2	0.3	<0.2	≤ 8.5
Copper (Cu)	µg/l	0.4	0.6	0.6	0.5	0.4	≤ 8.0
Manganese (Mn)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Zinc (Zn)	µg/l	4.0	<4.0	<4.0	<4.0	5.0	≤ 50.0
Iron (Fe)	µg/l	25.0	<25.0	<25.0	<25.0	35.0	≤ 300
Arsenic (As)	µg/l	1.0	2.79	2.77	2.74	2.92	≤ 10.0
Barium (Ba)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	-
Nickel (Ni)	µg/l	0.15	<0.15	<0.15	<0.15	<0.15	-

Remarks : - Analysis Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

- LOQ = Limit of Quantitation

^{1/} The color of marine water measured in scale of the Forel-Ule solution, ranging from 1 to 22.

^{2/} The results decrease from natural condition should not be exceed 10% of the minimum transparency based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

^{3/} No offensive smell from sources, such as crude oil, "rotten egg", chemicals, litter and decaying organic matters.

^{4/} An increase of the results should not be exceed 1°C from the natural temperature.

^{5/} The results should not be changed more than the sum of daily average and standard deviation. For daily averages was calculates from hourly measurement or at least 5 samples taken at equal time interval within one day.

^{6/} The results should not be changed exceed 10% of the minimum salinity based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

Source : * The Marine Water Quality Standards Class 1 for natural resource preservation areas, prescribed by Notification of the National Environmental Board No. 27, B.E. 2549 (2006).

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 9-010-A-1793

(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SGS (THAILAND) LIMITED

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 001-9 (page 1 of 1)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Seawater Quality Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, Control 1
COORDINATION (WGS84) : 9° 7' 19.92" N, 101° 5' 58.26" E
SAMPLING DATE : February 6, 2009
SAMPLING TIME : 11.30-12.20 hr.
DEPTH : 55.0 meter

Parameters	Unit	LOQ	Value				Standard*
			1 m. below surface	20 m. below surface	40 m. below surface	1 m. above bottom	
Color	-	-	3 (Bluish Green)				Not unpleasant ^{1/}
Transparency	m.	-	15.0				$\Delta \leq 10\%$ ^{2/}
Floatable Solids	-	-	none				Not unpleasant
Oil & Grease	mg/l	1.0	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	Not visible to naked eyes
Odour	-	-	none	none	none	none	Not unpleasant ^{3/}
Temperature	°C	-	28.5	28.3	28.2	28.0	$\Delta \leq 1.0$ ^{4/}
pH	-	-	8.12	8.17	8.14	8.09	7.0-8.5
Suspended Solids (SS)	mg/l	-	4.0	<1.0	<1.0	3.0	See ^{5/}
Salinity	ppt	-	33.2	33.9	33.5	33.7	$\Delta \leq 10\%$ ^{6/}
Total Petroleum Hydrocarbon (TPH)	µg/l	0.05	0.18	0.09	0.05	0.17	≤ 0.5
Dissolved Oxygen (DO)	mg/l	-	6.24	6.20	6.18	5.92	≥ 4.0
Conductivity	mS/cm	-	49.9	50.2	50.7	51.4	-
Total Organic Carbon (TOC)	mg/l	0.2	3.54	3.82	3.92	3.47	-
Total Mercury (Hg)	µg/l	0.05	<0.05	<0.05	<0.05	<0.05	≤ 0.1
Cadmium (Cd)	µg/l	0.1	<0.1	<0.1	<0.1	<0.1	≤ 5.0
Total Chromium (Cr)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Lead (Pb)	µg/l	0.2	<0.2	<0.2	<0.2	0.2	≤ 8.5
Copper (Cu)	µg/l	0.4	<0.4	<0.4	0.7	<0.4	≤ 8.0
Manganese (Mn)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Zinc (Zn)	µg/l	4.0	<4.0	<4.0	5.0	5.0	≤ 50.0
Iron (Fe)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 300
Arsenic (As)	µg/l	1.0	2.77	2.92	2.99	2.80	≤ 10.0
Barium (Ba)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	-
Nickel (Ni)	µg/l	0.15	<0.15	<0.15	0.49	0.15	-

Remarks : - Analysis Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

- LOQ = Limit of Quantitation

^{1/} The color of marine water measured in scale of the Forel-Ule solution, ranging from 1 to 22.

^{2/} The results decrease from natural condition should not be exceed 10% of the minimum transparency based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

^{3/} No offensive smell from sources, such as crude oil, "rotten egg", chemicals, litter and decaying organic matters.

^{4/} An increase of the results should not be exceed 1°C from the natural temperature.

^{5/} The results should not be changed more than the sum of daily average and standard deviation. For daily averages was calculates from hourly measurement or at least 5 samples taken at equal time interval within one day.

^{6/} The results should not be changed exceed 10% of the minimum salinity based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

Source : * The Marine Water Quality Standards Class 1 for natural resource preservation areas, prescribed by Notification of the National Environmental Board No. 27, B.E. 2549 (2006).

Siriporn I.
 (Siriporn Imwilaiwan)

License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 001-8 (page 1 of 1)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Seawater Quality Analysis
 SAMPLING METHOD : Grab Sampling
 SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
 COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E

SAMPLING DATE : February 6, 2009
 SAMPLING TIME : 07.30-08.35 hr.
 DEPTH : 52.0 meter

Parameters	Unit	LOQ	Value				Standard*
			1 m. below surface	20 m. below surface	40 m. below surface	1 m. above bottom	
Color	-	-	3 (Bluish Green)				Not unpleasant ^{1/}
Transparency	m.	-	17.0				$\Delta \leq 10\%$ ^{2/}
Floatable Solids	-	-	none				Not unpleasant
Oil & Grease	mg/l	1.0	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	Not visible to naked eyes
Odour	-	-	none	none	none	none	Not unpleasant ^{3/}
Temperature	°C	-	27.7	27.7	27.4	27.3	$\Delta \leq 1.0$ ^{4/}
pH	-	-	8.05	8.13	8.12	8.11	7.0-8.5
Suspended Solids (SS)	mg/l	-	2.0	<1.0	<1.0	5.0	See ^{5/}
Salinity	ppt	-	32.7	33.1	33.4	33.7	$\Delta \leq 10\%$ ^{6/}
Total Petroleum Hydrocarbon (TPH)	µg/l	0.05	0.06	0.24	0.11	0.13	≤ 0.5
Dissolved Oxygen (DO)	mg/l	-	6.29	6.25	6.08	5.85	≥ 4.0
Conductivity	mS/cm	-	49.8	50.3	50.6	51.3	-
Total Organic Carbon (TOC)	mg/l	0.2	3.37	3.40	3.82	3.03	-
Total Mercury (Hg)	µg/l	0.05	<0.05	<0.05	<0.05	<0.05	≤ 0.1
Cadmium (Cd)	µg/l	0.1	<0.1	<0.1	<0.1	<0.1	≤ 0.5
Total Chromium (Cr)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Lead (Pb)	µg/l	0.2	0.2	0.2	0.2	0.6	≤ 8.5
Copper (Cu)	µg/l	0.4	<0.4	<0.4	<0.4	<0.4	≤ 8.0
Manganese (Mn)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Zinc (Zn)	µg/l	4.0	<4.0	<4.0	<4.0	<4.0	≤ 50.0
Iron (Fe)	µg/l	25.0	<25.0	<25.0	<25.0	32.0	≤ 300
Arsenic (As)	µg/l	1.0	2.92	2.85	2.81	2.93	≤ 10.0
Barium (Ba)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	-
Nickel (Ni)	µg/l	0.15	<0.15	<0.15	0.18	0.22	-

Remarks : - Analysis Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

- LOQ = Limit of Quantitation

^{1/} The color of marine water measured in scale of the Forel-Ule solution, ranging from 1 to 22.

^{2/} The results decrease from natural condition should not be exceed 10% of the minimum transparency based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

^{3/} No offensive smell from sources, such as crude oil, "rotten egg", chemicals, litter and decaying organic matters.

^{4/} An increase of the results should not be exceed 1°C from the natural temperature.

^{5/} The results should not be changed more than the sum of daily average and standard deviation. For daily averages was calculates from hourly measurement or at least 5 samples taken at equal time interval within one day.

^{6/} The results should not be changed exceed 10% of the minimum salinity based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

Source : * The Marine Water Quality Standards Class 1 for natural resource preservation areas, prescribed by Notification of the National Environmental Board No. 27, B.E. 2549 (2006).

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
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 Environmental Manager

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This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 001-7 (page 1 of 1)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.

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Analysis Report

SAMPLE DESIGNATED AS : Seawater Quality Analysis

SAMPLING METHOD : Grab Sampling

SAMPLING LOCATION : Concession Block G6/48, Krut-2

COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E

SAMPLING DATE : February 6, 2009

SAMPLING TIME : 09.50-10.40 hr.

DEPTH : 57.0 meter

Parameters	Unit	LOQ	Value				Standard*
			1 m. below surface	20 m. below surface	40 m. below surface	1 m. above bottom	
Color	-	-	3 (Bluish Green)				Not unpleasant ^{1/}
Transparency	m.	-	20.0				$\Delta \leq 10\%$ ^{2/}
Floatable Solids	-	-	none				Not unpleasant
Oil & Grease	mg/l	1.0	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	Not visible to naked eyes
Odour	-	-	none	none	none	none	Not unpleasant ^{3/}
Temperature	°C	-	27.9	27.8	27.8	27.1	$\Delta \leq 1.0$ ^{4/}
pH	-	-	8.17	8.16	8.14	8.19	7.0-8.5
Suspended Solids (SS)	mg/l	-	4.0	<1.0	<1.0	1.0	See ^{5/}
Salinity	ppt	-	32.7	32.9	33.4	33.8	$\Delta \leq 10\%$ ^{6/}
Total Petroleum Hydrocarbon (TPH)	µg/l	0.05	0.06	0.05	0.05	0.06	≤ 0.5
Dissolved Oxygen (DO)	mg/l	-	6.37	6.24	6.12	5.85	≥ 4.0
Conductivity	mS/cm	-	49.9	50.0	50.7	51.5	-
Total Organic Carbon (TOC)	mg/l	0.2	3.15	3.22	3.15	3.23	-
Total Mercury (Hg)	µg/l	0.05	<0.05	<0.05	<0.05	<0.05	≤ 0.1
Cadmium (Cd)	µg/l	0.1	<0.1	<0.1	<0.1	<0.1	≤ 5.0
Total Chromium (Cr)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Lead (Pb)	µg/l	0.2	<0.2	0.2	0.4	0.3	≤ 8.5
Copper (Cu)	µg/l	0.4	<0.4	0.6	0.5	0.6	≤ 8.0
Manganese (Mn)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Zinc (Zn)	µg/l	4.0	<4.0	<4.0	<4.0	<4.0	≤ 50.0
Iron (Fe)	µg/l	25.0	<25.0	<25.0	<25.0	36.0	≤ 300
Arsenic (As)	µg/l	1.0	2.13	2.57	2.86	2.61	≤ 10.0
Barium (Ba)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	-
Nickel (Ni)	µg/l	0.15	<0.15	0.27	<0.15	0.58	-

Remarks : - Analysis Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

- LOQ = Limit of Quantitation

^{1/} The color of marine water measured in scale of the Forel-Ule solution, ranging from 1 to 22.

^{2/} The results decrease from natural condition should not be exceed 10% of the minimum transparency based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

^{3/} No offensive smell from sources, such as crude oil, "rotten egg", chemicals, litter and decaying organic matters.

^{4/} An increase of the results should not be exceed 1°C from the natural temperature.

^{5/} The results should not be changed more than the sum of daily average and standard deviation. For daily averages was calculates from hourly measurement or at least 5 samples taken at equal time interval within one day.

^{6/} The results should not be changed exceed 10% of the minimum salinity based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

Source : * The Marine Water Quality Standards Class 1 for natural resource preservation areas, prescribed by Notification of the National Environmental Board No. 27, B.E. 2549 (2006).

Sinpon 2.
(Siriporn Imwilaiwan)
License ID : 2-010-2-1793



(Sompong Kiatiporn)
Environmental Manager

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This report is issued in accordance to the disclaimer statements.

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Report No. : 2009-00051 / 001-6 (page 1 of 1)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Seawater Quality Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E
SAMPLING DATE : February 7, 2009
SAMPLING TIME : 15.00-15.30 hr.
DEPTH : 55.7 meter

Parameters	Unit	LOQ	Value				Standard*
			1 m. below surface	20 m. below surface	40 m. below surface	1 m. above bottom	
Color	-	-	3 (Bluish Green)				Not unpleasant ^{1/}
Transparency	m.	-	18.0				$\Delta \leq 10\%$ ^{2/}
Floatable Solids	-	-	none				Not unpleasant
Oil & Grease	mg/l	1.0	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	Not visible to naked eyes
Odour	-	-	none	none	none	none	Not unpleasant ^{3/}
Temperature	°C	-	28.5	28.5	27.7	27.7	$\Delta \leq 1.0$ ^{4/}
pH	-	-	8.14	8.17	8.16	8.10	7.0-8.5
Suspended Solids (SS)	mg/l	-	3.0	4.0	2.0	5.0	See ^{5/}
Salinity	ppt	-	32.7	32.8	33.4	33.8	$\Delta \leq 10\%$ ^{6/}
Total Petroleum Hydrocarbon (TPH)	µg/l	0.05	0.06	0.06	0.07	0.13	≤0.5
Dissolved Oxygen (DO)	mg/l	-	6.41	6.30	6.19	5.38	≥4.0
Conductivity	mS/cm	-	49.8	49.9	50.8	51.4	-
Total Organic Carbon (TOC)	mg/l	0.2	3.02	3.83	3.51	3.16	-
Total Mercury (Hg)	µg/l	0.05	<0.05	<0.05	<0.05	<0.05	≤0.1
Cadmium (Cd)	µg/l	0.1	<0.1	<0.1	<0.1	<0.1	≤5.0
Total Chromium (Cr)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤100
Lead (Pb)	µg/l	0.2	<0.2	<0.2	<0.2	0.2	≤8.5
Copper (Cu)	µg/l	0.4	0.4	<0.4	<0.4	0.9	≤8.0
Manganese (Mn)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤100
Zinc (Zn)	µg/l	4.0	<4.0	<4.0	<4.0	<4.0	≤50.0
Iron (Fe)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤300
Arsenic (As)	µg/l	1.0	2.82	2.85	3.10	3.09	≤10.0
Barium (Ba)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	-
Nickel (Ni)	µg/l	0.15	<0.15	<0.15	0.18	0.28	-

Remarks : - Analysis Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

- LOQ = Limit of Quantitation

^{1/} The color of marine water measured in scale of the Forel-Ule solution, ranging from 1 to 22.

^{2/} The results decrease from natural condition should not be exceed 10% of the minimum transparency based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

^{3/} No offensive smell from sources, such as crude oil, "rotten egg", chemicals, litter and decaying organic matters.

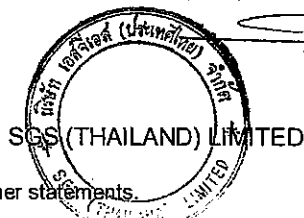
^{4/} An increase of the results should not be exceed 1°C from the natural temperature.

^{5/} The results should not be changed more than the sum of daily average and standard deviation. For daily averages was calculates from hourly measurement or at least 5 samples taken at equal time interval within one day.

^{6/} The results should not be changed exceed 10% of the minimum salinity based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

Source : * The Marine Water Quality Standards Class 1 for natural resource preservation areas, prescribed by Notification of the National Environmental Board No. 27, B.E. 2549 (2006).

Siniporn I
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 001-5 (page 1 of 1)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Seawater Quality Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, West Dara-6
COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E
SAMPLING DATE : February 6, 2009
SAMPLING TIME : 14.20-15.30 hr.
DEPTH : 56.2 meter

Parameters	Unit	LOQ	Value				Standard*
			1 m. below surface	20 m. below surface	40 m. below surface	1 m. above bottom	
Color	-	-	3 (Bluish Green)				Not unpleasant ^{1/}
Transparency	m.	-	18.0				$\Delta \leq 10\%$ ^{2/}
Floatable Solids	-	-	none				Not unpleasant
Oil & Grease	mg/l	1.0	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	Not visible to naked eyes
Odour	-	-	none	none	none	none	Not unpleasant ^{3/}
Temperature	°C	-	28.7	28.3	28.0	27.6	$\Delta \leq 1.0$ ^{4/}
pH	-	-	8.14	8.15	8.15	8.11	7.0-8.5
Suspended Solids (SS)	mg/l	-	4.0	2.0	3.0	6.0	See ^{5/}
Salinity	ppt	-	32.7	32.8	33.1	33.7	$\Delta \leq 10\%$ ^{6/}
Total Petroleum Hydrocarbon (TPH)	µg/l	0.05	0.06	0.11	0.10	0.16	≤0.5
Dissolved Oxygen (DO)	mg/l	-	6.42	6.33	6.27	6.10	≥4.0
Conductivity	mS/cm	-	49.8	50.0	50.5	51.3	-
Total Organic Carbon (TOC)	mg/l	0.2	3.74	3.60	3.62	3.74	-
Total Mercury (Hg)	µg/l	0.05	<0.05	<0.05	<0.05	<0.05	≤0.1
Cadmium (Cd)	µg/l	0.1	<0.1	<0.1	<0.1	<0.1	≤5.0
Total Chromium (Cr)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤100
Lead (Pb)	µg/l	0.2	<0.2	<0.2	<0.2	0.3	≤8.5
Copper (Cu)	µg/l	0.4	<0.4	<0.4	0.5	0.6	≤8.0
Manganese (Mn)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤100
Zinc (Zn)	µg/l	4.0	<4.0	<4.0	<4.0	4.0	≤50.0
Iron (Fe)	µg/l	25.0	<25.0	<25.0	<25.0	37.0	≤300
Arsenic (As)	µg/l	1.0	2.81	2.77	2.53	3.08	≤10.0
Barium (Ba)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	-
Nickel (Ni)	µg/l	0.15	<0.15	0.15	0.15	0.19	-

Remarks :

- Analysis Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.
- LOQ = Limit of Quantitation
- ^{1/} The color of marine water measured in scale of the Forel-Ule solution, ranging from 1 to 22.
- ^{2/} The results decrease from natural condition should not be exceed 10% of the minimum transparency based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.
- ^{3/} No offensive smell from sources, such as crude oil, "rotten egg", chemicals, litter and decaying organic matters.
- ^{4/} An increase of the results should not be exceed 1°C from the natural temperature.
- ^{5/} The results should not be changed more than the sum of daily average and standard deviation. For daily averages was calculates from hourly measurement or at least 5 samples taken at equal time interval within one day.
- ^{6/} The results should not be changed exceed 10% of the minimum salinity based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

Source : * The Marine Water Quality Standards Class 1 for natural resource preservation areas, prescribed by Notification of the National Environmental Board No. 27, B.E. 2549 (2006).

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SGS (THAILAND) LIMITED

SK/SA/BS/Pp

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Report No. : 2009-00051 / 001-4 (page 1 of 1)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Seawater Quality Analysis
 SAMPLING METHOD : Grab Sampling
 SAMPLING LOCATION : Concession Block G6/48, West Dara-5
 COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E

SAMPLING DATE : February 6, 2009
 SAMPLING TIME : 13.00-3.50 hr.
 DEPTH : 58.8 meter

Parameters	Unit	LOQ	Value				Standard*
			1 m. below surface	20 m. below surface	40 m. below surface	1 m. above bottom	
Color	-	-	3 (Bluish Green)				Not unpleasant ^{1/}
Transparency	m.	-	17.0				$\Delta \leq 10\%$ ^{2/}
Floatable Solids	-	-	none				Not unpleasant
Oil & Grease	mg/l	1.0	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	Not visible to naked eyes
Odour	-	-	none	none	none	none	Not unpleasant ^{3/}
Temperature	°C	-	27.9	27.6	27.4	27.2	$\Delta \leq 1.0$ ^{4/}
pH	-	-	8.17	8.16	8.14	8.11	7.0-8.5
Suspended Solids (SS)	mg/l	-	1.0	5.0	2.0	6.0	See ^{5/}
Salinity	ppt	-	32.8	33.0	33.3	33.8	$\Delta \leq 10\%$ ^{6/}
Total Petroleum Hydrocarbon (TPH)	µg/l	0.05	0.12	0.09	0.06	0.13	≤ 0.5
Dissolved Oxygen (DO)	mg/l	-	6.19	6.16	6.14	5.54	≥ 4.0
Conductivity	mS/cm	-	49.9	50.1	50.6	51.5	-
Total Organic Carbon (TOC)	mg/l	0.2	3.26	3.48	3.38	3.65	-
Total Mercury (Hg)	µg/l	0.05	<0.05	<0.05	<0.05	<0.05	≤ 0.1
Cadmium (Cd)	µg/l	0.1	<0.1	<0.1	<0.1	<0.1	≤ 5.0
Total Chromium (Cr)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Lead (Pb)	µg/l	0.2	<0.2	<0.2	0.3	0.3	≤ 8.5
Copper (Cu)	µg/l	0.4	0.4	<0.4	<0.4	0.5	≤ 8.0
Manganese (Mn)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Zinc (Zn)	µg/l	4.0	<4.0	<4.0	<4.0	<4.0	≤ 50.0
Iron (Fe)	µg/l	25.0	<25.0	<25.0	<25.0	25.0	≤ 300
Arsenic (As)	µg/l	1.0	2.81	2.23	2.77	2.87	≤ 10.0
Barium (Ba)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	-
Nickel (Ni)	µg/l	0.15	0.20	<0.15	<0.15	<0.15	-

Remarks : - Analysis Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

- LOQ = Limit of Quantitation

^{1/} The color of marine water measured in scale of the Forel-Ule solution, ranging from 1 to 22.

^{2/} The results decrease from natural condition should not be exceed 10% of the minimum transparency based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

^{3/} No offensive smell from sources, such as crude oil, "rotten egg", chemicals, litter and decaying organic matters.

^{4/} An increase of the results should not be exceed 1°C from the natural temperature.

^{5/} The results should not be changed more than the sum of daily average and standard deviation. For daily averages was calculates from hourly measurement or at least 5 samples taken at equal time interval within one day.

^{6/} The results should not be changed exceed 10% of the minimum salinity based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

Source : * The Marine Water Quality Standards Class 1 for natural resource preservation areas, prescribed by Notification of the National Environmental Board No. 27, B.E. 2549 (2006).

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-P-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements

Report No. : 2009-00051 / 001-3 (page 1 of 1)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Seawater Quality Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, North Dara-3
COORDINATION (WGS84) : 9° 15' 17.75" N, 101° 10' 54.90 E
SAMPLING DATE : February 7, 2009
SAMPLING TIME : 07.20-08.10 hr.
DEPTH : 58.2 meter

Parameters	Unit	LOQ	Value				Standard*
			1 m. below surface	20 m. below surface	40 m. below surface	1 m. above bottom	
Color	-	-	3 (Bluish Green)				Not unpleasant ^{1/}
Transparency	m.	-	17.0				$\Delta \leq 10\%$ ^{2/}
Floatable Solids	-	-	none				Not unpleasant
Oil & Grease	mg/l	1.0	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	Not visible to naked eyes
Odour	-	-	none	none	none	none	Not unpleasant ^{3/}
Temperature	°C	-	27.8	27.5	27.5	27.3	$\Delta \leq 1.0$ ^{4/}
pH	-	-	8.14	8.14	8.13	8.08	7.0-8.5
Suspended Solids (SS)	mg/l	-	<1.0	<1.0	<1.0	2.0	See ^{5/}
Salinity	ppt	-	32.7	32.8	33.4	33.8	$\Delta \leq 10\%$ ^{6/}
Total Petroleum Hydrocarbon (TPH)	µg/l	0.05	0.10	0.10	0.08	0.12	≤ 0.5
Dissolved Oxygen (DO)	mg/l	-	6.12	6.27	6.24	5.72	≥ 4.0
Conductivity	mS/cm	-	49.8	50.0	50.8	51.4	-
Total Organic Carbon (TOC)	mg/l	0.2	3.98	3.43	3.64	3.82	-
Total Mercury (Hg)	µg/l	0.05	<0.05	<0.05	<0.05	<0.05	≤ 0.1
Cadmium (Cd)	µg/l	0.1	<0.1	<0.1	<0.1	<0.1	≤ 5.0
Total Chromium (Cr)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Lead (Pb)	µg/l	0.2	<0.2	<0.2	0.2	<0.2	≤ 8.5
Copper (Cu)	µg/l	0.4	<0.4	<0.4	<0.4	0.5	≤ 8.0
Manganese (Mn)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Zinc (Zn)	µg/l	4.0	<4.0	<4.0	<4.0	<4.0	≤ 50.0
Iron (Fe)	µg/l	25.0	<25.0	<25.0	<25.0	51.0	≤ 300
Arsenic (As)	µg/l	1.0	2.27	2.65	2.61	3.70	≤ 10.0
Barium (Ba)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	-
Nickel (Ni)	µg/l	0.15	<0.15	<0.15	<0.15	0.16	-

Remarks : - Analysis Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

- LOQ = Limit of Quantitation

^{1/} The color of marine water measured in scale of the Forel-Ule solution, ranging from 1 to 22.

^{2/} The results decrease from natural condition should not be exceed 10% of the minimum transparency based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

^{3/} No offensive smell from sources, such as crude oil, "rotten egg", chemicals, litter and decaying organic matters.

^{4/} An increase of the results should not be exceed 1°C from the natural temperature.

^{5/} The results should not be changed more than the sum of daily average and standard deviation. For daily averages was calculates from hourly measurement or at least 5 samples taken at equal time interval within one day.

^{6/} The results should not be changed exceed 10% of the minimum salinity based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

Source : * The Marine Water Quality Standards Class 1 for natural resource preservation areas, prescribed by Notification of the National Environmental Board No. 27, B.E. 2549 (2006).

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

Sompong Kiatiporn
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This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 001-2 (page 1 of 1)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Seawater Quality Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, North Dara-2
COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E
SAMPLING DATE : February 7, 2009
SAMPLING TIME : 08.40-09.35 hr.
DEPTH : 61.4 meter

Parameters	Unit	LOQ	Value				Standard*
			1 m. below surface	20 m. below surface	40 m. below surface	1 m. above bottom	
Color	-	-	3 (Bluish Green)				Not unpleasant ^{1/}
Transparency	m.	-	19.0				$\Delta \leq 10\%$ ^{2/}
Floatable Solids	-	-	none				Not unpleasant
Oil & Grease	mg/l	1.0	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	Not visible to naked eyes
Odour	-	-	none	none	none	none	Not unpleasant ^{3/}
Temperature	°C	-	27.7	27.7	27.4	27.2	$\Delta \leq 1.0$ ^{4/}
pH	-	-	8.14	8.14	8.13	8.09	7.0-8.5
Suspended Solids (SS)	mg/l	-	<1.0	<1.0	<1.0	<1.0	See ^{5/}
Salinity	ppt	-	32.6	32.9	33.4	33.8	$\Delta \leq 10\%$ ^{6/}
Total Petroleum Hydrocarbon (TPH)	µg/l	0.05	0.10	0.08	0.06	0.06	≤ 0.5
Dissolved Oxygen (DO)	mg/l	-	6.25	6.22	6.20	5.73	≥ 4.0
Conductivity	mS/cm	-	49.8	50.0	50.8	51.2	-
Total Organic Carbon (TOC)	mg/l	0.2	3.92	3.76	3.63	3.92	-
Total Mercury (Hg)	µg/l	0.05	<0.05	<0.05	<0.05	<0.05	≤ 0.1
Cadmium (Cd)	µg/l	0.1	<0.1	<0.1	<0.1	<0.1	≤ 5.0
Total Chromium (Cr)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Lead (Pb)	µg/l	0.2	<0.2	0.3	0.3	0.3	≤ 8.5
Copper (Cu)	µg/l	0.4	<0.4	<0.4	0.5	<0.4	≤ 8.0
Manganese (Mn)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Zinc (Zn)	µg/l	4.0	<4.0	<4.0	<4.0	<4.0	≤ 50.0
Iron (Fe)	µg/l	25.0	25.0	33.0	25.0	54.0	≤ 300
Arsenic (As)	µg/l	1.0	1.85	2.07	2.16	2.96	≤ 10.0
Barium (Ba)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	-
Nickel (Ni)	µg/l	0.15	<0.15	<0.15	0.15	<0.15	-

Remarks : - Analysis Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

- LOQ = Limit of Quantitation

1/ The color of marine water measured in scale of the Forel-Ule solution, ranging from 1 to 22.

2/ The results decrease from natural condition should not be exceed 10% of the minimum transparency based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

3/ No offensive smell from sources, such as crude oil, "rotten egg", chemicals, litter and decaying organic matters.

4/ An increase of the results should not be exceed 1°C from the natural temperature.

5/ The results should not be changed more than the sum of daily average and standard deviation. For daily averages was calculates from hourly measurement or at least 5 samples taken at equal time interval within one day.

6/ The results should not be changed exceed 10% of the minimum salinity based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

Source : * The Marine Water Quality Standards Class 1 for natural resource preservation areas, prescribed by Notification of the National Environmental Board No. 27, B.E. 2549 (2006).

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 3-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 001-1 (page 1 of 1)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seawater Quality Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E
SAMPLING DATE : February 7, 2009
SAMPLING TIME : 10.30-11.40 hr.
DEPTH : 61.8 meter

Parameters	Unit	LOQ	Value				Standard*
			1 m. below surface	20 m. below surface	40 m. below surface	1 m. above bottom	
Color	-	-	3 (Bluish Green)				Not unpleasant ^{1/}
Transparency	m.	-	18.0				$\Delta \leq 10\%$ ^{2/}
Floatable Solids	-	-	none				Not unpleasant
Oil & Grease	mg/l	1.0	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	<1.0 (invisible)	Not visible to naked eyes
Odour	-	-	none	none	none	none	Not unpleasant ^{3/}
Temperature	°C	-	27.9	27.8	27.5	27.3	$\Delta \leq 1.0$ ^{4/}
pH	-	-	8.14	8.13	8.10	8.12	7.0-8.5
Suspended Solids (SS)	mg/l	-	1.0	<1.0	<1.0	1.0	See ^{5/}
Salinity	ppt	-	32.8	32.9	33.4	33.6	$\Delta \leq 10\%$ ^{6/}
Total Petroleum Hydrocarbon (TPH)	µg/l	0.05	0.16	0.07	0.08	0.06	≤ 0.5
Dissolved Oxygen (DO)	mg/l	-	6.21	6.28	5.86	5.94	≥ 4.0
Conductivity	mS/cm	-	49.9	50.0	50.8	51.2	-
Total Organic Carbon (TOC)	mg/l	0.2	3.56	4.05	3.55	3.96	-
Total Mercury (Hg)	µg/l	0.05	<0.05	<0.05	<0.05	<0.05	≤ 0.1
Cadmium (Cd)	µg/l	0.1	<0.1	<0.1	<0.1	<0.1	≤ 5.0
Total Chromium (Cr)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Lead (Pb)	µg/l	0.2	0.3	0.5	0.4	0.6	≤ 8.5
Copper (Cu)	µg/l	0.4	0.4	0.4	0.7	1.1	≤ 8.0
Manganese (Mn)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	≤ 100
Zinc (Zn)	µg/l	4.0	<4.0	<4.0	<4.0	<4.0	≤ 50.0
Iron (Fe)	µg/l	25.0	<25.0	<25.0	<25.0	46.0	≤ 300
Arsenic (As)	µg/l	1.0	1.99	2.11	2.68	2.58	≤ 10.0
Barium (Ba)	µg/l	25.0	<25.0	<25.0	<25.0	<25.0	-
Nickel (Ni)	µg/l	0.15	<0.15	0.29	0.19	0.29	-

Remarks :

- Analysis Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.
- LOQ = Limit of Quantitation
- ^{1/} The color of marine water measured in scale of the Forel-Ule solution, ranging from 1 to 22.
- ^{2/} The results decrease from natural condition should not be exceed 10% of the minimum transparency based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.
- ^{3/} No offensive smell from sources, such as crude oil, "rotten egg", chemicals, litter and decaying organic matters.
- ^{4/} An increase of the results should not be exceed 1°C from the natural temperature.
- ^{5/} The results should not be changed more than the sum of daily average and standard deviation. For daily averages was calculates from hourly measurement or at least 5 samples taken at equal time interval within one day.
- ^{6/} The results should not be changed exceed 10% of the minimum salinity based on marine water samples taken in the same season and from the same station for 1 year during which occurrence of tides exists.

Source :

- * The Marine Water Quality Standards Class 1 for natural resource preservation areas, prescribed by Notification of the National Environmental Board No. 27, B.E. 2549 (2006).

Siriporn Imwilaian
 (Siriporn Imwilaian)
 License ID : 1-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-1 (page 1 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
 CONTACT : Khun Morakot Suvarnapruksa
 ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
 SAMPLING METHOD : Grab Sampling
 SAMPLING LOCATION : Concession Block G6/48, North Dara-1
 COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E

SAMPLING DATE : February 7, 2009
 SAMPLING TIME : 10.30-11.40 hr.

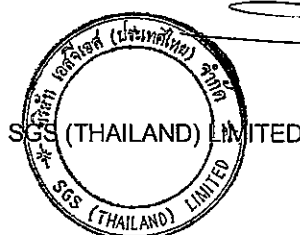
Parameters	Unit	LOQ	Value	Guidelines*	
				ERL	ERM
Total Petroleum Hydrocarbon (TPH)					
C6 - C9	mg/kg	5.0	<5.0	-	-
C10 - C19	mg/kg	5.0	<5.0	-	-
C20 - C36	mg/kg	20.0	<20.0	-	-
Oil & Grease	mg/kg	10.0	<10.0	-	-
Total Organic Carbon (TOC)	mg/kg	0.2	23.0	-	-
Arsenic (As)	mg/kg	1.0	1.0	8.2	70
Barium (Ba)	mg/kg	10.0	44.0	-	-
Cadmium (Cd)	mg/kg	1.0	<1.0	1.2	9.6
Chromium (Cr)	mg/kg	2.0	6.0	81	370
Copper (Cu)	mg/kg	2.0	2.0	34	270
Iron (Fe)	mg/kg	2.0	6,275	-	-
Lead (Pb)	mg/kg	5.0	6.0	46.7	218
Mercury (Hg)	mg/kg	0.1	<0.1	0.15	0.71
Manganese (Mn)	mg/kg	2.0	220	-	-
Nickel (Ni)	mg/kg	2.0	5.0	20.9	51.6
Zinc (Zn)	mg/kg	2.0	10.0	150	410

Remarks : - Analysis Methods followed to the U.S. EPA Method 3050B.

- ERL = Effects Range-Low
- ERM = Effects Range-Median
- LOQ = Limit of Quantitation

Source : * Proposed sediment quality guideline for Thailand (mg/kg-dry weight) adopted from Effects Range-Low/Range-Median Approach (USA)

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-1 (page 2 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E

SAMPLING DATE : February 7, 2009
SAMPLING TIME : 10.30-11.40 hr.

Item	Particle Size Distribution (micron)		Percent by volume (%)
	Range	Detail	
1	0.0-1.0	Clay	25.82
2	1.0-5.0	Clay very fine Silty Clay	13.08
3	5.0-10.0	Very fine Silt	16.81
4	10.0-50.0	Fine to coarse Silt	30.28
5	50.0-100.0	Silt-very fine sand	7.00
6	100.0-200.0	Sand	3.16
7	>200	Sand and Gravel	3.85
Total			100%


Remark : - Standard methods used are the ASTM. and using the "Laser, Particle Size Analyzer".

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

SK/SA/BS/Pp

(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SGS (THAILAND) LIMITED



This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-2 (page 1 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, North Dara-2
COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E

SAMPLING DATE : February 7, 2009
SAMPLING TIME : 08.40-09.35 hr.

Parameters	Unit	LOQ	Value	Guidelines*	
				ERL	ERM
Total Petroleum Hydrocarbon (TPH)					
C6 - C9	mg/kg	5.0	<5.0	-	-
C10 - C19	mg/kg	5.0	<5.0	-	-
C20 - C36	mg/kg	20.0	<20.0	-	-
Oil & Grease	mg/kg	10.0	<10.0	-	-
Total Organic Carbon (TOC)	mg/kg	0.2	18.0	-	-
Arsenic (As)	mg/kg	1.0	1.0	8.2	70
Barium (Ba)	mg/kg	10.0	37.0	-	-
Cadmium (Cd)	mg/kg	1.0	<1.0	1.2	9.6
Chromium (Cr)	mg/kg	2.0	11.0	81	370
Copper (Cu)	mg/kg	2.0	3.0	34	270
Iron (Fe)	mg/kg	2.0	7,828	-	-
Lead (Pb)	mg/kg	5.0	7.0	46.7	218
Mercury (Hg)	mg/kg	0.1	<0.1	0.15	0.71
Manganese (Mn)	mg/kg	2.0	211	-	-
Nickel (Ni)	mg/kg	2.0	8.0	20.9	51.6
Zinc (Zn)	mg/kg	2.0	19.0	150	410

Remarks : - Analysis Methods followed to the U.S. EPA Method 3050B.

- ERL = Effects Range-Low
- ERM = Effects Range-Median
- LOQ = Limit of Quantitation

Source : * Proposed sediment quality guideline for Thailand (mg/kg-dry weight) adopted from Effects Range-Low/Range-Median Approach (USA)

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatipom)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-2 (page 2 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, North Dara-2
COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E

SAMPLING DATE : February 7, 2009
SAMPLING TIME : 08.40-09.35 hr.

Item	Particle Size Distribution (micron)		Percent by volume (%)
	Range	Detail	
1	0.0-1.0	Clay	30.01
2	1.0-5.0	Clay very fine Silty Clay	12.99
3	5.0-10.0	Very fine Silt	13.23
4	10.0-50.0	Fine to coarse Silt	28.61
5	50.0-100.0	Silt-very fine sand	9.15
6	100.0-200.0	Sand	5.96
7	>200	Sand and Gravel	0.05
Total			100%

Remark : - Standard methods used are the ASTM. and using the "Laser, Particle Size Analyzer".

Siriporn L.
 (Siriporn Imwilaiwan)
 License ID : 1-010-A-1793

SK/SA/BS/Pp



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-3 (page 1 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
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Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, North Dara-3
COORDINATION (WGS84) : 9° 15' 17.75" N, 101° 10' 54.90 E

SAMPLING DATE : February 7, 2009
SAMPLING TIME : 07.20-08.10 hr.

Parameters	Unit	LOQ	Value	Guidelines*	
				ERL	ERM
Total Petroleum Hydrocarbon (TPH)					
C6 - C9	mg/kg	5.0	<5.0	-	-
C10 - C19	mg/kg	5.0	<5.0	-	-
C20 - C36	mg/kg	20.0	<20.0	-	-
Oil & Grease	mg/kg	10.0	<10.0	-	-
Total Organic Carbon (TOC)	mg/kg	0.2	24.0	-	-
Arsenic (As)	mg/kg	1.0	2.0	8.2	70
Barium (Ba)	mg/kg	10.0	32	-	-
Cadmium (Cd)	mg/kg	1.0	<1.0	1.2	9.6
Chromium (Cr)	mg/kg	2.0	11.0	81	370
Copper (Cu)	mg/kg	2.0	3.0	34	270
Iron (Fe)	mg/kg	2.0	7,620	-	-
Lead (Pb)	mg/kg	5.0	6.0	46.7	218
Mercury (Hg)	mg/kg	0.1	<0.1	0.15	0.71
Manganese (Mn)	mg/kg	2.0	191	-	-
Nickel (Ni)	mg/kg	2.0	8.0	20.9	51.6
Zinc (Zn)	mg/kg	2.0	12	150	410

Remarks : - Analysis Methods followed to the U.S. EPA Method 3050B.

- ERL = Effects Range-Low
- ERM = Effects Range-Median
- LOQ = Limit of Quantitation

Source : * Proposed sediment quality guideline for Thailand (mg/kg-dry weight) adopted from Effects Range-Low/Range-Median Approach (USA)

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-3 (page 2 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
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 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, North Dara-3
COORDINATION (WGS84) : 9° 15' 17.75" N, 101° 10' 54.90 E

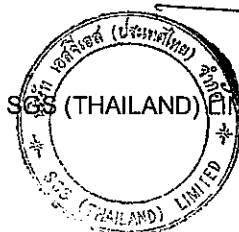
SAMPLING DATE : February 7, 2009
SAMPLING TIME : 07.20-08.10 hr.

Item	Particle Size Distribution (micron)		Percent by volume (%)
	Range	Detail	
1	0.0-1.0	Clay	35.84
2	1.0-5.0	Clay very fine Silty Clay	11.12
3	5.0-10.0	Very fine Silt	12.95
4	10.0-50.0	Fine to coarse Silt	27.01
5	50.0-100.0	Silt-very fine sand	7.62
6	100.0-200.0	Sand	3.47
7	>200	Sand and Gravel	1.99
Total			100%

Remark : - Standard methods used are the ASTM. and using the "Laser, Particle Size Analyzer".

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

SK/SA/BS/Pp



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-4 (page 1 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, West Dara-5
COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E

SAMPLING DATE : February 6, 2009
SAMPLING TIME : 13.00-13.50 hr.

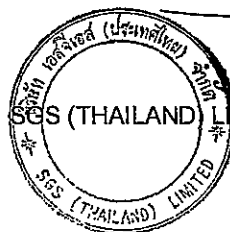
Parameters	Unit	LOQ	Value	Guidelines*	
				ERL	ERM
Total Petroleum Hydrocarbon (TPH)					
C6 - C9	mg/kg	5.0	<5.0	-	-
C10 - C19	mg/kg	5.0	<5.0	-	-
C20 - C36	mg/kg	20.0	<20.0	-	-
Oil & Grease	mg/kg	10.0	<10.0	-	-
Total Organic Carbon (TOC)	mg/kg	0.2	22.0	-	-
Arsenic (As)	mg/kg	1.0	1.0	8.2	70
Barium (Ba)	mg/kg	10.0	31.0	-	-
Cadmium (Cd)	mg/kg	1.0	<1.0	1.2	9.6
Chromium (Cr)	mg/kg	2.0	9.0	81	370
Copper (Cu)	mg/kg	2.0	3.0	34	270
Iron (Fe)	mg/kg	2.0	7,184	-	-
Lead (Pb)	mg/kg	5.0	5.0	46.7	218
Mercury (Hg)	mg/kg	0.1	<0.1	0.15	0.71
Manganese (Mn)	mg/kg	2.0	175	-	-
Nickel (Ni)	mg/kg	2.0	7.0	20.9	51.6
Zinc (Zn)	mg/kg	2.0	15.0	150	410

Remarks :

- Analysis Methods followed to the U.S. EPA Method 3050B.
- ERL = Effects Range-Low
- ERM = Effects Range-Median
- LOQ = Limit of Quantitation

Source : * Proposed sediment quality guideline for Thailand (mg/kg-dry weight) adopted from Effects Range-Low/Range-Median Approach (USA)

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 1-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-4 (page 2 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, West Dara-5
COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E

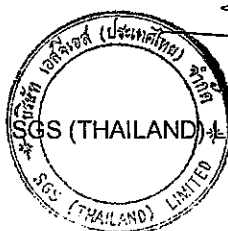
SAMPLING DATE : February 6, 2009
SAMPLING TIME : 13.00-13.50 hr.

Item	Particle Size Distribution (micron)		Percent by volume (%)
	Range	Detail	
1	0.0-1.0	Clay	30.06
2	1.0-5.0	Clay very fine Silty Clay	12.04
3	5.0-10.0	Very fine Silt	16.11
4	10.0-50.0	Fine to coarse Silt	31.19
5	50.0-100.0	Silt-very fine sand	6.49
6	100.0-200.0	Sand	2.05
7	>200	Sand and Gravel	2.06
Total			100%

Remark : - Standard methods used are the ASTM. and using the "Laser, Particle Size Analyzer".

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : ๓-010-๓-1793

SK/SA/BS/Pp



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-5 (page 1 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
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 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, West Dara-6
COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E

SAMPLING DATE : February 6, 2009
SAMPLING TIME : 14.20-15.30 hr.

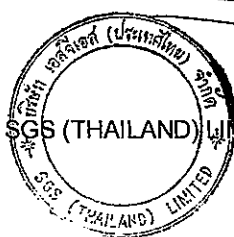
Parameters	Unit	LOQ	Value	Guidelines*	
				ERL	ERM
Total Petroleum Hydrocarbon (TPH)					
C6 - C9	mg/kg	5.0	<5.0	-	-
C10 - C19	mg/kg	5.0	<5.0	-	-
C20 - C36	mg/kg	20.0	<20.0	-	-
Oil & Grease	mg/kg	10.0	<10.0	-	-
Total Organic Carbon (TOC)	mg/kg	0.2	22.0	-	-
Arsenic (As)	mg/kg	1.0	1.0	8.2	70
Barium (Ba)	mg/kg	10.0	27.0	-	-
Cadmium (Cd)	mg/kg	1.0	<1.0	1.2	9.6
Chromium (Cr)	mg/kg	2.0	11.0	81	370
Copper (Cu)	mg/kg	2.0	3.0	34	270
Iron (Fe)	mg/kg	2.0	7,355	-	-
Lead (Pb)	mg/kg	5.0	5.0	46.7	218
Mercury (Hg)	mg/kg	0.1	<0.1	0.15	0.71
Manganese (Mn)	mg/kg	2.0	166	-	-
Nickel (Ni)	mg/kg	2.0	8.0	20.9	51.6
Zinc (Zn)	mg/kg	2.0	17.0	150	410

Remarks : - Analysis Methods followed to the U.S. EPA Method 3050B.

- ERL = Effects Range-Low
- ERM = Effects Range-Median
- LOQ = Limit of Quantitation

Source : * Proposed sediment quality guideline for Thailand (mg/kg-dry weight) adopted from Effects Range-Low/Range-Median Approach (USA)

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 7-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-5 (page 2 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
 CONTACT : Khun Morakot Suvarnapruksa
 ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
 SAMPLING METHOD : Grab Sampling
 SAMPLING LOCATION : Concession Block G6/48, West Dara-6
 COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E

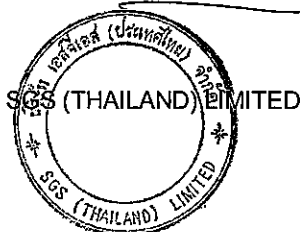
SAMPLING DATE : February 6, 2009
 SAMPLING TIME : 14.20-15.30 hr.

Item	Particle Size Distribution (micron)		Percent by volume (%)
	Range	Detail	
1	0.0-1.0	Clay	31.66
2	1.0-5.0	Clay very fine Silty Clay	12.79
3	5.0-10.0	Very fine Silt	15.98
4	10.0-50.0	Fine to coarse Silt	31.49
5	50.0-100.0	Silt-very fine sand	6.66
6	100.0-200.0	Sand	1.16
7	>200	Sand and Gravel	0.26
Total			100%

Remark : - Standard methods used are the ASTM. and using the "Laser, Particle Size Analyzer".

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 1-010-A-1793

SK/SA/BS/Pp



(Sompong Kiatiporn)
 Environmental Manager

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-6 (page 1 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
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Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E

SAMPLING DATE : February 7, 2009
SAMPLING TIME : 15.00-15.30 hr.

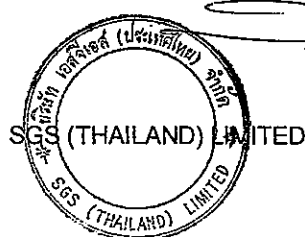
Parameters	Unit	LOQ	Value	Guidelines*	
				ERL	ERM
Total Petroleum Hydrocarbon (TPH)					
C6 - C9	mg/kg	5.0	<5.0	-	-
C10 - C19	mg/kg	5.0	<5.0	-	-
C20 - C36	mg/kg	20.0	<20.0	-	-
Oil & Grease	mg/kg	10.0	<10.0	-	-
Total Organic Carbon (TOC)	mg/kg	0.2	19.0	-	-
Arsenic (As)	mg/kg	1.0	2.0	8.2	70
Barium (Ba)	mg/kg	10.0	<10.0	-	-
Cadmium (Cd)	mg/kg	1.0	<1.0	1.2	9.6
Chromium (Cr)	mg/kg	2.0	7.0	81	370
Copper (Cu)	mg/kg	2.0	3.0	34	270
Iron (Fe)	mg/kg	2.0	6,068	-	-
Lead (Pb)	mg/kg	5.0	5.0	46.7	218
Mercury (Hg)	mg/kg	0.1	<0.1	0.15	0.71
Manganese (Mn)	mg/kg	2.0	194	-	-
Nickel (Ni)	mg/kg	2.0	6.0	20.9	51.6
Zinc (Zn)	mg/kg	2.0	12.0	150	410

Remarks :

- Analysis Methods followed to the U.S. EPA Method 3050B.
- ERL = Effects Range-Low
- ERM = Effects Range-Median
- LOQ = Limit of Quantitation

Source : * Proposed sediment quality guideline for Thailand (mg/kg-dry weight) adopted from Effects Range-Low/Range-Median Approach (USA)

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 1-010-1-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-6 (page 2 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E

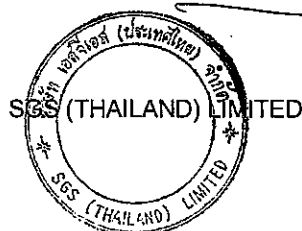
SAMPLING DATE : February 7, 2009
SAMPLING TIME : 15.00-15.30 hr.

Item	Particle Size Distribution (micron)		Percent by volume (%)
	Range	Detail	
1	0.0-1.0	Clay	34.67
2	1.0-5.0	Clay very fine Silty Clay	12.52
3	5.0-10.0	Very fine Silt	14.43
4	10.0-50.0	Fine to coarse Silt	28.95
5	50.0-100.0	Silt-very fine sand	7.61
6	100.0-200.0	Sand	1.78
7	>200	Sand and Gravel	0.04
Total			100%

Remark : - Standard methods used are the ASTM. and using the "Laser, Particle Size Analyzer".

Siriporn Z.
 (Siriporn Imwilaiwan)
 License ID : ๗-010-๓-1793

SK/SA/BS/Pp



(Sompong Kiatiporn)
 Environmental Manager

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-7 (page 1 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
 SAMPLING METHOD : Grab Sampling
 SAMPLING LOCATION : Concession Block G6/48, Krut-2
 COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E

SAMPLING DATE : February 6, 2009
 SAMPLING TIME : 09.50-10.40 hr.

Parameters	Unit	LOQ	Value	Guidelines*	
				ERL	ERM
Total Petroleum Hydrocarbon (TPH)					
C6 - C9	mg/kg	5.0	<5.0	-	-
C10 - C19	mg/kg	5.0	<5.0	-	-
C20 - C36	mg/kg	20.0	<20.0	-	-
Oil & Grease	mg/kg	10.0	<10.0	-	-
Total Organic Carbon (TOC)	mg/kg	0.2	19.0	-	-
Arsenic (As)	mg/kg	1.0	1.0	8.2	70
Barium (Ba)	mg/kg	10.0	10.0	-	-
Cadmium (Cd)	mg/kg	1.0	<1.0	1.2	9.6
Chromium (Cr)	mg/kg	2.0	8.0	81	370
Copper (Cu)	mg/kg	2.0	3.0	34	270
Iron (Fe)	mg/kg	2.0	6,461	-	-
Lead (Pb)	mg/kg	5.0	5.0	46.7	218
Mercury (Hg)	mg/kg	0.1	<0.1	0.15	0.71
Manganese (Mn)	mg/kg	2.0	171	-	-
Nickel (Ni)	mg/kg	2.0	6.0	20.9	51.6
Zinc (Zn)	mg/kg	2.0	13.0	150	410

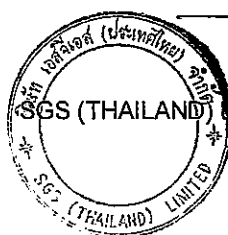
Remarks : - Analysis Methods followed to the U.S. EPA Method 3050B.

- ERL = Effects Range-Low
- ERM = Effects Range-Median
- LOQ = Limit of Quantitation

Source : * Proposed sediment quality guideline for Thailand (mg/kg-dry weight) adopted from Effects Range-Low/Range-Median Approach (USA)

Siriporn L
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

SK/SA/BS/Pp



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-7 (page 2 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
 CONTACT : Khun Morakot Suvarnapruksa
 ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
 SAMPLING METHOD : Grab Sampling
 SAMPLING LOCATION : Concession Block G6/48, Krut-2
 COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E

SAMPLING DATE : February 6, 2009
 SAMPLING TIME : 09.50-10.40 hr.

Item	Particle Size Distribution (micron)		Percent by volume (%)
	Range	Detail	
1	0.0-1.0	Clay	28.08
2	1.0-5.0	Clay very fine Silty Clay	9.24
3	5.0-10.0	Very fine Silt	12.09
4	10.0-50.0	Fine to coarse Silt	30.92
5	50.0-100.0	Silt-very fine sand	9.36
6	100.0-200.0	Sand	2.19
7	>200	Sand and Gravel	8.12
Total			100%

Remark : - Standard methods used are the ASTM. and using the "Laser, Particle Size Analyzer".

Siriporn L.
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793

SK/SA/BS/Pp



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-8 (page 1 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E

SAMPLING DATE : February 6, 2009
SAMPLING TIME : 07.30-08.35 hr.

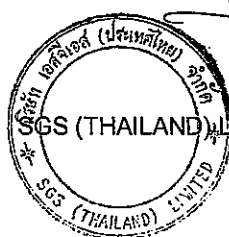
Parameters	Unit	LOQ	Value	Guidelines*	
				ERL	ERM
Total Petroleum Hydrocarbon (TPH)					
C6 - C9	mg/kg	5.0	<5.0	-	-
C10 - C19	mg/kg	5.0	<5.0	-	-
C20 - C36	mg/kg	20.0	<20.0	-	-
Oil & Grease	mg/kg	10.0	<10.0	-	-
Total Organic Carbon (TOC)	mg/kg	0.2	16.0	-	-
Arsenic (As)	mg/kg	1.0	1.0	8.2	70
Barium (Ba)	mg/kg	10.0	<10.0	-	-
Cadmium (Cd)	mg/kg	1.0	< 1.0	1.2	9.6
Chromium (Cr)	mg/kg	2.0	9.0	81	370
Copper (Cu)	mg/kg	2.0	3.0	34	270
Iron (Fe)	mg/kg	2.0	6,629	-	-
Lead (Pb)	mg/kg	5.0	< 5.0	46.7	218
Mercury (Hg)	mg/kg	0.1	<0.1	0.15	0.71
Manganese (Mn)	mg/kg	2.0	150	-	-
Nickel (Ni)	mg/kg	2.0	7.0	20.9	51.6
Zinc (Zn)	mg/kg	2.0	12.0	150	410

Remarks :

- Analysis Methods followed to the U.S. EPA Method 3050B.
- ERL = Effects Range-Low
- ERM = Effects Range-Median
- LOQ = Limit of Quantitation

Source : * Proposed sediment quality guideline for Thailand (mg/kg-dry weight) adopted from Effects Range-Low/Range-Median Approach (USA)

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : ๓-010-๓-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-8 (page 2 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
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Analysis Report

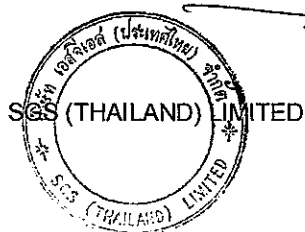
SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E
SAMPLING DATE : February 6, 2009
SAMPLING TIME : 07.30-08.35 hr.

Item	Particle Size Distribution (micron)		Percent by volume (%)
	Range	Detail	
1	0.0-1.0	Clay	31.11
2	1.0-5.0	Clay very fine Silty Clay	12.84
3	5.0-10.0	Very fine Silt	16.46
4	10.0-50.0	Fine to coarse Silt	29.48
5	50.0-100.0	Silt-very fine sand	4.60
6	100.0-200.0	Sand	0.98
7	>200	Sand and Gravel	4.53
Total			100%

Remark : - Standard methods used are the ASTM. and using the "Laser, Particle Size Analyzer".

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

SK/SA/BS/Pp



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

This report is issued in accordance to the disclaimer statements.


Report No. : 2009-00051 / 002-9 (page 1 of 2)
Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, Control 1
COORDINATION (WGS84) : 9° 7' 19.92" N, 101° 5' 58.26" E

SAMPLING DATE : February 6, 2009
SAMPLING TIME : 11.30-12.20 hr.

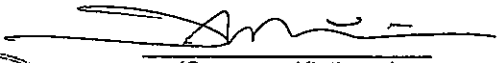
Parameters	Unit	LOQ	Value	Guidelines*	
				ERL	ERM
Total Petroleum Hydrocarbon (TPH)					
C6 - C9	mg/kg	5.0	<5.0	-	-
C10 - C19	mg/kg	5.0	<5.0	-	-
C20 - C36	mg/kg	20.0	<20.0	-	-
Oil & Grease	mg/kg	10.0	<10.0	-	-
Total Organic Carbon (TOC)	mg/kg	0.2	25.0	-	-
Arsenic (As)	mg/kg	1.0	2.0	8.2	70
Barium (Ba)	mg/kg	10.0	<10.0	-	-
Cadmium (Cd)	mg/kg	1.0	<1.0	1.2	9.6
Chromium (Cr)	mg/kg	2.0	10.0	81	370
Copper (Cu)	mg/kg	2.0	3.0	34	270
Iron (Fe)	mg/kg	2.0	7,188	-	-
Lead (Pb)	mg/kg	5.0	< 5.0	46.7	218
Mercury (Hg)	mg/kg	0.1	<0.1	0.15	0.71
Manganese (Mn)	mg/kg	2.0	163	-	-
Nickel (Ni)	mg/kg	2.0	7.0	20.9	51.6
Zinc (Zn)	mg/kg	2.0	15.0	150	410


Remarks : - Analysis Methods followed to the U.S. EPA Method 3050B.
 - ERL = Effects Range-Low
 - ERM = Effects Range-Median
 - LOQ = Limit of Quantitation

Source : * Proposed sediment quality guideline for Thailand (mg/kg-dry weight) adopted from Effects Range-Low/Range-Median Approach (USA)

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

SK/SA/BS/Pp


 (Sompong Kiatiporn)
 Environmental Manager



This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-9 (page 2 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, Control 1
COORDINATION (WGS84) : 9° 7' 19.92" N, 101° 5' 58.26" E

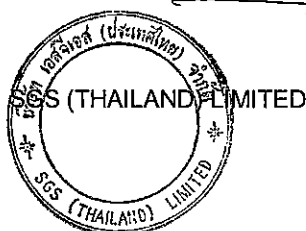
SAMPLING DATE : February 6, 2009
SAMPLING TIME : 11.30-12.20 hr.

Item	Particle Size Distribution (micron)		Percent by volume (%)
	Range	Detail	
1	0.0-1.0	Clay	33.08
2	1.0-5.0	Clay very fine Silty Clay	12.37
3	5.0-10.0	Very fine Silt	14.91
4	10.0-50.0	Fine to coarse Silt	29.43
5	50.0-100.0	Silt-very fine sand	5.55
6	100.0-200.0	Sand	0.47
7	>200	Sand and Gravel	4.19
Total			100%

Remark : - Standard methods used are the ASTM. and using the "Laser, Particle Size Analyzer".

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 2-010-ค-1793

SK/SA/BS/Pp



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-10 (page 1 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
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Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, Control 2
COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E

SAMPLING DATE : February 7, 2009
SAMPLING TIME : 17.10-19.30 hr.

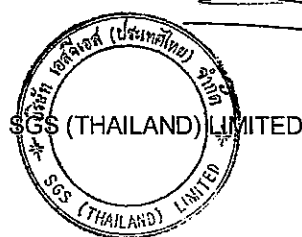
Parameters	Unit	LOQ	Value	Guidelines*	
				ERL	ERM
Total Petroleum Hydrocarbon (TPH)					
C6 - C9	mg/kg	5.0	<5.0	-	-
C10 - C19	mg/kg	5.0	<5.0	-	-
C20 - C36	mg/kg	20.0	<20.0	-	-
Oil & Grease	mg/kg	10.0	<10.0	-	-
Total Organic Carbon (TOC)	mg/kg	0.2	22.0	-	-
Arsenic (As)	mg/kg	1.0	1.0	8.2	70
Barium (Ba)	mg/kg	10.0	10.0	-	-
Cadmium (Cd)	mg/kg	1.0	<1.0	1.2	9.6
Chromium (Cr)	mg/kg	2.0	7.0	81	370
Copper (Cu)	mg/kg	2.0	2.0	34	270
Iron (Fe)	mg/kg	2.0	5,841	-	-
Lead (Pb)	mg/kg	5.0	6.0	46.7	218
Mercury (Hg)	mg/kg	0.1	<0.1	0.15	0.71
Manganese (Mn)	mg/kg	2.0	228	-	-
Nickel (Ni)	mg/kg	2.0	6.0	20.9	51.6
Zinc (Zn)	mg/kg	2.0	11.0	150	410

Remarks : - Analysis Methods followed to the U.S. EPA Method 3050B.

- ERL = Effects Range-Low
- ERM = Effects Range-Median
- LOQ = Limit of Quantitation

Source : * Proposed sediment quality guideline for Thailand (mg/kg-dry weight) adopted from Effects Range-Low/Range-Median Approach (USA)

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-10 (page 2 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, Control 2
COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E

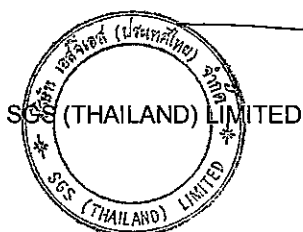
SAMPLING DATE : February 7, 2009
SAMPLING TIME : 17.10-19.30 hr.

Item	Particle Size Distribution (micron)		Percent by volume (%)
	Range	Detail	
1	0.0-1.0	Clay	29.95
2	1.0-5.0	Clay very fine Silty Clay	10.26
3	5.0-10.0	Very fine Silt	12.96
4	10.0-50.0	Fine to coarse Silt	28.77
5	50.0-100.0	Silt-very fine sand	9.01
6	100.0-200.0	Sand	4.16
7	>200	Sand and Gravel	4.89
Total			100%

Remark : - Standard methods used are the ASTM. and using the "Laser, Particle Size Analyzer".

Siriporn L.
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793

SK/SA/BS/Pp



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-11 (page 1 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E

SAMPLING DATE : February 9, 2009
SAMPLING TIME : 13.10-14.10 hr.

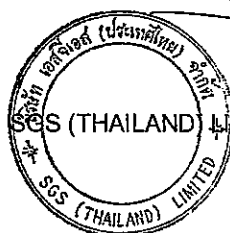
Parameters	Unit	LOQ	Value	Guidelines*	
				ERL	ERM
Total Petroleum Hydrocarbon (TPH)					
C6 - C9	mg/kg	5.0	<5.0	-	-
C10 - C19	mg/kg	5.0	<5.0	-	-
C20 - C36	mg/kg	20.0	<20.0	-	-
Oil & Grease	mg/kg	10.0	<10.0	-	-
Total Organic Carbon (TOC)	mg/kg	0.2	34.0	-	-
Arsenic (As)	mg/kg	1.0	1.0	8.2	70
Barium (Ba)	mg/kg	10.0	30	-	-
Cadmium (Cd)	mg/kg	1.0	<1.0	1.2	9.6
Chromium (Cr)	mg/kg	2.0	11.0	81	370
Copper (Cu)	mg/kg	2.0	3.0	34	270
Iron (Fe)	mg/kg	2.0	7,565	-	-
Lead (Pb)	mg/kg	5.0	6.0	46.7	218
Mercury (Hg)	mg/kg	0.1	<0.1	0.15	0.71
Manganese (Mn)	mg/kg	2.0	190	-	-
Nickel (Ni)	mg/kg	2.0	8.0	20.9	51.6
Zinc (Zn)	mg/kg	2.0	16.0	150	410

Remarks :

- Analysis Methods followed to the U.S. EPA Method 3050B.
- ERL = Effects Range-Low
- ERM = Effects Range-Median
- LOQ = Limit of Quantitation

Source : * Proposed sediment quality guideline for Thailand (mg/kg-dry weight) adopted from Effects Range-Low/Range-Median Approach (USA)

Sinpm 2
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-11 (page 2 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E

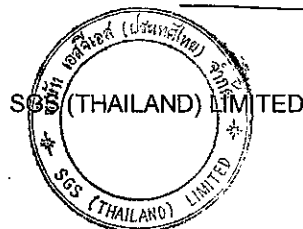
SAMPLING DATE : February 9, 2009
SAMPLING TIME : 13.10-14.10 hr.

Item	Particle Size Distribution (micron)		Percent by volume (%)
	Range	Detail	
1	0.0-1.0	Clay	32.94
2	1.0-5.0	Clay very fine Silty Clay	12.55
3	5.0-10.0	Very fine Silt	14.28
4	10.0-50.0	Fine to coarse Silt	27.95
5	50.0-100.0	Silt-very fine sand	7.70
6	100.0-200.0	Sand	2.86
7	>200	Sand and Gravel	1.72
Total			100%

Remark : - Standard methods used are the ASTM. and using the "Laser, Particle Size Analyzer".

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 7-010-ท-1793

SK/SA/BS/Pp



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-12 (page 1 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 00.71" E

SAMPLING DATE : February 9, 2009
SAMPLING TIME : 18.10-19.00 hr.

Parameters	Unit	LOQ	Value	Guidelines*	
				ERL	ERM
Total Petroleum Hydrocarbon (TPH)					
C6 - C9	mg/kg	5.0	<5.0	-	-
C10 - C19	mg/kg	5.0	<5.0	-	-
C20 - C36	mg/kg	20.0	<20.0	-	-
Oil & Grease	mg/kg	10.0	<10.0	-	-
Total Organic Carbon (TOC)	mg/kg	0.2	31.0	-	-
Arsenic (As)	mg/kg	1.0	1.0	8.2	70
Barium (Ba)	mg/kg	10.0	36.0	-	-
Cadmium (Cd)	mg/kg	1.0	<1.0	1.2	9.6
Chromium (Cr)	mg/kg	2.0	7.0	81	370
Copper (Cu)	mg/kg	2.0	2.0	34	270
Iron (Fe)	mg/kg	2.0	5,709	-	-
Lead (Pb)	mg/kg	5.0	6.0	46.7	218
Mercury (Hg)	mg/kg	0.1	<0.1	0.15	0.71
Manganese (Mn)	mg/kg	2.0	173	-	-
Nickel (Ni)	mg/kg	2.0	6.0	20.9	51.6
Zinc (Zn)	mg/kg	2.0	11.0	150	410

Remarks :

- Analysis Methods followed to the U.S. EPA Method 3050B.
- ERL = Effects Range-Low
- ERM = Effects Range-Median
- LOQ = Limit of Quantitation

Source : * Proposed sediment quality guideline for Thailand (mg/kg-dry weight) adopted from Effects Range-Low/Range-Median Approach (USA)

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-12 (page 2 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

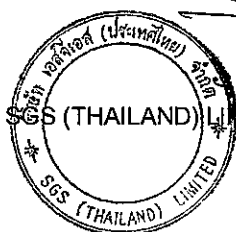
SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 00.71" E
SAMPLING DATE : February 9, 2009
SAMPLING TIME : 18.10-19.00 hr.

Item	Particle Size Distribution (micron)		Percent by volume (%)
	Range	Detail	
1	0.0-1.0	Clay	31.41
2	1.0-5.0	Clay very fine Silty Clay	11.16
3	5.0-10.0	Very fine Silt	13.23
4	10.0-50.0	Fine to coarse Silt	27.58
5	50.0-100.0	Silt-very fine sand	7.64
6	100.0-200.0	Sand	3.18
7	>200	Sand and Gravel	5.80
Total			100%

Remark : - Standard methods used are the ASTM. and using the "Laser, Particle Size Analyzer".

Siriporn L.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

SK/SA/BS/Pp



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-13 (page 1 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E

SAMPLING DATE : February 9, 2009
SAMPLING TIME : 17.00-17.45 hr.

Parameters	Unit	LOQ	Value	Guidelines*	
				ERL	ERM
Total Petroleum Hydrocarbon (TPH)					
C6 - C9	mg/kg	5.0	<5.0	-	-
C10 - C19	mg/kg	5.0	<5.0	-	-
C20 - C36	mg/kg	20.0	<20.0	-	-
Oil & Grease	mg/kg	10.0	<10	-	-
Total Organic Carbon (TOC)	mg/kg	0.2	41.0	-	-
Arsenic (As)	mg/kg	1.0	1.0	8.2	70
Barium (Ba)	mg/kg	10.0	50.0	-	-
Cadmium (Cd)	mg/kg	1.0	<1.0	1.2	9.6
Chromium (Cr)	mg/kg	2.0	8.0	81	370
Copper (Cu)	mg/kg	2.0	3.0	34	270
Iron (Fe)	mg/kg	2.0	6,121	-	-
Lead (Pb)	mg/kg	5.0	6.0	46.7	218
Mercury (Hg)	mg/kg	0.1	<0.1	0.15	0.71
Manganese (Mn)	mg/kg	2.0	203	-	-
Nickel (Ni)	mg/kg	2.0	6.0	20.9	51.6
Zinc (Zn)	mg/kg	2.0	14.0	150	410

Remarks : - Analysis Methods followed to the U.S. EPA Method 3050B.

- ERL = Effects Range-Low
- ERM = Effects Range-Median
- LOQ = Limit of Quantitation

Source : * Proposed sediment quality guideline for Thailand (mg/kg-dry weight) adopted from Effects Range-Low/Range-Median Approach (USA)

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 3-010-ก-1793

SK/SA/BS/Pp

Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SGS (THAILAND) LIMITED

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-13 (page 2 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E

SAMPLING DATE : February 9, 2009
SAMPLING TIME : 17.00-17.45 hr.

Item	Particle Size Distribution (micron)		Percent by volume (%)
	Range	Detail	
1	0.0-1.0	Clay	30.91
2	1.0-5.0	Clay very fine Silty Clay	10.55
3	5.0-10.0	Very fine Silt	12.23
4	10.0-50.0	Fine to coarse Silt	25.84
5	50.0-100.0	Silt-very fine sand	7.99
6	100.0-200.0	Sand	4.11
7	>200	Sand and Gravel	8.37
Total			100%

Remark : - Standard methods used are the ASTM. and using the "Laser, Particle Size Analyzer".

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

SK/SA/BS/Pp



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-14 (page 1 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, North Dara-7
COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.93" E

SAMPLING DATE : February 9, 2009
SAMPLING TIME : 15.00-15.40 hr.

Parameters	Unit	LOQ	Value	Guidelines*	
				ERL	ERM
Total Petroleum Hydrocarbon (TPH)					
C6 - C9	mg/kg	5.0	<5.0	-	-
C10 - C19	mg/kg	5.0	<5.0	-	-
C20 - C36	mg/kg	20.0	<20.0	-	-
Oil & Grease	mg/kg	10.0	<10.0	-	-
Total Organic Carbon (TOC)	mg/kg	0.2	38.0	-	-
Arsenic (As)	mg/kg	1.0	2.0	8.2	70
Barium (Ba)	mg/kg	10.0	44.0	-	-
Cadmium (Cd)	mg/kg	1.0	<1.0	1.2	9.6
Chromium (Cr)	mg/kg	2.0	8.0	81	370
Copper (Cu)	mg/kg	2.0	3.0	34	270
Iron (Fe)	mg/kg	2.0	6,723	-	-
Lead (Pb)	mg/kg	5.0	7.0	46.7	218
Mercury (Hg)	mg/kg	0.1	<0.1	0.15	0.71
Manganese (Mn)	mg/kg	2.0	203	-	-
Nickel (Ni)	mg/kg	2.0	7.0	20.9	51.6
Zinc (Zn)	mg/kg	2.0	14.0	150	410

Remarks : - Analysis Methods followed to the U.S. EPA Method 3050B.

- ERL = Effects Range-Low
- ERM = Effects Range-Median
- LOQ = Limit of Quantitation

Source : * Proposed sediment quality guideline for Thailand (mg/kg-dry weight) adopted from Effects Range-Low/Range-Median Approach (USA)

Siriporn I.
 (Siriporn Imwilaivan)
 License ID : 2-010-A-1793

SK/SA/BS/Pp

(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SGS (THAILAND) LIMITED

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-14 (page 2 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

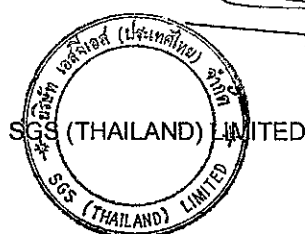
SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, North Dara-7
COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.93" E
SAMPLING DATE : February 9, 2009
SAMPLING TIME : 15.00-15.40 hr.

Item	Particle Size Distribution (micron)		Percent by volume (%)
	Range	Detail	
1	0.0-1.0	Clay	27.49
2	1.0-5.0	Clay very fine Silty Clay	15.01
3	5.0-10.0	Very fine Silt	13.71
28.20	10.0-50.0	Fine to coarse Silt	28.20
5	50.0-100.0	Silt-very fine sand	7.41
6	100.0-200.0	Sand	3.41
7	>200	Sand and Gravel	4.77
Total			100%

Remark : - Standard methods used are the ASTM. and using the "Laser, Particle Size Analyzer".

Siriporn L
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

SK/SA/BS/Pp



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-15 (page 1 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvannapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, Control 3
COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 4' 57.78" E

SAMPLING DATE : February 10, 2009
SAMPLING TIME : 07.30-08.20 hr.

Parameters	Unit	LOQ	Value	Guidelines*	
				ERL	ERM
Total Petroleum Hydrocarbon (TPH)					
C6 - C9	mg/kg	5.0	<5.0	-	-
C10 - C19	mg/kg	5.0	<5.0	-	-
C20 - C36	mg/kg	20.0	<20.0	-	-
Oil & Grease	mg/kg	10.0	<10.0	-	-
Total Organic Carbon (TOC)	mg/kg	0.2	40.0	-	-
Arsenic (As)	mg/kg	1.0	1.0	8.2	70
Barium (Ba)	mg/kg	10.0	10.0	-	-
Cadmium (Cd)	mg/kg	1.0	<1.0	1.2	9.6
Chromium (Cr)	mg/kg	2.0	7.0	81	370
Copper (Cu)	mg/kg	2.0	2.0	34	270
Iron (Fe)	mg/kg	2.0	5,841	-	-
Lead (Pb)	mg/kg	5.0	6.0	46.7	218
Mercury (Hg)	mg/kg	0.1	<0.1	0.15	0.71
Manganese (Mn)	mg/kg	2.0	228	-	-
Nickel (Ni)	mg/kg	2.0	6.0	20.9	51.6
Zinc (Zn)	mg/kg	2.0	11.0	150	410

Remarks :

- Analysis Methods followed to the U.S. EPA Method 3050B.
- ERL = Effects Range-Low
- ERM = Effects Range-Median
- LOQ = Limit of Quantitation

Source : * Proposed sediment quality guideline for Thailand (mg/kg-dry weight) adopted from Effects Range-Low/Range-Median Approach (USA)

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 002-15 (page 2 of 2)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.

CONTACT : Khun Morakot Suvarnapruksa

ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis

SAMPLING DATE : February 10, 2009

SAMPLING METHOD : Grab Sampling

SAMPLING TIME : 07.30-08.20 hr.

SAMPLING LOCATION : Concession Block G6/48, Control 3

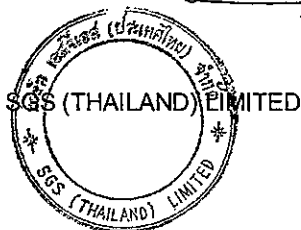
COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 4' 57.78" E

Item	Particle Size Distribution (micron)		Percent by volume (%)
	Range	Detail	
1	0.0-1.0	Clay	28.78
2	1.0-5.0	Clay very fine Silty Clay	11.20
3	5.0-10.0	Very fine Silt	13.98
4	10.0-50.0	Fine to coarse Silt	26.50
5	50.0-100.0	Silt-very fine sand	6.74
6	100.0-200.0	Sand	4.26
7	>200	Sand and Gravel	8.54
Total			100%

Remark : - Standard methods used are the ASTM. and using the "Laser, Particle Size Analyzer".

Siriporn L
(Siriporn Imwilaiwan)
License ID : 2-010-2-1793

SK/SA/BS/Pp



(Signature)
(Sompong Kiatiporn)
Environmental Manager

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00202 / 002-1 (page 1 of 2)

Issued date : April 20, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis
SAMPLING METHOD : Grab Sampling
SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E
SAMPLING DATE : March 30, 2009
SAMPLING TIME : 06.55-07.40 hr.

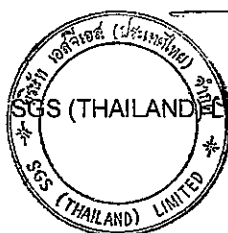
Parameters	Unit	LOQ	Value	Guidelines*	
				ERL	ERM
Total Petroleum Hydrocarbon (TPH)					
C6 - C9	mg/kg	5.0	<5.0	-	-
C10 - C19	mg/kg	5.0	<5.0	-	-
C20 - C36	mg/kg	20.0	<20.0	-	-
Oil & Grease	mg/kg	10.0	<10.0	-	-
Total Organic Carbon (TOC)	mg/kg	0.2	35.0	-	-
Arsenic (As)	mg/kg	1.0	1.0	8.2	70
Barium (Ba)	mg/kg	10.0	<10.0	-	-
Cadmium (Cd)	mg/kg	1.0	<1.0	1.2	9.6
Chromium (Cr)	mg/kg	2.0	6.0	81	370
Copper (Cu)	mg/kg	2.0	2.0	34	270
Iron (Fe)	mg/kg	2.0	6,245	-	-
Lead (Pb)	mg/kg	5.0	<5.0	46.7	218
Mercury (Hg)	mg/kg	0.1	<0.1	0.15	0.71
Manganese (Mn)	mg/kg	2.0	104	-	-
Nickel (Ni)	mg/kg	2.0	3.0	20.9	51.6
Zinc (Zn)	mg/kg	2.0	9.0	150	410

Remarks : - Analysis Methods followed to the U.S. EPA Method 3050B.

- ERL = Effects Range-Low
- ERM = Effects Range-Median
- LOQ = Limit of Quantitation

Source : * Proposed sediment quality guideline for Thailand (mg/kg-dry weight) adopted from Effects Range-Low/Range-Median Approach (USA)

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 1-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00202 / 002-1 (page 2 of 2)

Issued date : April 20, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Seabed Sediment Analysis **SAMPLING DATE :** March 30, 2009
SAMPLING METHOD : Grab Sampling **SAMPLING TIME :** 06.55-07.40 hr.
SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E

Item	Particle Size Distribution (micron)		Percent by volume (%)
	Range	Detail	
1	0.0-1.0	Clay	35.64
2	1.0-5.0	Clay very fine Silty Clay	11.30
3	5.0-10.0	Very fine Silt	13.90
4	10.0-50.0	Fine to coarse Silt	27.57
5	50.0-100.0	Silt-very fine sand	8.10
6	100.0-200.0	Sand	1.92
7	>200	Sand and Gravel	1.58
Total			100%

Remark : - Standard methods used are the ASTM. and using the "Laser, Particle Size Analyzer".

Siriporn L
 (Siriporn Imwilaiwan)
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[Signature]
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 003-1 (page 1 of 6)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Cyanophyta				
Class Cyanophyceae				
<i>Oscillatoria</i> sp.	19,470	5,900	1,800	9,057
<i>Oscillatoria erythraea</i>	21,240	5,900	55,200	27,447
Division Chromophyta				
Class Bacillariophyceae				
<i>Actinocyclus</i> sp.	1,180	3,540	1,800	2,173
<i>Actinoptychus</i> sp:	-	-	-	-
<i>Actinoptychus senarius</i>	-	-	-	-
<i>Arachnoidiscus</i> sp.	-	-	-	-
<i>Asterolampra marylandica</i>	-	2,950	1,800	1,583
<i>Asteromphalus</i> sp.	-	-	-	-
<i>Asteromphalus flabellatus</i>	1,180	-	-	393
<i>Asteromphalus heptactis</i>	-	-	-	-
<i>Asteromphalus imbricatus</i>	-	-	-	-
<i>Bacillaria paradoxa</i>	-	-	-	-
<i>Bacteriastrium</i> sp.	-	-	-	-
<i>Bacteriastrium comosum</i>	-	-	-	-
<i>Bacteriastrium furcatum</i>	-	4,130	-	1,377
<i>Bacteriastrium hyalinum</i>	-	-	-	-
<i>Chaetoceros aequatorialis</i>	-	590	-	197
<i>Chaetoceros affinis</i>	-	-	-	-
<i>Chaetoceros coarctatus</i>	-	-	-	-
<i>Chaetoceros compressus</i>	-	-	-	-
<i>Chaetoceros convolutus</i>	-	-	-	-
<i>Chaetoceros criophilus</i>	-	-	-	-
<i>Chaetoceros curvisetus</i>	-	-	-	-

Siriporn 1.
 (Siriporn Imwilaiwan)
 License ID : 7-010-A-1793

SGS (THAILAND) LIMITED

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 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-1 (page 2 of 6)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E
SAMPLING DATE : February 7, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Chaetoceros decipiens</i>	-	-	-	-
<i>Chaetoceros denticulatus</i>	-	-	-	-
<i>Chaetoceros diadema</i>	-	-	-	-
<i>Chaetoceros didymus</i>	-	-	-	-
<i>Chaetoceros diversus</i>	-	4,720	-	1,573
<i>Chaetoceros lacinosus</i>	-	-	-	-
<i>Chaetoceros laevis</i>	-	-	-	-
<i>Chaetoceros lorenzianus</i>	2,360	2,360	-	1,573
<i>Chaetoceros peruvianus</i>	-	-	-	-
<i>Chaetoceros pseudocurvisetus</i>	-	-	-	-
<i>Chaetoceros tetrastichon</i>	-	-	-	-
<i>Climacodium frauenfeldianum</i>	-	-	-	-
<i>Coscinodiscus asteromphalus</i>	-	-	600	200
<i>Coscinodiscus radiatus</i>	-	-	-	-
<i>Coscinodiscus sp.</i>	-	-	-	-
<i>Dactylosolen fragillissima</i>	-	-	-	-
<i>Dactylosolen phuketensis</i>	-	-	-	-
<i>Ditylum sol</i>	-	-	-	-
<i>Entomoneis alata</i>	-	-	-	-
<i>Ethmodiscus sp.</i>	-	-	-	-
<i>Eucampia zodiatus</i>	-	-	-	-
<i>Haslea sp.</i>	-	-	-	-
<i>Hemiaulus hauckii</i>	-	-	-	-
<i>Hemiaulus membranaceus</i>	-	2,360	600	987
<i>Hemiaulus sinensis</i>	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



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 Environmental Manager

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Report No. : 2009-00051 / 003-1 (page 3 of 6)

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Gossleriella tropica</i>	-	-	-	-
<i>Guinardia cylindrus</i>	-	-	-	-
<i>Guinardia striata</i>	-	-	-	-
<i>Lauderia annulata</i>	-	-	-	-
<i>Meunier membranacea</i>	2,360	-	-	787
<i>Navicula</i> sp.	-	-	-	-
<i>Nitzschia frigida</i>	-	-	-	-
<i>Nitzschia longissima</i>	-	-	-	-
<i>Nitzschia sigma</i>	-	-	-	-
<i>Odontella mobiliensis</i>	-	-	-	-
<i>Odontella sinensis</i>	-	-	-	-
<i>Palmeria hardmaniana</i>	-	-	-	-
<i>Plagiodiscus nervatus</i>	-	-	-	-
<i>Planktoniella blanda</i>	-	-	-	-
<i>Planktoniella sol</i>	-	-	-	-
<i>Pleurosigma</i> sp.	-	-	-	-
<i>Proboscia alata</i>	1,770	2,360	-	1,377
<i>Pseudoguinardia recta</i>	-	-	-	-
<i>Pseudosolenia calcar avis</i>	-	590	-	197
<i>Pseudo-nitzschia pungens</i>	-	-	-	-
<i>Rhizosolenia</i> sp.	-	-	-	-
<i>Rhizosolenia bergonii</i>	-	-	-	-
<i>Rhizosolenia clevei</i> var. <i>communis</i>	2,950	1,180	1,800	1,977
<i>Rhizosolenia clevei</i> var. <i>clevei</i>	-	-	-	-

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
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 Environmental Manager

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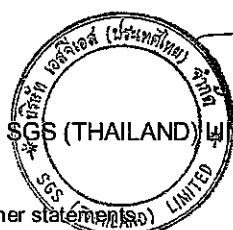
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E
SAMPLING DATE : February 7, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Rhizosolenia imbricata</i>	-	-	-	-
<i>Rhizosolenia robusta</i>	-	-	-	-
<i>Rhizosolenia styliformis</i>	-	-	-	-
<i>Skeletonema costatum</i>	-	-	-	-
<i>Surirella</i> sp.	-	-	-	-
<i>Thalassionema frauenfeldii</i>	10,030	15,340	3,600	9,657
<i>Thalassionema nitzchioides</i>	-	-	3,600	1,200
<i>Thalassiosira subtilis</i>	-	-	-	-
<i>Thalassiothrix</i> sp.	-	-	-	-
<i>Thalassiothrix longissima</i>	2,360	2,950	1,800	2,370
<i>Trachyneis</i> sp.	-	-	-	-
Class Dinophyceae				
<i>Amphidium</i> sp.	-	-	-	-
<i>Amphisolenia bidentata</i>	1,770	-	-	590
<i>Amphisolenia rectangulata</i>	-	-	-	-
<i>Ceratium breve</i>	-	-	-	-
<i>Ceratium concillians</i>	-	-	-	-
<i>Ceratium contortum</i>	-	-	-	-
<i>Ceratium deflexum</i>	-	-	-	-
<i>Ceratium dens</i>	-	-	-	-
<i>Ceratium extensum</i>	-	-	-	-
<i>Ceratium falcatum</i>	-	-	-	-
<i>Ceratium furca</i>	-	-	1,200	400
<i>Ceratium fusus</i>	-	-	-	-

Siriporn 1.
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Report No. : 2009-00051 / 003-1 (page 5 of 6)

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Ceratium inflatum</i>	-	-	-	-
<i>Ceratium karstenii</i>	-	-	-	-
<i>Ceratium longinum</i>	590	-	-	197
<i>Ceratium macroceros</i>	-	-	-	-
<i>Ceratium massiliense</i>	-	-	-	-
<i>Ceratium porrectum</i>	-	-	-	-
<i>Ceratium schmidtii</i>	-	-	-	-
<i>Ceratium trichoceros</i>	-	-	-	-
<i>Ceratium tripos</i>	-	590	-	197
<i>Glenodinium</i> sp.	-	-	-	-
<i>Glenodinium cinctum</i>	-	-	-	-
<i>Goniodoma polyedricum</i>	-	-	-	-
<i>Gonyaulax</i> sp.	-	-	-	-
<i>Gymnodinium</i> sp.	-	-	-	-
<i>Gyrodinium rubrum</i>	-	-	-	-
<i>Ornithocercus steinii</i>	-	-	-	-
<i>Oxytoxum</i> sp.	-	-	-	-
<i>Peridinium</i> sp.	-	-	-	-
<i>Peridinium wisconsinens</i>	-	-	-	-
<i>Phalacroma mitra</i>	-	-	-	-
<i>Phalacroma rotundata</i>	-	-	-	-
<i>Podolampas bipes</i>	-	-	-	-
<i>Podolampas elegans</i>	-	-	-	-
<i>Prorocentrum</i> sp.	-	-	-	-

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Report No. : 2009-00051 / 003-1 (page 6 of 6)

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Prorocentrum gracile</i>	-	-	-	-
<i>Protooperidinium</i> sp.1	-	-	-	-
<i>Protooperidinium</i> sp.2	-	-	-	-
<i>Protooperidinium</i> sp.3	-	-	-	-
<i>Protooperidinium angustum</i>	-	-	-	-
<i>Protooperidinium depressum</i>	-	-	-	-
<i>Protooperidinium diagensis</i>	-	-	-	-
<i>Protooperidinium divergens</i>	-	-	-	-
<i>Protooperidinium elegans</i>	-	-	600	200
<i>Protooperidinium nipponicum</i>	-	-	600	200
<i>Protooperidinium ovum</i>	-	-	-	-
<i>Protooperidinium quarnerense</i>	-	-	-	-
<i>Protooperidinium stenii</i>	-	-	-	-
<i>Pyrocystis noctiluca</i>	-	-	-	-
<i>Pyrophacus</i> sp.	-	-	-	-
Total Phytoplankton Type	12	15	13	24
Total Phytoplankton Amount	67,260	55,460	75,000	65,909
Diversity Index	2.10			

Siriporn Imwilaiwan
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Report No. : 2009-00051 / 003-2 (page 1 of 6)

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-2
COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Cyanophyta				
Class Cyanophyceae				
<i>Oscillatoria</i> sp.	7,800	6,400	19,720	11,307
<i>Oscillatoria erythraea</i>	24,000	5,760	13,920	14,560
Division Chromophyta				
Class Bacillariophyceae				
<i>Actinocyclus</i> sp.	5,400	640	5,800	3,947
<i>Actinoptychus</i> sp.	-	-	-	-
<i>Actinoptychus senarius</i>	-	-	-	-
<i>Arachnoidiscus</i> sp.	-	-	-	-
<i>Asterolampra marylandica</i>	3,600	1,280	580	1,820
<i>Asteromphalus</i> sp.	-	-	-	-
<i>Asteromphalus flabellatus</i>	-	-	-	-
<i>Asteromphalus heptactis</i>	-	-	-	-
<i>Asteromphalus imbricatus</i>	-	-	-	-
<i>Bacillaria paradoxa</i>	-	-	-	-
<i>Bacteriastrum</i> sp.	-	-	-	-
<i>Bacteriastrum comosum</i>	-	-	-	-
<i>Bacteriastrum furcatum</i>	-	-	-	-
<i>Bacteriastrum hyalinum</i>	-	-	-	-
<i>Chaetoceros aequatorialis</i>	2,400	-	-	800
<i>Chaetoceros affinis</i>	-	-	-	-
<i>Chaetoceros coarctatus</i>	-	-	-	-
<i>Chaetoceros compressus</i>	-	-	-	-
<i>Chaetoceros convolutus</i>	-	-	-	-
<i>Chaetoceros criophilus</i>	-	-	-	-
<i>Chaetoceros curvisetus</i>	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
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(Signature)
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Report No. : 2009-00051 / 003-2 (page 2 of 6)

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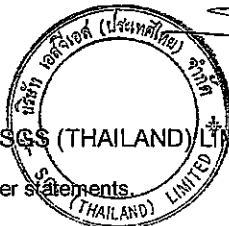
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, North Dara-2
 COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E
 SAMPLING DATE : February 7, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Chaetoceros decipiens</i>	-	-	-	-
<i>Chaetoceros denticulatus</i>	-	-	-	-
<i>Chaetoceros diadema</i>	-	1,920	-	640
<i>Chaetoceros didymus</i>	-	1,280	-	427
<i>Chaetoceros diversus</i>	-	-	-	-
<i>Chaetoceros lacinosus</i>	-	-	-	-
<i>Chaetoceros laevis</i>	-	-	-	-
<i>Chaetoceros lorenzianus</i>	-	1,280	-	427
<i>Chaetoceros peruvianus</i>	-	640	-	213
<i>Chaetoceros pseudocurvisetus</i>	-	-	-	-
<i>Chaetoceros tetrastichon</i>	-	-	-	-
<i>Climacodium frauenfeldianum</i>	-	-	-	-
<i>Coscinodiscus asteromphalus</i>	-	-	-	-
<i>Coscinodiscus radiatus</i>	-	-	-	-
<i>Coscinodiscus</i> sp.	-	-	-	-
<i>Dactyliosolen fragillissima</i>	-	-	-	-
<i>Dactyliosolen phuketensis</i>	-	-	-	-
<i>Ditylum sol</i>	-	-	-	-
<i>Entomoneis alata</i>	-	-	-	-
<i>Ethmodiscus</i> sp.	-	-	-	-
<i>Eucampia zodiatus</i>	-	-	-	-
<i>Haslea</i> sp.	-	-	-	-
<i>Hemiaulus hauckii</i>	-	-	-	-
<i>Hemiaulus membranaceus</i>	-	-	1,740	580
<i>Hemiaulus sinensis</i>	-	-	-	-

Siriporn 1.
 (Siriporn Imwilaiwan)
 License ID : 2-010-ก-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-2 (page 3 of 6)

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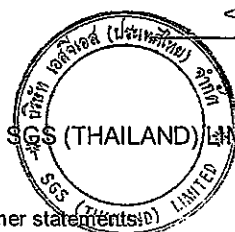
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-2
COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Gossleriella tropica</i>	-	-	-	-
<i>Guinardia cylindrus</i>	-	-	-	-
<i>Guinardia striata</i>	-	640	580	407
<i>Lauderia annulata</i>	-	-	-	-
<i>Meunier membranacea</i>	-	-	-	-
<i>Navicula</i> sp.	-	-	-	-
<i>Nitzschia frigida</i>	-	-	-	-
<i>Nitzschia longissima</i>	-	-	-	-
<i>Nitzschia sigma</i>	-	-	-	-
<i>Odontella mobiliensis</i>	-	-	-	-
<i>Odontella sinensis</i>	-	-	-	-
<i>Palmeria hardmaniana</i>	-	-	-	-
<i>Plagiodiscus nervatus</i>	-	-	-	-
<i>Planktoniella blanda</i>	-	-	-	-
<i>Planktoniella sol</i>	-	-	-	-
<i>Pleurosigma</i> sp.	-	-	-	-
<i>Proboscia alata</i>	600	-	-	200
<i>Pseudoguinardia recta</i>	-	-	-	-
<i>Pseudosolenia calcar avis</i>	-	-	-	-
<i>Pseudo-nitzschia pungens</i>	-	-	-	-
<i>Rhizosolenia</i> sp.	-	-	-	-
<i>Rhizosolenia bergonii</i>	-	-	1,160	387
<i>Rhizosolenia clevei</i> var. <i>communis</i>	-	1,280	1,160	813
<i>Rhizosolenia clevei</i> var. <i>clevei</i>	-	-	-	-

Siriporn 1.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-2 (page 4 of 6)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, North Dara-2
 COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E
 SAMPLING DATE : February 7, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Rhizosolenia imbricata</i>	-	-	-	-
<i>Rhizosolenia robusta</i>	-	-	-	-
<i>Rhizosolenia styliformis</i>	-	-	-	-
<i>Skeletonema costatum</i>	-	-	-	-
<i>Surirella</i> sp.	-	-	-	-
<i>Thalassionema frauenfeldii</i>	7,800	2,560	3,480	4,613
<i>Thalassionema nitzschioides</i>	2,400	-	-	800
<i>Thalassiosira subtilis</i>	-	-	-	-
<i>Thalassiothrix</i> sp.	-	-	-	-
<i>Thalassiothrix longissima</i>	2,400	-	3,480	1,960
<i>Trachyneis</i> sp.	-	-	-	-
Class Dinophyceae				
<i>Amphidium</i> sp.	-	-	-	-
<i>Amphisolenia bidentata</i>	600	-	-	200
<i>Amphisolenia rectangularata</i>	-	-	-	-
<i>Ceratium breve</i>	-	-	-	-
<i>Ceratium conicillians</i>	1,800	-	-	600
<i>Ceratium contortum</i>	-	-	-	-
<i>Ceratium deflexum</i>	-	-	-	-
<i>Ceratium dens</i>	-	-	-	-
<i>Ceratium extensum</i>	-	-	-	-
<i>Ceratium falcatum</i>	-	640	-	213
<i>Ceratium furca</i>	1,200	-	-	400
<i>Ceratium fusus</i>	-	-	-	-

Siriporn 1.
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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-2
COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Ceratium inflatum</i>	-	-	-	-
<i>Ceratium karstenii</i>	-	-	-	-
<i>Ceratium longinum</i>	600	-	-	200
<i>Ceratium macroceros</i>	-	-	-	-
<i>Ceratium massiliense</i>	-	-	-	-
<i>Ceratium porrectum</i>	-	-	-	-
<i>Ceratium schmidtii</i>	-	-	-	-
<i>Ceratium trichoceros</i>	-	-	-	-
<i>Ceratium tripos</i>	-	-	1,160	387
<i>Glenodinium sp.</i>	-	-	-	-
<i>Glenodinium cinctum</i>	-	-	-	-
<i>Goniodoma polyedricum</i>	-	-	-	-
<i>Gonyaulax sp.</i>	-	-	-	-
<i>Gymnodinium sp.</i>	-	-	-	-
<i>Gyrodinium rubrum</i>	-	-	-	-
<i>Ornithocercus steinii</i>	-	-	-	-
<i>Oxytoxum sp.</i>	-	-	-	-
<i>Peridinium sp.</i>	-	-	-	-
<i>Peridinium wisconsinens</i>	-	-	-	-
<i>Phalacroma mitra</i>	-	-	-	-
<i>Phalacroma rotundata</i>	-	-	-	-
<i>Podolampas bipes</i>	-	-	-	-
<i>Podolampas elegans</i>	-	-	-	-
<i>Prorocentrum sp.</i>	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
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Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-2
COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Prorocentrum gracile</i>	-	-	-	-
<i>Protoperidinium</i> sp.1	-	-	-	-
<i>Protoperidinium</i> sp.2	-	-	-	-
<i>Protoperidinium</i> sp.3	-	-	-	-
<i>Protoperidinium angustum</i>	-	-	-	-
<i>Protoperidinium depressum</i>	-	-	-	-
<i>Protoperidinium diagensis</i>	-	-	-	-
<i>Protoperidinium divergens</i>	-	-	-	-
<i>Protoperidinium elegans</i>	-	-	-	-
<i>Protoperidinium nipponicum</i>	-	-	-	-
<i>Protoperidinium ovum</i>	-	-	-	-
<i>Protoperidinium quarnerense</i>	-	-	-	-
<i>Protoperidinium stenii</i>	-	-	-	-
<i>Pyrocystis noctiluca</i>	-	-	-	-
<i>Pyrophacus</i> sp.	-	-	-	-
Total Phytoplankton Type	13	12	11	23
Total Phytoplankton Amount	60,600	24,320	52,780	45,901
Diversity Index	2.17			

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

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Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-3
COORDINATION (WGS84) : 9° 15' 17.75" N, 101° 10' 54.90" E
SAMPLING DATE : February 7, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Cyanophyta				
Class Cyanophyceae				
<i>Oscillatoria</i> sp.	8,000	2,135	6,860	5,665
<i>Oscillatoria erythraea</i>	14,000	6,710	15,680	12,130
Division Chromophyta				
Class Bacillariophyceae				
<i>Actinocyclus</i> sp.	6,500	4,270	4,410	5,060
<i>Actinoptychus</i> sp.	-	-	-	-
<i>Actinoptychus senarius</i>	-	-	-	-
<i>Arachnoidiscus</i> sp.	-	-	-	-
<i>Asterolampra marylandica</i>	-	-	1,960	653
<i>Asteromphalus</i> sp.	-	305	-	102
<i>Asteromphalus flabellatus</i>	-	-	-	-
<i>Asteromphalus heptactis</i>	-	-	-	-
<i>Asteromphalus imbricatus</i>	-	-	-	-
<i>Bacillaria paradoxa</i>	-	-	-	-
<i>Bacteriastrum</i> sp.	-	-	-	-
<i>Bacteriastrum comosum</i>	-	-	8,330	2,777
<i>Bacteriastrum furcatum</i>	-	-	-	-
<i>Bacteriastrum hyalinum</i>	-	-	-	-
<i>Chaetoceros aequatorialis</i>	-	-	490	163
<i>Chaetoceros affinis</i>	-	-	-	-
<i>Chaetoceros coarctatus</i>	-	-	-	-
<i>Chaetoceros compressus</i>	-	-	-	-
<i>Chaetoceros convolutus</i>	-	-	-	-
<i>Chaetoceros criophilus</i>	-	-	-	-
<i>Chaetoceros curvisetus</i>	-	-	-	-

Siriporn 2.
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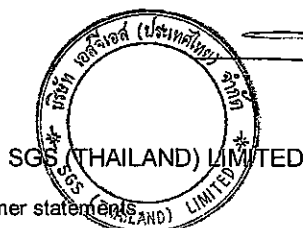
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Analysis Report

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 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, North Dara-3
 COORDINATION (WGS84) : 9° 15' 17.75" N, 101° 10' 54.90" E
 SAMPLING DATE : February 7, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Chaetoceros decipiens</i>	-	-	-	-
<i>Chaetoceros denticulatus</i>	-	-	-	-
<i>Chaetoceros diadema</i>	-	-	-	-
<i>Chaetoceros didymus</i>	-	1,220	-	407
<i>Chaetoceros diversus</i>	-	1,220	-	407
<i>Chaetoceros lacinosus</i>	-	-	-	-
<i>Chaetoceros laevis</i>	-	-	-	-
<i>Chaetoceros lorenzianus</i>	-	-	-	-
<i>Chaetoceros peruvianus</i>	-	-	-	-
<i>Chaetoceros pseudocurvisetus</i>	-	-	-	-
<i>Chaetoceros tetrastichon</i>	-	-	-	-
<i>Climacodium frauenfeldianum</i>	-	-	-	-
<i>Coscinodiscus asteromphalus</i>	-	-	-	-
<i>Coscinodiscus radiatus</i>	-	-	-	-
<i>Coscinodiscus sp.</i>	-	-	-	-
<i>Dactyliosolen fragillissima</i>	-	-	-	-
<i>Dactyliosolen phuketensis</i>	-	-	-	-
<i>Ditylum sol</i>	-	-	-	-
<i>Entomoneis alata</i>	-	-	-	-
<i>Ethmodiscus sp.</i>	-	-	-	-
<i>Eucampia zodiatus</i>	4,500	-	-	1,500
<i>Haslea sp.</i>	-	-	-	-
<i>Hemiaulus hauckii</i>	1,500	-	-	500
<i>Hemiaulus membranaceus</i>	1,000	1,830	1,960	1,597
<i>Hemiaulus sinensis</i>	-	-	-	-

Siriporn Imwilaiwan
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Sompong Kiatiporn
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 Environmental Manager

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Analysis Report

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SAMPLING DEVICES : Plankton Net
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COORDINATION (WGS84) : 9° 15' 17.75" N, 101° 10' 54.90" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Gossleriella tropica</i>	-	-	-	-
<i>Guinardia cylindrus</i>	-	-	-	-
<i>Guinardia striata</i>	-	-	-	-
<i>Lauderia annulata</i>	-	-	-	-
<i>Meunier membranacea</i>	-	-	-	-
<i>Navicula</i> sp.	-	-	-	-
<i>Nitzschia frigida</i>	-	-	-	-
<i>Nitzschia longissima</i>	-	-	-	-
<i>Nitzschia sigma</i>	-	-	-	-
<i>Odontella mobiliensis</i>	-	-	-	-
<i>Odontella sinensis</i>	-	-	-	-
<i>Palmeria hardmaniana</i>	-	-	-	-
<i>Plagiodiscus nervatus</i>	-	-	-	-
<i>Planktoniella blanda</i>	-	-	-	-
<i>Planktoniella sol</i>	-	-	-	-
<i>Pleurosigma</i> sp.	-	-	-	-
<i>Proboscia alata</i>	-	610	490	367
<i>Pseudoguinardia recta</i>	-	-	-	-
<i>Pseudosolenia calcar avis</i>	-	305	-	102
<i>Pseudo-nitzschia pungens</i>	-	-	-	-
<i>Rhizosolenia</i> sp.	3,500	-	-	1,167
<i>Rhizosolenia bergonii</i>	-	1,220	-	407
<i>Rhizosolenia clevei</i> var. <i>communis</i>	-	1,220	1,960	1,060
<i>Rhizosolenia clevei</i> var. <i>clevei</i>	-	-	-	-

Siriporn 1.
 (Siriporn Imwilaiwan)
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 Environmental Manager

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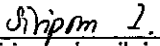
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Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Rhizosolenia imbricata</i>	-	-	-	-
<i>Rhizosolenia robusta</i>	3,500	-	-	1,167
<i>Rhizosolenia styliformis</i>	-	-	-	-
<i>Skeletonema costatum</i>	-	-	-	-
<i>Surirella</i> sp.	-	-	-	-
<i>Thalassionema frauenfeldii</i>	1,000	915	-	638
<i>Thalassionema nitzschioides</i>	-	-	-	-
<i>Thalassiosira subtilis</i>	-	-	-	-
<i>Thalassiothrix</i> sp.	-	-	-	-
<i>Thalassiothrix longissima</i>	1,000	915	490	802
<i>Trachyneis</i> sp.	-	-	-	-
Class Dinophyceae				
<i>Amphidium</i> sp.	-	-	-	-
<i>Amphisolenia bidentata</i>	500	-	980	493
<i>Amphisolenia rectangularata</i>	-	-	-	-
<i>Ceratium breve</i>	-	305	-	102
<i>Ceratium concilians</i>	-	-	-	-
<i>Ceratium contortum</i>	-	-	-	-
<i>Ceratium deflexum</i>	-	-	-	-
<i>Ceratium dens</i>	-	-	-	-
<i>Ceratium extensum</i>	-	-	-	-
<i>Ceratium falcatum</i>	-	-	-	-
<i>Ceratium furca</i>	500	610	490	533
<i>Ceratium fusus</i>	-	-	-	-


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SAMPLING DATE : February 7, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Ceratium inflatum</i>	-	-	-	-
<i>Ceratium karstenii</i>	-	-	-	-
<i>Ceratium longinum</i>	500	305	-	268
<i>Ceratium macroceros</i>	-	305	490	265
<i>Ceratium massiliense</i>	-	305	490	265
<i>Ceratium porrectum</i>	-	-	-	-
<i>Ceratium schmidtii</i>	-	-	-	-
<i>Ceratium trichoceros</i>	-	-	-	-
<i>Ceratium tripos</i>	-	-	-	-
<i>Glenodinium</i> sp.	-	-	-	-
<i>Glenodinium cinctum</i>	-	-	-	-
<i>Goniodoma polyedricum</i>	-	-	-	-
<i>Gonyaulax</i> sp.	-	305	-	102
<i>Gymnodinium</i> sp.	-	-	-	-
<i>Gyrodinium rubrum</i>	-	-	-	-
<i>Ornithocercus steinii</i>	-	-	-	-
<i>Oxytoxum</i> sp.	-	-	-	-
<i>Peridinium</i> sp.	-	-	-	-
<i>Peridinium wisconsinens</i>	-	-	-	-
<i>Phalacroma mitra</i>	-	-	-	-
<i>Phalacroma rotundata</i>	-	-	-	102
<i>Podolampas bipes</i>	-	305	-	-
<i>Podolampas elegans</i>	-	-	-	-
<i>Prorocentrum</i> sp.	-	-	-	-

Siriporn I.
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Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Prorocentrum gracile</i>	-	-	-	-
<i>Protoperidinium</i> sp.1	-	305	490	265
<i>Protoperidinium</i> sp.2	-	-	-	-
<i>Protoperidinium</i> sp.3	-	-	-	-
<i>Protoperidinium angustum</i>	-	-	-	-
<i>Protoperidinium depressum</i>	-	-	-	-
<i>Protoperidinium diagensis</i>	-	-	-	-
<i>Protoperidinium divergens</i>	-	-	-	-
<i>Protoperidinium elegans</i>	-	-	-	-
<i>Protoperidinium nipponicum</i>	-	305	-	102
<i>Protoperidinium ovum</i>	-	-	-	-
<i>Protoperidinium quarnerense</i>	-	-	-	-
<i>Protoperidinium stenii</i>	-	-	-	-
<i>Pyrocystis noctiluca</i>	-	-	-	-
<i>Pyrophacus</i> sp.	-	-	-	-
Total Phytoplankton Type	13	22	15	30
Total Phytoplankton Amount	46,000	25,925	45,570	39,168
Diversity Index	2.48			

Siriporn 1,
 (Siriporn Imwilaiwan)
 License ID : 2-010-ค-1793

SK/SA/BS/Pp



(Sompong Kiatiporn)
 Environmental Manager

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 003-4 (page 1 of 6)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
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 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, West Dara-5
COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E
SAMPLING DATE : February 6, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Cyanophyta				
Class Cyanophyceae				
<i>Oscillatoria</i> sp.	2,560	2,080	4,270	2,970
<i>Oscillatoria erythraea</i>	9,600	2,080	13,420	8,367
Division Chromophyta				
Class Bacillariophyceae				
<i>Actinocyclus</i> sp.	9,600	520	8,540	6,220
<i>Actinoptychus</i> sp.	-	-	-	-
<i>Actinoptychus senarius</i>	-	-	-	-
<i>Arachnoidiscus</i> sp.	-	-	-	-
<i>Asterolampra marylandica</i>	-	1,560	-	520
<i>Asteromphalus</i> sp.	-	-	610	203
<i>Asteromphalus flabellatus</i>	-	-	-	-
<i>Asteromphalus heptactis</i>	-	-	-	-
<i>Asteromphalus imbricatus</i>	-	-	-	-
<i>Bacillaria paradoxa</i>	-	-	-	-
<i>Bacteriastrum</i> sp.	-	-	-	-
<i>Bacteriastrum comosum</i>	-	2,080	-	693
<i>Bacteriastrum furcatum</i>	-	2,600	-	867
<i>Bacteriastrum hyalinum</i>	-	-	-	-
<i>Chaetoceros aequatorialis</i>	-	-	-	-
<i>Chaetoceros affinis</i>	-	-	-	-
<i>Chaetoceros coarctatus</i>	-	-	-	-
<i>Chaetoceros compressus</i>	-	-	-	-
<i>Chaetoceros convolutus</i>	-	-	-	-
<i>Chaetoceros criophilus</i>	-	-	-	-
<i>Chaetoceros curvisetus</i>	-	-	-	-

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-4 (page 2 of 6)

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, West Dara-5
COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E
SAMPLING DATE : February 6, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Chaetoceros decipiens</i>	-	-	-	-
<i>Chaetoceros denticulatus</i>	-	-	-	-
<i>Chaetoceros diadema</i>	-	-	-	-
<i>Chaetoceros didymus</i>	-	-	4,270	1,423
<i>Chaetoceros diversus</i>	-	-	2,440	813
<i>Chaetoceros laciniosus</i>	-	-	-	-
<i>Chaetoceros laevis</i>	-	-	-	-
<i>Chaetoceros lorenzianus</i>	-	-	-	-
<i>Chaetoceros peruvianus</i>	-	-	-	-
<i>Chaetoceros pseudocurvisetus</i>	-	-	-	-
<i>Chaetoceros tetrastichon</i>	-	-	-	-
<i>Climacodium frauenfeldianum</i>	-	-	-	-
<i>Coscinodiscus asteromphalus</i>	-	-	-	-
<i>Coscinodiscus radiatus</i>	-	-	-	-
<i>Coscinodiscus sp.</i>	-	-	-	-
<i>Dactyliosolen fragillissima</i>	-	-	-	-
<i>Dactyliosolen phuketensis</i>	-	-	-	-
<i>Ditylum sol</i>	-	-	-	-
<i>Entomoneis alata</i>	-	-	-	-
<i>Ethmodiscus sp.</i>	-	-	-	-
<i>Eucampia zodiatus</i>	-	-	-	-
<i>Haslea sp.</i>	-	-	-	-
<i>Hemiaulus hauckii</i>	-	-	-	-
<i>Hemiaulus membranaceus</i>	640	3,120	3,660	2,473
<i>Hemiaulus sinensis</i>	-	-	-	-

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 3-010-P-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-4 (page 3 of 6)

Issued date : February 27, 2009

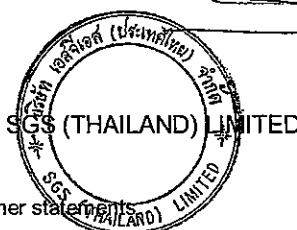
CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, West Dara-5
COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E
SAMPLING DATE : February 6, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Gossleriella tropica</i>	-	-	-	-
<i>Guinardia cylindrus</i>	-	-	-	-
<i>Guinardia striata</i>	-	-	1,220	407
<i>Lauderia annulata</i>	-	-	-	-
<i>Meunier membranacea</i>	1,280	-	-	427
<i>Navicula</i> sp.	2,560	-	-	853
<i>Nitzschia frigida</i>	-	-	-	-
<i>Nitzschia longissima</i>	-	-	-	-
<i>Nitzschia sigma</i>	-	-	-	-
<i>Odontella mobiliensis</i>	-	-	-	-
<i>Odontella sinensis</i>	-	-	-	-
<i>Palmeria hardmaniana</i>	-	-	-	-
<i>Plagiodiscus nervatus</i>	-	-	-	-
<i>Planktoniella blanda</i>	-	-	-	-
<i>Planktoniella sol</i>	-	-	-	-
<i>Pleurosigma</i> sp.	-	-	-	-
<i>Proboscia alata</i>	1,280	1,560	-	947
<i>Pseudoguinardia recta</i>	-	-	-	-
<i>Pseudosolenia calcar avis</i>	640	-	1,220	620
<i>Pseudo-nitzschia pungens</i>	-	-	-	-
<i>Rhizosolenia</i> sp.	-	-	-	-
<i>Rhizosolenia bergonii</i>	-	-	610	203
<i>Rhizosolenia clevei</i> var. <i>communis</i>	640	2,600	2,440	1,893
<i>Rhizosolenia clevei</i> var. <i>clevei</i>	-	-	-	-

Siriporn
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-4 (page 4 of 6)

Issued date : February 27, 2009

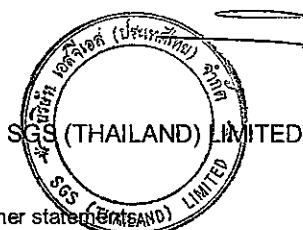
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ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, West Dara-5
COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E
SAMPLING DATE : February 6, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Rhizosolenia imbricata</i>	-	-	-	-
<i>Rhizosolenia robusta</i>	-	-	-	-
<i>Rhizosolenia styliformis</i>	-	-	-	-
<i>Skeletonema costatum</i>	-	-	-	-
<i>Surirella</i> sp.	-	-	-	-
<i>Thalassionema frauenfeldii</i>	10,240	2,080	10,980	7,767
<i>Thalassionema nitzchioides</i>	7,680	8,320	-	5,333
<i>Thalassiosira subtilis</i>	-	-	-	-
<i>Thalassiothrix</i> sp.	-	-	-	-
<i>Thalassiothrix longissima</i>	1,280	1,560	1,830	1,557
<i>Trachyneis</i> sp.	-	-	-	-
Class Dinophyceae				
<i>Amphidium</i> sp.	-	-	-	-
<i>Amphisolenia bidentata</i>	1,920	-	-	640
<i>Amphisolenia rectangulata</i>	-	-	-	-
<i>Ceratium breve</i>	-	-	610	203
<i>Ceratium concilians</i>	-	-	-	-
<i>Ceratium contortum</i>	-	-	-	-
<i>Ceratium deflexum</i>	-	-	-	-
<i>Ceratium dens</i>	-	-	-	-
<i>Ceratium extensum</i>	-	-	-	-
<i>Ceratium falcatum</i>	-	-	-	-
<i>Ceratium furca</i>	1,280	-	1,220	833
<i>Ceratium fusus</i>	-	-	-	-

Siriporn 1.
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-4 (page 5 of 6)

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, West Dara-5
COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Ceratium inflatum</i>	-	-	-	-
<i>Ceratium karstenii</i>	-	-	-	-
<i>Ceratium longinum</i>	-	-	-	-
<i>Ceratium macroceros</i>	-	-	610	203
<i>Ceratium massiliense</i>	-	-	610	203
<i>Ceratium porrectum</i>	-	-	-	-
<i>Ceratium schmidtii</i>	-	-	-	-
<i>Ceratium trichoceros</i>	-	520	-	173
<i>Ceratium tripos</i>	1,280	-	-	427
<i>Glenodinium sp.</i>	-	-	-	-
<i>Glenodinium cinctum</i>	-	-	-	-
<i>Goniodoma polyedricum</i>	-	-	-	-
<i>Gonyaulax sp.</i>	640	-	610	417
<i>Gymnodinium sp.</i>	-	-	-	-
<i>Gyrodinium rubrum</i>	-	-	-	-
<i>Ornithocercus steinii</i>	-	-	-	-
<i>Oxytoxum sp.</i>	-	-	-	-
<i>Peridinium sp.</i>	640	-	-	213
<i>Peridinium wisconsinens</i>	-	-	-	-
<i>Phalacroma mitra</i>	-	-	-	-
<i>Phalacroma rotundata</i>	-	-	-	-
<i>Podolampas bipes</i>	-	-	610	203
<i>Podolampas elegans</i>	-	-	-	-
<i>Prorocentrum sp.</i>	-	-	-	-

Siriporn 1.
 (Siriporn Imwilaiwan)
 License ID : 9-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-4 (page 6 of 6)

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, West Dara-5
COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E
SAMPLING DATE : February 6, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Prorocentrum gracile</i>	-	-	-	-
<i>Protooperidinium</i> sp.1	-	1,560	610	723
<i>Protooperidinium</i> sp.2	1,280	-	-	427
<i>Protooperidinium</i> sp.3	-	-	-	-
<i>Protooperidinium angustum</i>	-	-	-	-
<i>Protooperidinium depressum</i>	-	-	-	-
<i>Protooperidinium diagensis</i>	-	-	-	-
<i>Protooperidinium divergens</i>	-	-	-	-
<i>Protooperidinium elegans</i>	-	-	-	-
<i>Protooperidinium nipponicum</i>	-	-	-	-
<i>Protooperidinium ovum</i>	-	1,560	1,220	927
<i>Protooperidinium quarnerense</i>	1,920	-	-	640
<i>Protooperidinium stenii</i>	-	-	-	-
<i>Pyrocystis noctiluca</i>	-	-	-	-
<i>Pyrophacus</i> sp.	-	-	-	-
Total Phytoplankton Type	19	15	21	34
Total Phytoplankton Amount	56,960	33,800	61,610	50,788
Diversity Index	2.84			

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

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(Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 003-5 (page 1 of 6)

Issued date : February 27, 2009

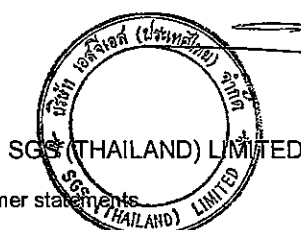
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, West Dara-6
COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Cyanophyta				
Class Cyanophyceae				
<i>Oscillatoria</i> sp.	13,860	2,120	4,440	6,807
<i>Oscillatoria erythraea</i>	3,300	2,120	2,960	2,793
Division Chromophyta				
Class Bacillariophyceae				
<i>Actinocyclus</i> sp.	660	-	-	220
<i>Actinoptychus</i> sp.	-	-	-	-
<i>Actinoptychus senarius</i>	-	-	-	-
<i>Arachnoidiscus</i> sp.	-	-	-	-
<i>Asterolampra marylandica</i>	1,980	-	740	907
<i>Asteromphalus</i> sp.	-	-	-	-
<i>Asteromphalus flabellatus</i>	660	-	-	220
<i>Asteromphalus heptactis</i>	-	1,060	-	353
<i>Asteromphalus imbricatus</i>	-	-	-	-
<i>Bacillaria paradoxa</i>	-	-	-	-
<i>Bacteriastrium</i> sp.	-	-	5,920	1,973
<i>Bacteriastrium comosum</i>	-	-	-	-
<i>Bacteriastrium furcatum</i>	-	-	-	-
<i>Bacteriastrium hyalinum</i>	-	-	-	-
<i>Chaetoceros aequatorialis</i>	-	-	-	-
<i>Chaetoceros affinis</i>	-	-	-	-
<i>Chaetoceros coarctatus</i>	-	-	-	-
<i>Chaetoceros compressus</i>	-	-	-	-
<i>Chaetoceros convolutus</i>	-	-	-	-
<i>Chaetoceros criophilus</i>	-	-	-	-
<i>Chaetoceros curvisetus</i>	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-5 (page 2 of 6)

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, West Dara-6
COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Chaetoceros decipiens</i>	-	-	-	-
<i>Chaetoceros denticulatus</i>	-	-	-	-
<i>Chaetoceros diadema</i>	-	-	-	-
<i>Chaetoceros didymus</i>	4,620	-	7,400	4,007
<i>Chaetoceros diversus</i>	-	-	-	-
<i>Chaetoceros laciniosus</i>	-	-	-	-
<i>Chaetoceros laevis</i>	-	-	-	-
<i>Chaetoceros lorenzianus</i>	-	-	1,480	493
<i>Chaetoceros peruvianus</i>	-	-	-	-
<i>Chaetoceros pseudocurvisetus</i>	-	-	-	-
<i>Chaetoceros tetrastichon</i>	-	-	-	-
<i>Climacodium frauenfeldianum</i>	-	-	-	-
<i>Coscinodiscus asteromphalus</i>	-	-	-	-
<i>Coscinodiscus radiatus</i>	-	-	-	-
<i>Coscinodiscus sp.</i>	-	-	-	-
<i>Dactyliosolen fragillissima</i>	-	-	-	-
<i>Dactyliosolen phuketensis</i>	-	-	-	-
<i>Ditylum sol</i>	-	-	-	-
<i>Entomoneis alata</i>	-	-	-	-
<i>Ethmodiscus sp.</i>	-	-	-	-
<i>Eucampia zodiatus</i>	-	1,060	-	353
<i>Haslea sp.</i>	-	-	-	-
<i>Hemiaulus hauckii</i>	-	-	-	-
<i>Hemiaulus membranaceus</i>	2,640	-	-	880
<i>Hemiaulus sinensis</i>	-	-	-	-

Siriporn 1
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-5 (page 3 of 6)

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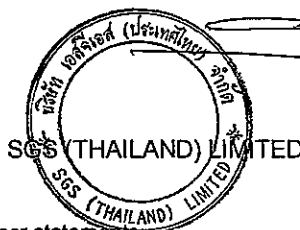
Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, West Dara-6
COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E

SAMPLING DATE : February 6, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Gosslerella tropica</i>	-	-	-	-
<i>Guinardia cylindrus</i>	-	-	-	-
<i>Guinardia striata</i>	660	-	740	467
<i>Lauderia annulata</i>	-	-	-	-
<i>Meunier membranacea</i>	-	-	-	-
<i>Navicula</i> sp.	-	-	-	-
<i>Nitzschia frigida</i>	-	-	-	-
<i>Nitzschia longissima</i>	-	-	-	-
<i>Nitzschia sigma</i>	-	-	-	-
<i>Odontella mobiliensis</i>	-	-	-	-
<i>Odontella sinensis</i>	-	-	-	-
<i>Palmeria hardmaniana</i>	-	-	-	-
<i>Plagiodiscus nervatus</i>	-	-	-	-
<i>Planktoniella blanda</i>	-	-	-	-
<i>Planktoniella sol</i>	-	-	-	-
<i>Pleurosigma</i> sp.	-	-	-	-
<i>Proboscia alata</i>	-	-	1,480	493
<i>Pseudoguinardia recta</i>	-	-	-	-
<i>Pseudosolenia calcar avis</i>	660	-	740	467
<i>Pseudo-nitzschia pungens</i>	-	-	-	-
<i>Rhizosolenia</i> sp.	-	-	-	-
<i>Rhizosolenia bergonii</i>	-	-	-	-
<i>Rhizosolenia clevei</i> var. <i>communis</i>	-	-	740	247
<i>Rhizosolenia clevei</i> var. <i>clevei</i>	6,600	4,240	2,960	4,600

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-5 (page 4 of 6)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, West Dara-6
COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E
SAMPLING DATE : February 6, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
Rhizosolenia imbricata	-	-	-	-
Rhizosolenia robusta	-	-	-	-
Rhizosolenia styliformis	-	-	-	-
Skeletonema costatum	-	-	-	-
Surirella sp.	-	-	-	-
Thalassionema frauenfeldii	4,620	4,240	12,580	7,147
Thalassionema nitzschoides	-	-	2,960	987
Thalassiosira subtilis	-	-	-	-
Thalassiothrix sp.	-	-	-	-
Thalassiothrix longissima	-	-	-	-
Trachymela sp.	-	-	-	-
Class Dinophyceae				
Amphidinium sp.	-	-	-	-
Amphisolenia bidentata	-	-	-	-
Amphisolenia rectangularata	-	-	-	-
Ceratium breve	-	-	-	-
Ceratium concilians	-	-	-	-
Ceratium contortum	-	1,060	-	353
Ceratium deflexum	-	-	-	-
Ceratium dens	-	-	-	-
Ceratium extensum	-	-	-	-
Ceratium falcatum	-	-	740	247
Ceratium furca	660	-	-	220
Ceratium fusus	1,980	-	-	660

Siriporn 1.
(Siriporn Imwilaivan)
License ID : 2-010-2-1793

SGS (THAILAND) LIMITED

(Somporn Kiatporn)
Environmental Manager

SK/SA/BS/PP

Report No. : 2009-00051 / 003-5 (page 5 of 6)

Issued date : February 27, 2009

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Analysis Report

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 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, West Dara-6
 COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E
 SAMPLING DATE : February 6, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Ceratium inflatum</i>	-	-	-	-
<i>Ceratium karstenii</i>	-	-	-	-
<i>Ceratium longinum</i>	-	-	-	-
<i>Ceratium macroceros</i>	-	-	-	-
<i>Ceratium massillense</i>	-	-	-	-
<i>Ceratium porrectum</i>	-	-	-	-
<i>Ceratium schmidtii</i>	-	-	-	-
<i>Ceratium trichoceros</i>	-	-	1,480	493
<i>Ceratium tripos</i>	-	-	-	-
<i>Glenodinium</i> sp.	-	-	-	-
<i>Glenodinium cinctum</i>	-	-	-	-
<i>Goniodoma polyedricum</i>	-	-	-	-
<i>Gonyaulax</i> sp.	-	-	-	-
<i>Gymnodinium</i> sp.	-	-	-	-
<i>Gyrodinium rubrum</i>	-	-	-	-
<i>Ornithocercus steinii</i>	-	-	-	-
<i>Oxytoxum</i> sp.	-	-	-	-
<i>Peridinium</i> sp.	-	-	-	-
<i>Peridinium wisconsinens</i>	-	-	-	-
<i>Phalacroma mitra</i>	-	-	-	-
<i>Phalacroma rotundata</i>	-	-	-	-
<i>Podolampas bipes</i>	-	-	-	-
<i>Podolampas elegans</i>	-	-	-	-
<i>Prorocentrum</i> sp.	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



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 Environmental Manager

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Report No. : 2009-00051 / 003-5 (page 6 of 6)

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis

SAMPLING DATE : February 6, 2009

SAMPLING DEVICES : Plankton Net

SAMPLING LOCATION : Concession Block G6/48, West Dara-6

COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Prorocentrum gracile</i>	-	-	740	247
<i>Protoperidinium</i> sp.1	1,320	-	-	440
<i>Protoperidinium</i> sp.2	-	-	-	-
<i>Protoperidinium</i> sp.3	-	-	-	-
<i>Protoperidinium angustum</i>	-	-	-	-
<i>Protoperidinium depressum</i>	-	-	-	-
<i>Protoperidinium diagensis</i>	-	-	-	-
<i>Protoperidinium divergens</i>	-	-	-	-
<i>Protoperidinium elegans</i>	-	-	-	-
<i>Protoperidinium nipponicum</i>	660	-	-	220
<i>Protoperidinium ovum</i>	-	-	-	-
<i>Protoperidinium quarnerense</i>	-	-	-	-
<i>Protoperidinium stenii</i>	-	-	-	-
<i>Pyrocystis noctiluca</i>	-	-	-	-
<i>Pyrophacus</i> sp.	-	-	-	-
Total Phytoplankton Type	15	7	16	26
Total Phytoplankton Amount	44,880	15,900	48,100	36,294
Diversity Index	2.55			

Siriporn 1.
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Sompong Kiatiporn
(Sompong Kiatiporn)
Environmental Manager

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Report No. : 2009-00051 / 003-6 (page 1 of 6)

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E
SAMPLING DATE : February 7, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Cyanophyta				
Class Cyanophyceae				
<i>Oscillatoria</i> sp.	24,960	2,720	19,800	15,827
<i>Oscillatoria erythraea</i>	640	28,560	-	9,733
Division Chromophyta				
Class Bacillariophyceae				
<i>Actinocyclus</i> sp.	1,920	5,440	-	2,453
<i>Actinoptychus</i> sp.	-	-	-	-
<i>Actinoptychus senarius</i>	-	-	-	-
<i>Arachnoidiscus</i> sp.	-	-	-	-
<i>Asterolampra marylandica</i>	3,200	1,360	4,620	3,060
<i>Asteromphalus</i> sp.	-	-	-	-
<i>Asteromphalus flabellatus</i>	-	-	-	-
<i>Asteromphalus heptactis</i>	640	-	-	213
<i>Asteromphalus imbricatus</i>	-	-	-	-
<i>Bacillaria paradoxa</i>	-	-	-	-
<i>Bacteriastrium</i> sp.	3,200	-	-	1,067
<i>Bacteriastrium comosum</i>	-	-	-	-
<i>Bacteriastrium furcatum</i>	-	-	-	-
<i>Bacteriastrium hyalinum</i>	-	-	-	-
<i>Chaetoceros aequatorialis</i>	-	2,040	-	680
<i>Chaetoceros affinis</i>	-	-	-	-
<i>Chaetoceros coarctatus</i>	-	-	-	-
<i>Chaetoceros compressus</i>	-	-	-	-
<i>Chaetoceros convolutus</i>	-	-	-	-
<i>Chaetoceros criophilus</i>	-	-	-	-
<i>Chaetoceros curvisetus</i>	-	-	-	-

Siriporn 1.
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-6 (page 2 of 6)

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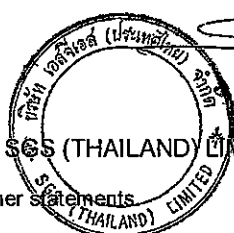
Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
 COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E

SAMPLING DATE : February 7, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Chaetoceros decipiens</i>	-	-	1,980	660
<i>Chaetoceros denticulatus</i>	-	-	1,320	440
<i>Chaetoceros diadema</i>	-	-	-	-
<i>Chaetoceros didymus</i>	-	-	1,320	440
<i>Chaetoceros diversus</i>	-	-	-	-
<i>Chaetoceros lacinus</i>	-	-	-	-
<i>Chaetoceros laevis</i>	-	-	-	-
<i>Chaetoceros lorenzianus</i>	-	2,040	-	680
<i>Chaetoceros peruvianus</i>	-	-	1,320	440
<i>Chaetoceros pseudocurvisetus</i>	-	-	-	-
<i>Chaetoceros tetrastichon</i>	-	-	-	-
<i>Climacodium frauenfeldianum</i>	4,480	-	-	1,493
<i>Coscinodiscus asteromphalus</i>	-	-	-	-
<i>Coscinodiscus radiatus</i>	-	-	-	-
<i>Coscinodiscus sp.</i>	-	-	-	-
<i>Dactyliosolen fragillissima</i>	-	-	-	-
<i>Dactyliosolen phuketensis</i>	-	-	-	-
<i>Ditylum sol</i>	-	-	-	-
<i>Entomoneis alata</i>	-	-	-	-
<i>Ethmodiscus sp.</i>	-	-	-	-
<i>Eucampia zodiatus</i>	-	-	-	-
<i>Haslea sp.</i>	-	-	-	-
<i>Hemiaulus hauckii</i>	-	1,360	-	453
<i>Hemiaulus membranaceus</i>	-	-	-	-
<i>Hemiaulus sinensis</i>	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/PP

This report is issued in accordance to the disclaimer statements

Report No. : 2009-00051 / 003-6 (page 3 of 6)

Issued date : February 27, 2009

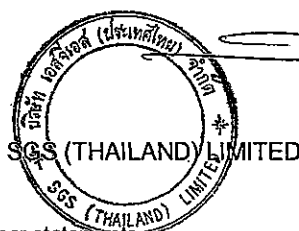
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
 COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E
 SAMPLING DATE : February 7, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Gossleriella tropica</i>	-	-	-	-
<i>Guinardia cylindrus</i>	-	-	-	-
<i>Guinardia striata</i>	-	-	-	-
<i>Lauderia annulata</i>	-	-	-	-
<i>Meunier membranacea</i>	-	680	-	227
<i>Navicula</i> sp.	-	-	5,940	1,980
<i>Nitzschia frigida</i>	-	-	-	-
<i>Nitzschia longissima</i>	-	-	-	-
<i>Nitzschia sigma</i>	-	-	-	-
<i>Odontella mobiliensis</i>	-	-	-	-
<i>Odontella sinensis</i>	-	-	-	-
<i>Palmeria hardmaniana</i>	-	-	-	-
<i>Plagiodiscus nervatus</i>	-	-	-	-
<i>Planktoniella blanda</i>	-	-	-	-
<i>Planktoniella sol</i>	-	-	-	-
<i>Pleurosigma</i> sp.	-	-	-	-
<i>Proboscia alata</i>	-	2,040	-	680
<i>Pseudoguinardia recta</i>	-	-	-	-
<i>Pseudosolenia calcar avis</i>	-	-	660	220
<i>Pseudo-nitzschia pungens</i>	-	-	-	-
<i>Rhizosolenia</i> sp.	-	-	-	-
<i>Rhizosolenia bergonii</i>	-	-	-	-
<i>Rhizosolenia clevei</i> var. <i>communis</i>	1,280	-	3,300	1,527
<i>Rhizosolenia clevei</i> var. <i>clevei</i>	1,280	-	1,320	867

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 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-6 (page 4 of 6)

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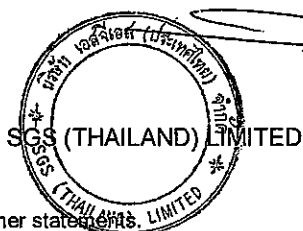
Analysis Report

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 SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
 COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E

SAMPLING DATE : February 7, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Rhizosolenia imbricata</i>	-	-	-	-
<i>Rhizosolenia robusta</i>	-	-	-	-
<i>Rhizosolenia styliformis</i>	-	-	-	-
<i>Skeletonema costatum</i>	-	-	-	-
<i>Surirella</i> sp.	-	-	-	-
<i>Thalassionema frauenfeldii</i>	10,240	12,240	6,600	9,693
<i>Thalassionema nitzschioides</i>	20,480	-	-	6,827
<i>Thalassiosira subtilis</i>	-	-	-	-
<i>Thalassiothrix</i> sp.	-	-	-	-
<i>Thalassiothrix longissima</i>	-	5,440	-	1,813
<i>Trachyneis</i> sp.	-	-	-	-
Class Dinophyceae				
<i>Amphidium</i> sp.	-	-	-	-
<i>Amphisolenia bidentata</i>	-	-	-	-
<i>Amphisolenia rectangulata</i>	-	-	-	-
<i>Ceratium breve</i>	-	-	-	-
<i>Ceratium concillians</i>	-	-	-	-
<i>Ceratium contortum</i>	-	-	-	-
<i>Ceratium deflexum</i>	-	-	-	-
<i>Ceratium dens</i>	-	-	-	-
<i>Ceratium extensum</i>	-	-	-	-
<i>Ceratium falcatum</i>	1,280	680	-	653
<i>Ceratium furca</i>	-	-	660	220
<i>Ceratium fusus</i>	1,280	-	-	427

Siriporn Imwilaiwan
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 License ID : 2-010-A-1793



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 (Sompong Kiatiporn)
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Report No. : 2009-00051 / 003-6 (page 5 of 6)

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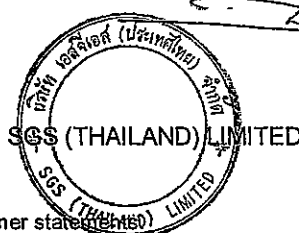
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Analysis Report

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 COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E
 SAMPLING DATE : February 7, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Ceratium inflatum</i>	-	-	-	-
<i>Ceratium karstenii</i>	-	-	-	-
<i>Ceratium longinum</i>	-	680	-	227
<i>Ceratium macroceros</i>	-	-	-	-
<i>Ceratium massiliense</i>	-	-	-	-
<i>Ceratium porrectum</i>	-	-	-	-
<i>Ceratium schmidtii</i>	-	-	-	-
<i>Ceratium trichoceros</i>	-	-	-	-
<i>Ceratium tripos</i>	-	-	-	-
<i>Glenodinium</i> sp.	-	-	-	-
<i>Glenodinium cinctum</i>	-	-	-	-
<i>Goniodoma polyedricum</i>	-	-	660	220
<i>Gonyaulax</i> sp.	-	-	-	-
<i>Gymnodinium</i> sp.	-	-	-	-
<i>Gyrodinium rubrum</i>	-	-	-	-
<i>Ornithocercus steinii</i>	-	-	-	-
<i>Oxytoxum</i> sp.	-	-	-	-
<i>Peridinium</i> sp.	-	-	-	-
<i>Peridinium wisconsinens</i>	-	-	-	-
<i>Phalacroma mitra</i>	-	-	-	-
<i>Phalacroma rotundata</i>	-	-	-	-
<i>Podolampas bipes</i>	-	-	-	-
<i>Podolampas elegans</i>	-	-	-	-
<i>Prorocentrum</i> sp.	-	-	-	-

Siriporn I.
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 License ID : 2-010-A-1793



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 Environmental Manager

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Report No. : 2009-00051 / 003-6 (page 6 of 6)

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Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Prorocentrum gracile</i>	-	-	-	-
<i>Protopteridinium</i> sp.1	-	-	-	-
<i>Protopteridinium</i> sp.2	-	-	-	-
<i>Protopteridinium</i> sp.3	-	-	-	-
<i>Protopteridinium angustum</i>	-	-	-	-
<i>Protopteridinium depressum</i>	-	-	-	-
<i>Protopteridinium diagensis</i>	-	-	-	-
<i>Protopteridinium divergens</i>	-	-	-	-
<i>Protopteridinium elegans</i>	-	-	660	220
<i>Protopteridinium nipponicum</i>	-	-	-	-
<i>Protopteridinium ovum</i>	-	-	-	-
<i>Protopteridinium quarnerense</i>	-	-	-	-
<i>Protopteridinium stenii</i>	-	-	-	-
<i>Pyrocystis noctiluca</i>	-	-	-	-
<i>Pyrophacus</i> sp.	-	-	-	-
Total Phytoplankton Type	13	13	14	29
Total Phytoplankton Amount	74,880	65,280	50,160	63,440
Diversity Index	2.50			

Siriporn L.
 (Siriporn Imwilaiwan)
 License ID : 1-010-A-1793

SK/SA/BS/Pp



(Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 003-7 (page 1 of 6)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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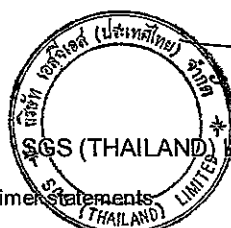
Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, Krut-2
 COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E

SAMPLING DATE : February 6, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Cyanophyta				
Class Cyanophyceae				
<i>Oscillatoria</i> sp.	2,720	7,400	2,700	4,273
<i>Oscillatoria erythraea</i>	5,600	4,440	24,300	11,447
Division Chromophyta				
Class Bacillariophyceae				
<i>Actinocyclus</i> sp.	660	740	1,620	1,007
<i>Actinoptychus</i> sp.	-	-	-	-
<i>Actinoptychus senarius</i>	-	-	-	-
<i>Arachnoidiscus</i> sp.	-	-	-	-
<i>Asterolampra marylandica</i>	260	740	-	333
<i>Asteromphalus</i> sp.	-	-	-	-
<i>Asteromphalus flabellatus</i>	-	-	-	-
<i>Asteromphalus heptactis</i>	-	-	-	-
<i>Asteromphalus imbricatus</i>	-	-	-	-
<i>Bacillaria paradoxa</i>	-	-	-	-
<i>Bacteriastrum</i> sp.	3,900	4,440	-	2,780
<i>Bacteriastrum comosum</i>	-	-	2,160	720
<i>Bacteriastrum furcatum</i>	-	-	-	-
<i>Bacteriastrum hyalinum</i>	-	-	-	-
<i>Chaetoceros aequatorialis</i>	-	-	-	-
<i>Chaetoceros affinis</i>	-	-	-	-
<i>Chaetoceros coarctatus</i>	-	-	-	-
<i>Chaetoceros compressus</i>	-	-	-	-
<i>Chaetoceros convolutus</i>	-	-	-	-
<i>Chaetoceros criophilus</i>	-	-	-	-
<i>Chaetoceros curvisetus</i>	-	-	-	-

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 9-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 003-7 (page 2 of 6)

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Krut-2
COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E

SAMPLING DATE : February 6, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Chaetoceros decipiens</i>	-	-	-	-
<i>Chaetoceros denticulatus</i>	-	-	-	-
<i>Chaetoceros diadema</i>	-	-	-	-
<i>Chaetoceros didymus</i>	-	-	-	-
<i>Chaetoceros diversus</i>	-	-	-	-
<i>Chaetoceros laciniosus</i>	-	-	-	-
<i>Chaetoceros laevis</i>	-	-	-	-
<i>Chaetoceros lorenzianus</i>	-	-	-	-
<i>Chaetoceros peruvianus</i>	-	-	-	-
<i>Chaetoceros pseudocurvisetus</i>	-	-	-	-
<i>Chaetoceros tetrastichon</i>	-	-	-	-
<i>Climacodium frauenfeldianum</i>	-	-	-	-
<i>Coscinodiscus asteromphalus</i>	-	-	-	-
<i>Coscinodiscus radiatus</i>	-	-	-	-
<i>Coscinodiscus sp.</i>	-	-	-	-
<i>Dactyliosolen fragillissima</i>	-	-	-	-
<i>Dactyliosolen phuketensis</i>	-	-	-	-
<i>Ditylum sol</i>	-	-	-	-
<i>Entomoneis alata</i>	-	-	-	-
<i>Ethmodiscus sp.</i>	-	-	-	-
<i>Eucampia zodiatus</i>	-	-	-	-
<i>Haslea sp.</i>	-	-	-	-
<i>Hemiaulus hauckii</i>	-	-	-	-
<i>Hemiaulus membranaceus</i>	-	-	-	-
<i>Hemiaulus sinensis</i>	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-7 (page 3 of 6)

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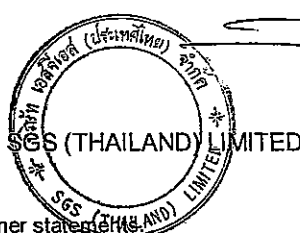
Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Krut-2
COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E

SAMPLING DATE : February 6, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Gossleriella tropica</i>	-	-	-	-
<i>Guinardia cylindrus</i>	-	-	-	-
<i>Guinardia striata</i>	-	-	-	-
<i>Lauderia annulata</i>	-	-	-	-
<i>Meunier membranacea</i>	-	-	1,080	360
<i>Navicula</i> sp.	-	-	-	-
<i>Nitzschia frigida</i>	-	-	-	-
<i>Nitzschia longissima</i>	-	-	-	-
<i>Nitzschia sigma</i>	-	-	-	-
<i>Odontella mobiliensis</i>	-	-	-	-
<i>Odontella sinensis</i>	-	-	-	-
<i>Palmeria hardmaniana</i>	-	-	-	-
<i>Plagiodiscus nervatus</i>	-	-	-	-
<i>Planktoniella blanda</i>	-	-	-	-
<i>Planktoniella sol</i>	-	-	-	-
<i>Pleurosigma</i> sp.	-	-	-	-
<i>Proboscia alata</i>	-	-	-	-
<i>Pseudoguinardia recta</i>	-	-	-	-
<i>Pseudosolenia calcar avis</i>	-	-	-	-
<i>Pseudo-nitzschia pungens</i>	-	-	-	-
<i>Rhizosolenia</i> sp.	-	-	-	-
<i>Rhizosolenia bergonii</i>	-	-	-	-
<i>Rhizosolenia clevei</i> var. <i>communis</i>	-	-	-	-
<i>Rhizosolenia clevei</i> var. <i>clevei</i>	-	-	-	-

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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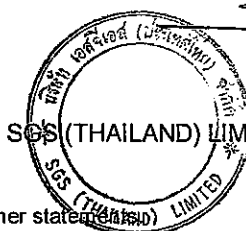
Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Krut-2
COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E

SAMPLING DATE : February 6, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Rhizosolenia imbricata</i>	-	-	-	-
<i>Rhizosolenia robusta</i>	-	-	-	-
<i>Rhizosolenia styliformis</i>	-	-	-	-
<i>Skeletonema costatum</i>	-	-	-	-
<i>Surirella</i> sp.	-	-	-	-
<i>Thalassionema frauenfeldii</i>	6,800	-	7,020	4,607
<i>Thalassionema nitzschioides</i>	340	-	540	293
<i>Thalassiosira subtilis</i>	-	-	-	-
<i>Thalassiothrix</i> sp.	-	-	-	-
<i>Thalassiothrix longissima</i>	-	-	540	180
<i>Trachyneis</i> sp.	-	-	-	-
Class Dinophyceae				
<i>Amphidium</i> sp.	-	-	-	-
<i>Amphisolenia bidentata</i>	-	-	1,080	360
<i>Amphisolenia rectangulata</i>	-	-	-	-
<i>Ceratium breve</i>	-	-	-	-
<i>Ceratium concillians</i>	-	-	540	180
<i>Ceratium contortum</i>	-	740	-	247
<i>Ceratium deflexum</i>	-	-	-	-
<i>Ceratium dens</i>	-	-	-	-
<i>Ceratium extensum</i>	-	-	-	-
<i>Ceratium falcatum</i>	-	-	-	-
<i>Ceratium furca</i>	270	-	540	270
<i>Ceratium fusus</i>	-	-	-	-

Siriporn 1.
 (Siriporn Imwilaivan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-7 (page 5 of 6)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, Krut-2
 COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E

SAMPLING DATE : February 6, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Ceratium inflatum</i>	-	-	-	-
<i>Ceratium karstenii</i>	-	-	-	-
<i>Ceratium longinum</i>	-	-	-	-
<i>Ceratium macroceros</i>	-	-	-	-
<i>Ceratium massiliense</i>	-	-	-	-
<i>Ceratium porrectum</i>	-	-	-	-
<i>Ceratium schmidtii</i>	-	740	-	247
<i>Ceratium trichoceros</i>	220	-	540	253
<i>Ceratium tripos</i>	-	-	-	-
<i>Glenodinium</i> sp.	-	-	-	-
<i>Glenodinium cinctum</i>	-	-	-	-
<i>Goniodoma polyedricum</i>	-	740	-	247
<i>Gonyaulax</i> sp.	-	-	-	-
<i>Gymnodinium</i> sp.	-	-	-	-
<i>Gyrodinium rubrum</i>	-	-	-	-
<i>Ornithocercus steinii</i>	-	-	-	-
<i>Oxytoxum</i> sp.	-	-	-	-
<i>Peridinium</i> sp.	-	-	-	-
<i>Peridinium wisconsinens</i>	-	-	540	180
<i>Phalacroma mitra</i>	-	-	-	-
<i>Phalacroma rotundata</i>	-	-	-	-
<i>Podolampas bipes</i>	-	-	540	180
<i>Podolampas elegans</i>	-	-	540	180
<i>Prorocentrum</i> sp.	-	-	-	-

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Analysis Report

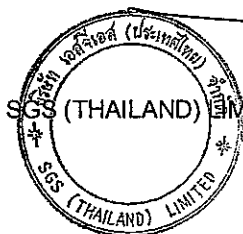
SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Krut-2
COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E

SAMPLING DATE : February 6, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Prorocentrum gracile</i>	-	-	-	-
<i>Protoperidinium</i> sp.1	-	740	-	247
<i>Protoperidinium</i> sp.2	-	-	-	-
<i>Protoperidinium</i> sp.3	-	-	-	-
<i>Protoperidinium angustum</i>	-	-	-	-
<i>Protoperidinium depressum</i>	-	-	-	-
<i>Protoperidinium diagensis</i>	-	-	-	-
<i>Protoperidinium divergens</i>	-	-	-	-
<i>Protoperidinium elegans</i>	660	-	-	220
<i>Protoperidinium nipponicum</i>	-	-	540	180
<i>Protoperidinium ovum</i>	-	-	-	-
<i>Protoperidinium quarnerense</i>	-	-	-	-
<i>Protoperidinium stenii</i>	-	-	-	-
<i>Pyrocystis noctiluca</i>	-	-	-	-
<i>Pyrophacus</i> sp.	-	-	-	-
Total Phytoplankton Type	10	9	16	23
Total Phytoplankton Amount	21,430	20,720	44,820	28,991
Diversity Index	2.06			

Siriporn I.
 (Siriporn Imwilaiwan)
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SK/SA/BS/Pp



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 003-8 (page 1 of 6)

Issued date : February 27, 2009

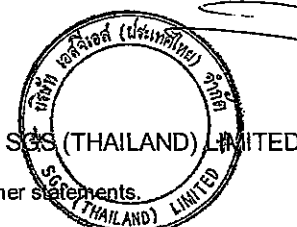
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Cyanophyta				
Class Cyanophyceae				
<i>Oscillatoria</i> sp.	540	1,280	2,100	1,307
<i>Oscillatoria erythraea</i>	15,120	9,600	13,440	12,720
Division Chromophyta				
Class Bacillariophyceae				
<i>Actinocyclus</i> sp.	2,160	-	5,040	2,400
<i>Actinoptychus</i> sp.	-	-	-	-
<i>Actinoptychus senarius</i>	1,080	7,680	420	3,060
<i>Arachnoidiscus</i> sp.	-	-	-	-
<i>Asterolampra marylandica</i>	-	1,280	-	427
<i>Asteromphalus</i> sp.	-	-	-	-
<i>Asteromphalus flabellatus</i>	540	1,280	-	607
<i>Asteromphalus heptactis</i>	-	-	-	-
<i>Asteromphalus imbricatus</i>	-	-	-	-
<i>Bacillaria paradoxa</i>	-	-	-	-
<i>Bacteriastrium</i> sp.	-	-	-	-
<i>Bacteriastrium comosum</i>	-	-	-	-
<i>Bacteriastrium furcatum</i>	-	-	-	-
<i>Bacteriastrium hyalinum</i>	-	-	-	-
<i>Chaetoceros aequatorialis</i>	-	640	1,680	773
<i>Chaetoceros affinis</i>	-	-	-	-
<i>Chaetoceros coarctatus</i>	-	-	-	-
<i>Chaetoceros compressus</i>	-	-	-	-
<i>Chaetoceros convolutus</i>	-	-	-	-
<i>Chaetoceros criophilus</i>	-	-	-	-
<i>Chaetoceros curvisetus</i>	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-8 (page 2 of 6)

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E
SAMPLING DATE : February 6, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Chaetoceros decipiens</i>	-	-	-	-
<i>Chaetoceros denticulatus</i>	-	-	-	-
<i>Chaetoceros diadema</i>	-	-	-	-
<i>Chaetoceros didymus</i>	540	2,560	4,200	2,433
<i>Chaetoceros diversus</i>	-	-	-	-
<i>Chaetoceros lacinosus</i>	-	-	-	-
<i>Chaetoceros laevis</i>	-	-	-	-
<i>Chaetoceros lorenzianus</i>	-	-	-	-
<i>Chaetoceros peruvianus</i>	-	-	-	-
<i>Chaetoceros pseudocurvisetus</i>	-	-	-	-
<i>Chaetoceros tetrastichon</i>	-	-	-	-
<i>Climacodium frauenfeldianum</i>	-	-	-	-
<i>Coscinodiscus asteromphalus</i>	-	-	-	-
<i>Coscinodiscus radiatus</i>	-	-	-	-
<i>Coscinodiscus sp.</i>	-	-	-	-
<i>Dactyliosolen fragillissima</i>	-	-	-	-
<i>Dactyliosolen phuketensis</i>	-	-	-	-
<i>Ditylum sol</i>	-	-	-	-
<i>Entomoneis alata</i>	-	-	-	-
<i>Ethmodiscus sp.</i>	-	-	-	-
<i>Eucampia zodiatus</i>	2,160	-	-	720
<i>Haslea sp.</i>	-	-	-	-
<i>Hemiaulus hauckii</i>	-	-	-	-
<i>Hemiaulus membranaceus</i>	-	-	840	280
<i>Hemiaulus sinensis</i>	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-8 (page 3 of 6)

Issued date : February 27, 2009

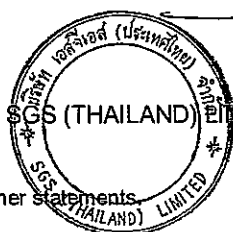
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Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E
SAMPLING DATE : February 6, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Gosslerella tropica</i>	-	-	-	-
<i>Guinardia cylindrus</i>	-	-	-	-
<i>Guinardia striata</i>	540	-	840	460
<i>Lauderia annulata</i>	-	-	-	-
<i>Meunier membranacea</i>	1,080	-	840	640
<i>Navicula</i> sp.	-	3,200	-	1,067
<i>Nitzschia frigida</i>	-	-	-	-
<i>Nitzschia longissima</i>	-	-	-	-
<i>Nitzschia sigma</i>	-	-	-	-
<i>Odontella mobiliensis</i>	-	-	-	-
<i>Odontella sinensis</i>	-	-	-	-
<i>Palmeria hardmaniana</i>	-	-	-	-
<i>Plagiodiscus nervatus</i>	-	-	-	-
<i>Planktoniella blanda</i>	-	-	-	-
<i>Planktoniella sol</i>	-	-	-	-
<i>Pleurosigma</i> sp.	-	-	-	-
<i>Proboscia alata</i>	540	-	-	180
<i>Pseudoguinardia recta</i>	-	-	-	-
<i>Pseudosolenia calcar avis</i>	540	1,920	1,260	1,240
<i>Pseudo-nitzschia pungens</i>	-	-	-	-
<i>Rhizosolenia</i> sp.	-	-	-	-
<i>Rhizosolenia bergonii</i>	-	-	-	-
<i>Rhizosolenia clevei</i> var. <i>communis</i>	-	-	-	-
<i>Rhizosolenia clevei</i> var. <i>clevei</i>	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 1-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-8 (page 4 of 6)

Issued date : February 27, 2009

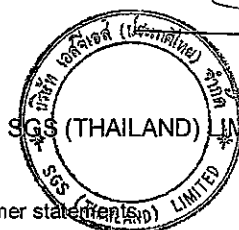
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Rhizosolenia imbricata</i>	-	-	-	-
<i>Rhizosolenia robusta</i>	-	-	-	-
<i>Rhizosolenia styliformis</i>	-	-	-	-
<i>Skeletonema costatum</i>	-	-	-	-
<i>Surirella</i> sp.	-	-	-	-
<i>Thalassionema frauenfeldii</i>	1,620	9,600	6,720	5,980
<i>Thalassionema nitzchioides</i>	1,080	-	-	360
<i>Thalassiosira subtilis</i>	-	-	-	-
<i>Thalassiothrix</i> sp.	-	-	-	-
<i>Thalassiothrix longissima</i>	1,620	3,200	840	1,887
<i>Trachyneis</i> sp.	-	-	-	-
Class Dinophyceae				
<i>Amphidium</i> sp.	-	-	-	-
<i>Amphisolenia bidentata</i>	1,080	-	420	500
<i>Amphisolenia rectangulata</i>	-	-	-	-
<i>Ceratium breve</i>	-	-	-	-
<i>Ceratium concilians</i>	-	-	-	-
<i>Ceratium contortum</i>	-	-	-	-
<i>Ceratium deflexum</i>	-	-	-	-
<i>Ceratium dens</i>	-	-	-	-
<i>Ceratium extensum</i>	-	-	-	-
<i>Ceratium falcatum</i>	-	-	-	-
<i>Ceratium furca</i>	-	640	840	493
<i>Ceratium fusus</i>	-	-	-	-

Siriporn L.
 (Siriporn Imwilaiwan)
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Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E
SAMPLING DATE : February 6, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Ceratium inflatum</i>	-	-	-	-
<i>Ceratium karstenii</i>	-	-	-	-
<i>Ceratium longinum</i>	-	-	-	-
<i>Ceratium macroceros</i>	-	-	-	-
<i>Ceratium massiliense</i>	-	640	420	353
<i>Ceratium porrectum</i>	-	-	-	-
<i>Ceratium schmidtii</i>	-	-	-	-
<i>Ceratium trichoceros</i>	-	-	-	-
<i>Ceratium tripos</i>	-	-	840	280
<i>Glenodinium sp.</i>	-	-	-	-
<i>Glenodinium cinctum</i>	-	-	-	-
<i>Goniodoma polyedricum</i>	-	-	-	-
<i>Gonyaulax sp.</i>	-	640	420	353
<i>Gymnodinium sp.</i>	-	-	-	-
<i>Gyrodinium rubrum</i>	-	-	-	-
<i>Ornithocercus steinii</i>	-	-	-	-
<i>Oxytoxum sp.</i>	-	-	-	-
<i>Peridinium sp.</i>	-	640	420	353
<i>Peridinium wisconsinens</i>	540	-	-	180
<i>Phalacroma mitra</i>	-	-	-	-
<i>Phalacroma rotundata</i>	-	-	-	-
<i>Podolampas bipes</i>	-	-	-	-
<i>Podolampas elegans</i>	1,620	-	420	680
<i>Prorocentrum sp.</i>	-	-	-	-

Siriporn 1.
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(Signature)
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 Environmental Manager

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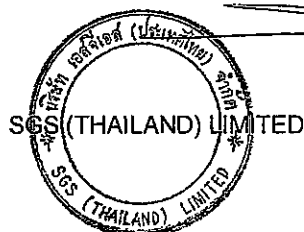
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Prorocentrum gracile</i>	-	-	-	-
<i>Protoperidinium</i> sp.1	540	1,280	1,260	1,027
<i>Protoperidinium</i> sp.2	-	-	-	-
<i>Protoperidinium</i> sp.3	-	-	-	-
<i>Protoperidinium angustum</i>	-	-	-	-
<i>Protoperidinium depressum</i>	-	-	-	-
<i>Protoperidinium diagensis</i>	-	-	-	-
<i>Protoperidinium divergens</i>	-	-	-	-
<i>Protoperidinium elegans</i>	-	-	-	-
<i>Protoperidinium nipponicum</i>	-	-	420	140
<i>Protoperidinium ovum</i>	-	-	-	-
<i>Protoperidinium quarnerense</i>	-	-	-	-
<i>Protoperidinium stenil</i>	-	-	-	-
<i>Pyrocystis noctiluca</i>	-	-	-	-
<i>Pyrophacus</i> sp.	-	-	-	-
Total Phytoplankton Type	18	16	21	28
Total Phytoplankton Amount	32,940	46,080	43,680	40,900
Diversity Index	2.57			

Siriporn Imwilaiwan
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Report No. : 2009-00051 / 003-9 (page 1 of 6)

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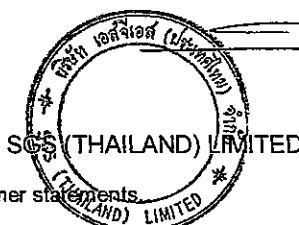
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 1
COORDINATION (WGS84) : 9° 07' 19.92" N, 101° 05' 58.26" E
SAMPLING DATE : February 6, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Cyanophyta				
Class Cyanophyceae				
<i>Oscillatoria</i> sp.	157,800	1,740	1,800	53,780
<i>Oscillatoria erythraea</i>	72,600	602,040	55,200	243,280
Division Chromophyta				
Class Bacillariophyceae				
<i>Actinocyclus</i> sp.	600	4,060	1,800	2,153
<i>Actinoptychus</i> sp.	-	-	-	-
<i>Actinoptychus senarius</i>	-	-	-	-
<i>Arachnoidiscus</i> sp.	-	-	-	-
<i>Asterolampra marylandica</i>	1,800	2,900	1,800	2,167
<i>Asteromphalus</i> sp.	-	-	-	-
<i>Asteromphalus flabellatus</i>	600	-	-	200
<i>Asteromphalus heptactis</i>	-	-	-	-
<i>Asteromphalus imbricatus</i>	-	-	-	-
<i>Bacillaria paradoxa</i>	-	-	-	-
<i>Bacteriastrium</i> sp.	-	-	-	-
<i>Bacteriastrium comosum</i>	-	2,320	-	773
<i>Bacteriastrium furcatum</i>	-	1,160	-	387
<i>Bacteriastrium hyalinum</i>	-	-	-	-
<i>Chaetoceros aequatorialis</i>	-	-	-	-
<i>Chaetoceros affinis</i>	-	-	-	-
<i>Chaetoceros coarctatus</i>	-	-	-	-
<i>Chaetoceros compressus</i>	-	2,320	-	773
<i>Chaetoceros convolutus</i>	-	1,740	-	580
<i>Chaetoceros criophilus</i>	-	-	-	-
<i>Chaetoceros curvisetus</i>	-	-	-	-

Siriporn I.
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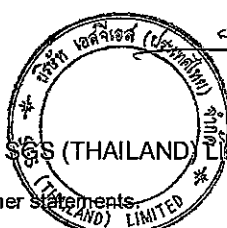
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Analysis Report

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SAMPLING LOCATION : Concession Block G6/48, Control 1
COORDINATION (WGS84) : 9° 07' 19.92" N, 101° 05' 58.26" E
SAMPLING DATE : February 6, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Chaetoceros decipiens</i>	-	-	-	-
<i>Chaetoceros denticulatus</i>	-	-	-	-
<i>Chaetoceros diadema</i>	-	-	-	-
<i>Chaetoceros didymus</i>	-	8,700	-	2,900
<i>Chaetoceros diversus</i>	-	-	-	-
<i>Chaetoceros lacinosus</i>	-	-	-	-
<i>Chaetoceros laevis</i>	-	1,160	-	387
<i>Chaetoceros lorenzianus</i>	-	-	-	-
<i>Chaetoceros peruvianus</i>	-	580	-	193
<i>Chaetoceros pseudocurvisetus</i>	-	-	-	-
<i>Chaetoceros tetrastichon</i>	-	-	-	-
<i>Climacodium frauenfeldianum</i>	-	-	-	-
<i>Coscinodiscus asteromphalus</i>	-	-	600	200
<i>Coscinodiscus radiatus</i>	-	-	-	-
<i>Coscinodiscus sp.</i>	-	-	-	-
<i>Dactyliosolen fragillissima</i>	-	-	-	-
<i>Dactyliosolen phuketensis</i>	-	-	-	-
<i>Ditylum sol</i>	-	-	-	-
<i>Entomoneis alata</i>	-	-	-	-
<i>Ethmodiscus sp.</i>	-	-	-	-
<i>Eucampia zodiatus</i>	-	-	-	-
<i>Haslea sp.</i>	-	580	-	193
<i>Hemiaulus hauckii</i>	-	-	-	-
<i>Hemiaulus membranaceus</i>	7,800	580	600	2,993
<i>Hemiaulus sinensis</i>	-	-	-	-

Siriporn Imwilaiwan
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 Environmental Manager

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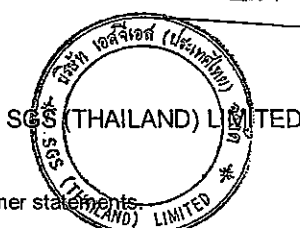
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SAMPLING LOCATION : Concession Block G6/48, Control 1
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Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Gosslerella tropica</i>	-	-	-	-
<i>Guinardia cylindrus</i>	-	-	-	-
<i>Guinardia striata</i>	-	1,740	-	580
<i>Lauderia annulata</i>	-	-	-	-
<i>Meunier membranacea</i>	-	-	-	-
<i>Navicula</i> sp.	-	-	-	-
<i>Nitzschia frigida</i>	-	-	-	-
<i>Nitzschia longissima</i>	-	-	-	-
<i>Nitzschia sigma</i>	-	-	-	-
<i>Odontella mobiliensis</i>	-	-	-	-
<i>Odontella sinensis</i>	-	-	-	-
<i>Palmeria hardmaniana</i>	-	-	-	-
<i>Plagiodiscus nervatus</i>	-	-	-	-
<i>Planktoniella blanda</i>	-	-	-	-
<i>Planktoniella sol</i>	-	-	-	-
<i>Pleurosigma</i> sp.	-	-	-	-
<i>Proboscia alata</i>	-	580	-	193
<i>Pseudoguinardia recta</i>	-	-	-	-
<i>Pseudosolenia calcar avis</i>	-	-	-	-
<i>Pseudo-nitzschia pungens</i>	-	-	-	-
<i>Rhizosolenia</i> sp.	-	-	-	-
<i>Rhizosolenia bergonii</i>	-	-	-	-
<i>Rhizosolenia clevei</i> var. <i>communis</i>	3,000	1,160	1,800	1,987
<i>Rhizosolenia clevei</i> var. <i>clevei</i>	-	9,860	-	3,287

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Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Rhizosolenia imbricata</i>	-	580	-	193
<i>Rhizosolenia robusta</i>	-	1,740	-	580
<i>Rhizosolenia styliformis</i>	-	-	-	-
<i>Skeletonema costatum</i>	-	-	-	-
<i>Surirella</i> sp.	-	580	-	193
<i>Thalassionema frauenfeldii</i>	2,400	1,160	3,600	2,387
<i>Thalassionema nitzschioides</i>	-	2,320	3,600	1,973
<i>Thalassiosira subtilis</i>	-	-	-	-
<i>Thalassiothrix</i> sp.	-	-	-	-
<i>Thalassiothrix longissima</i>	-	-	1,800	600
<i>Trachyneis</i> sp.	-	-	-	-
Class Dinophyceae				
<i>Amphidium</i> sp.	-	-	-	-
<i>Amphisolenia bidentata</i>	1,200	-	-	400
<i>Amphisolenia rectangulata</i>	-	580	-	193
<i>Ceratium breve</i>	-	-	-	-
<i>Ceratium concillians</i>	-	-	-	-
<i>Ceratium contortum</i>	-	-	-	-
<i>Ceratium deflexum</i>	-	580	-	193
<i>Ceratium dens</i>	-	-	-	-
<i>Ceratium extensum</i>	-	-	-	-
<i>Ceratium falcatum</i>	-	-	-	-
<i>Ceratium furca</i>	600	580	1,200	793
<i>Ceratium fusus</i>	-	-	-	-

Siriporn Imwilaiwan
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SAMPLING DATE : February 6, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Ceratium inflatum</i>	-	-	-	-
<i>Ceratium karstenii</i>	-	-	-	-
<i>Ceratium longinum</i>	600	-	-	200
<i>Ceratium macroceros</i>	-	-	-	-
<i>Ceratium massiliense</i>	-	580	-	193
<i>Ceratium porrectum</i>	-	-	-	-
<i>Ceratium schmidtii</i>	-	580	-	193
<i>Ceratium trichoceros</i>	-	580	-	193
<i>Ceratium tripos</i>	-	-	-	-
<i>Glenodinium sp.</i>	-	-	-	-
<i>Glenodinium cinctum</i>	-	-	-	-
<i>Goniodoma polyedricum</i>	-	580	-	193
<i>Gonyaulax sp.</i>	-	1,740	-	580
<i>Gymnodinium sp.</i>	-	-	-	-
<i>Gyrodinium rubrum</i>	-	-	-	-
<i>Ornithocercus steinii</i>	600	-	-	200
<i>Oxytoxum sp.</i>	-	-	-	-
<i>Peridinium sp.</i>	-	-	-	-
<i>Peridinium wisconsinens</i>	-	-	-	-
<i>Phalacroma mitra</i>	-	-	-	-
<i>Phalacroma rotundata</i>	-	580	-	193
<i>Podolampas bipes</i>	-	-	-	-
<i>Podolampas elegans</i>	-	580	-	193
<i>Prorocentrum sp.</i>	-	-	-	-

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 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-9 (page 6 of 6)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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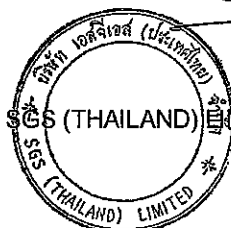
Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 1
COORDINATION (WGS84) : 9° 07' 19.92" N, 101° 05' 58.26" E
SAMPLING DATE : February 6, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Prorocentrum gracile</i>	-	-	-	-
<i>Protooperidinium</i> sp.1	600	-	-	200
<i>Protooperidinium</i> sp.2	600	-	-	200
<i>Protooperidinium</i> sp.3	-	-	-	-
<i>Protooperidinium angustum</i>	-	-	-	-
<i>Protooperidinium depressum</i>	-	-	-	-
<i>Protooperidinium diagensis</i>	-	-	-	-
<i>Protooperidinium divergens</i>	-	580	-	193
<i>Protooperidinium elegans</i>	1,800	-	600	800
<i>Protooperidinium nipponicum</i>	1,200	1,740	600	1,180
<i>Protooperidinium ovum</i>	-	-	-	-
<i>Protooperidinium quarnerense</i>	-	-	-	-
<i>Protooperidinium stenii</i>	-	-	-	-
<i>Pyrocystis noctiluca</i>	-	-	-	-
<i>Pyrophacus</i> sp.	-	-	-	-
Total Phytoplankton Type	16	34	13	43
Total Phytoplankton Amount	253,800	658,880	75,000	329,222
Diversity Index	1.06			

Siriporn I.
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This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 003-10 (page 1 of 6)

Issued date : February 27, 2009

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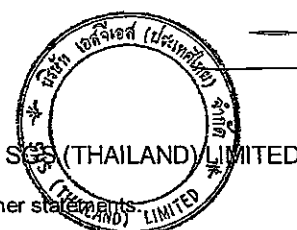
Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 2
COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E

SAMPLING DATE : February 7, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Cyanophyta				
Class Cyanophyceae				
<i>Oscillatoria</i> sp.	12,540	19,240	14,980	15,587
<i>Oscillatoria erythraea</i>	7,260	8,140	7,540	7,647
Division Chromophyta				
Class Bacillariophyceae				
<i>Actinocyclus</i> sp.	3,960	2,220	3,200	3,127
<i>Actinoptychus</i> sp.	-	-	-	-
<i>Actinoptychus senarius</i>	-	-	-	-
<i>Arachnoidiscus</i> sp.	-	-	-	-
<i>Asterolampra marylandica</i>	660	-	720	460
<i>Asteromphalus</i> sp.	1,320	-	-	440
<i>Asteromphalus flabellatus</i>	-	740	-	247
<i>Asteromphalus heptactis</i>	-	-	-	-
<i>Asteromphalus imbricatus</i>	-	-	-	-
<i>Bacillaria paradoxa</i>	-	-	-	-
<i>Bacteriastrum</i> sp.	-	4,440	2,400	2,280
<i>Bacteriastrum comosum</i>	-	-	-	-
<i>Bacteriastrum furcatum</i>	-	-	-	-
<i>Bacteriastrum hyalinum</i>	-	-	-	-
<i>Chaetoceros aequatorialis</i>	-	-	-	-
<i>Chaetoceros affinis</i>	-	2,220	-	740
<i>Chaetoceros coarctatus</i>	-	7,400	-	2,467
<i>Chaetoceros compressus</i>	-	-	-	-
<i>Chaetoceros convolutus</i>	-	-	-	-
<i>Chaetoceros criophilus</i>	-	-	-	-
<i>Chaetoceros curvisetus</i>	-	-	-	-

Siriporn L.
 (Siriporn Imwilaiwan)
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(Signature)
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Report No. : 2009-00051 / 003-10 (page 2 of 6)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 2
COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E
SAMPLING DATE : February 7, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Chaetoceros decipiens</i>	-	-	660	220
<i>Chaetoceros denticulatus</i>	-	-	-	-
<i>Chaetoceros diadema</i>	-	-	-	-
<i>Chaetoceros didymus</i>	-	-	-	-
<i>Chaetoceros diversus</i>	-	-	-	-
<i>Chaetoceros laciniosus</i>	-	-	-	-
<i>Chaetoceros laevis</i>	-	-	-	-
<i>Chaetoceros lorenzianus</i>	-	2,960	3,400	2,120
<i>Chaetoceros peruvianus</i>	-	-	-	-
<i>Chaetoceros pseudocurvisetus</i>	-	-	-	-
<i>Chaetoceros tetrastichon</i>	-	2,220	-	740
<i>Climacodium frauenfeldianum</i>	-	-	-	-
<i>Coscinodiscus asteromphalus</i>	-	-	-	-
<i>Coscinodiscus radiatus</i>	-	-	-	-
<i>Coscinodiscus sp.</i>	-	-	-	-
<i>Dactyliosolen fragillissima</i>	-	-	-	-
<i>Dactyliosolen phuketensis</i>	-	-	-	-
<i>Ditylum sol</i>	-	-	-	-
<i>Entomoneis alata</i>	-	-	-	-
<i>Ethmodiscus sp.</i>	-	-	-	-
<i>Eucampia zodiatus</i>	-	-	-	-
<i>Haslea sp.</i>	-	-	-	-
<i>Hemiaulus hauckii</i>	-	-	-	-
<i>Hemiaulus membranaceus</i>	1,320	-	-	440
<i>Hemiaulus sinensis</i>	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
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SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-10 (page 3 of 6)

Issued date : February 27, 2009

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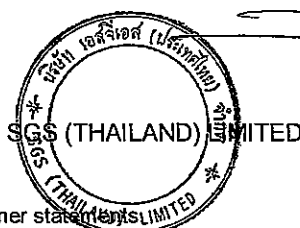
Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, Control 2
 COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E

SAMPLING DATE : February 7, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Gossleriella tropica</i>	-	-	-	-
<i>Guinardia cylindrus</i>	-	-	-	-
<i>Guinardia striata</i>	-	-	-	-
<i>Lauderia annulata</i>	-	-	-	-
<i>Meunier membranacea</i>	2,640	-	-	880
<i>Navicula</i> sp.	-	2,960	-	987
<i>Nitzschia frigida</i>	-	-	-	-
<i>Nitzschia longissima</i>	-	-	-	-
<i>Nitzschia sigma</i>	-	-	-	-
<i>Odontella mobiliensis</i>	-	-	-	-
<i>Odontella sinensis</i>	-	740	-	247
<i>Palmeria hardmaniana</i>	-	-	-	-
<i>Plagiodiscus nervatus</i>	-	-	-	-
<i>Planktoniella blanda</i>	-	-	-	-
<i>Planktoniella sol</i>	-	-	-	-
<i>Pleurosigma</i> sp.	-	-	-	-
<i>Proboscia alata</i>	2,640	-	-	880
<i>Pseudoguinardia recta</i>	-	-	-	-
<i>Pseudosolenia calcar avis</i>	-	-	-	-
<i>Pseudo-nitzschia pungens</i>	-	-	-	-
<i>Rhizosolenia</i> sp.	-	-	-	-
<i>Rhizosolenia bergonii</i>	-	-	-	-
<i>Rhizosolenia clevei</i> var. <i>communis</i>	1,980	1,480	1,280	1,580
<i>Rhizosolenia clevei</i> var. <i>clevei</i>	-	-	-	-

Siriporn I.
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Report No. : 2009-00051 / 003-10 (page 4 of 6)

Issued date : February 27, 2009

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Analysis Report

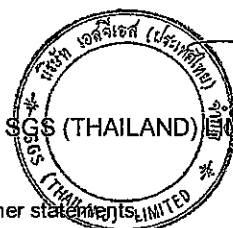
SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 2
COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E
SAMPLING DATE : February 7, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Rhizosolenia imbricata</i>	-	-	-	-
<i>Rhizosolenia robusta</i>	-	-	-	-
<i>Rhizosolenia styliformis</i>	-	-	-	-
<i>Skeletonema costatum</i>	-	-	-	-
<i>Surirella</i> sp.	-	-	-	-
<i>Thalassionema frauenfeldii</i>	3,960	8,140	7,600	6,567
<i>Thalassionema nitzchioides</i>	-	6,660	6,540	4,400
<i>Thalassiosira subtilis</i>	-	-	-	-
<i>Thalassiothrix</i> sp.	-	740	-	247
<i>Thalassiothrix longissima</i>	-	-	-	-
<i>Trachyneis</i> sp.	-	-	-	-
Class Dinophyceae				
<i>Amphidium</i> sp.	-	-	-	-
<i>Amphisolenia bidentata</i>	-	-	-	-
<i>Amphisolenia rectangulata</i>	-	-	-	-
<i>Ceratium breve</i>	-	-	-	-
<i>Ceratium concilians</i>	660	740	660	687
<i>Ceratium contortum</i>	-	-	-	-
<i>Ceratium deflexum</i>	-	-	-	-
<i>Ceratium dens</i>	-	740	540	427
<i>Ceratium extensum</i>	-	-	-	-
<i>Ceratium falcatum</i>	-	2,960	-	987
<i>Ceratium furca</i>	-	1,480	1,240	907
<i>Ceratium fusus</i>	660	-	-	220

Siriporn I.

(Siriporn Imwilaiwan)

License ID : 2-010-A-1793



(Sompong Kiatiporn)

Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-10 (page 5 of 6)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 2
COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Ceratium inflatum</i>	-	-	-	-
<i>Ceratium karstenii</i>	-	-	-	-
<i>Ceratium longinum</i>	660	-	-	220
<i>Ceratium macroceros</i>	-	-	-	-
<i>Ceratium massiliense</i>	1,320	-	-	440
<i>Ceratium porrectum</i>	-	-	-	-
<i>Ceratium schmidtii</i>	-	-	-	-
<i>Ceratium trichoceros</i>	-	-	660	220
<i>Ceratium tripos</i>	-	-	-	-
<i>Glenodinium</i> sp.	-	-	-	-
<i>Glenodinium cinctum</i>	-	-	-	-
<i>Goniodoma polyedricum</i>	660	-	-	220
<i>Gonyaulax</i> sp.	-	-	-	-
<i>Gymnodinium</i> sp.	-	-	-	-
<i>Gyrodinium rubrum</i>	-	-	-	-
<i>Ornithocercus steinii</i>	-	-	-	-
<i>Oxytoxum</i> sp.	-	-	-	-
<i>Peridinium</i> sp.	-	-	-	-
<i>Peridinium wisconsinens</i>	-	-	-	-
<i>Phalacroma mitra</i>	-	-	-	-
<i>Phalacroma rotundata</i>	-	-	-	-
<i>Podolampas bipes</i>	-	-	-	-
<i>Podolampas elegans</i>	-	-	-	-
<i>Prorocentrum</i> sp.	-	-	-	-

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
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Report No. : 2009-00051 / 003-10 (page 6 of 6)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 2
COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E
SAMPLING DATE : February 7, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Prorocentrum gracile</i>	-	-	-	-
<i>Protoperidinium</i> sp.1	660	-	-	220
<i>Protoperidinium</i> sp.2	-	-	-	-
<i>Protoperidinium</i> sp.3	-	-	-	-
<i>Protoperidinium angustum</i>	-	-	-	-
<i>Protoperidinium depressum</i>	-	-	-	-
<i>Protoperidinium diagensis</i>	-	-	-	-
<i>Protoperidinium divergens</i>	-	-	-	-
<i>Protoperidinium elegans</i>	-	-	660	220
<i>Protoperidinium nipponicum</i>	660	-	-	220
<i>Protoperidinium ovum</i>	-	-	-	-
<i>Protoperidinium quarnerense</i>	-	-	-	-
<i>Protoperidinium stenii</i>	-	-	-	-
<i>Pyrocystis noctiluca</i>	-	-	-	-
<i>Pyrophacus</i> sp.	-	-	-	-
Total Phytoplankton Type	17	19	15	33
Total Phytoplankton Amount	43,560	76,220	52,080	57,291
Diversity Index	2.64			

Siriporn 1.
 (Siriporn Imwilaiwan)
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 Environmental Manager

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Report No. : 2009-00051 / 003-11 (page 1 of 6)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Cyanophyta				
Class Cyanophyceae				
<i>Oscillatoria</i> sp.	8,930	5,060	490	4,827
<i>Oscillatoria erythraea</i>	88,830	28,980	21,560	46,457
Division Chromophyta				
Class Bacillariophyceae				
<i>Actinocyclus</i> sp.	8,460	11,040	9,800	9,767
<i>Actinoptychus</i> sp.	-	460	-	153
<i>Actinoptychus senarius</i>	-	-	-	-
<i>Arachnoidiscus</i> sp.	-	-	-	-
<i>Asterolampra marylandica</i>	2,350	1,380	1,470	1,733
<i>Asteromphalus</i> sp.	-	-	-	-
<i>Asteromphalus flabellatus</i>	-	-	-	-
<i>Asteromphalus heptactis</i>	-	-	-	-
<i>Asteromphalus imbricatus</i>	-	-	-	-
<i>Bacillaria paradoxa</i>	-	-	-	-
<i>Bacteriastrum</i> sp.	-	-	-	-
<i>Bacteriastrum comosum</i>	-	-	-	-
<i>Bacteriastrum furcatum</i>	-	1,840	5,880	2,573
<i>Bacteriastrum hyalinum</i>	-	-	-	-
<i>Chaetoceros aequatorialis</i>	-	-	-	-
<i>Chaetoceros affinis</i>	-	-	-	-
<i>Chaetoceros coarctatus</i>	-	-	2,450	817
<i>Chaetoceros compressus</i>	-	-	-	-
<i>Chaetoceros convolutus</i>	-	-	6,370	2,123
<i>Chaetoceros criophilus</i>	-	-	-	-
<i>Chaetoceros curvisetus</i>	-	-	-	-

Siriporn
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Sompong Kiatiporn
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Report No. : 2009-00051 / 003-11 (page 2 of 6)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E

SAMPLING DATE : February 9, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Chaetoceros decipiens</i>	-	-	-	-
<i>Chaetoceros denticulatus</i>	-	-	-	-
<i>Chaetoceros diadema</i>	-	-	-	-
<i>Chaetoceros didymus</i>	-	5,980	7,350	4,443
<i>Chaetoceros diversus</i>	-	-	-	-
<i>Chaetoceros lacinosus</i>	-	-	-	-
<i>Chaetoceros laevis</i>	-	-	-	-
<i>Chaetoceros lorenzianus</i>	1,880	1,380	1,960	1,740
<i>Chaetoceros peruvianus</i>	470	460	490	473
<i>Chaetoceros pseudocurvisetus</i>	-	-	-	-
<i>Chaetoceros tetrastichon</i>	-	-	-	-
<i>Climacodium frauenfeldianum</i>	-	-	-	-
<i>Coscinodiscus asteromphalus</i>	-	-	-	-
<i>Coscinodiscus radiatus</i>	470	-	-	157
<i>Coscinodiscus sp.</i>	-	-	-	-
<i>Dactyliosolen fragillissima</i>	-	-	-	-
<i>Dactyliosolen phuketensis</i>	-	-	490	163
<i>Ditylum sol</i>	-	-	-	-
<i>Entomoneis alata</i>	-	-	-	-
<i>Ethmodiscus sp.</i>	-	-	-	-
<i>Eucampia zodiatus</i>	-	-	-	-
<i>Haslea sp.</i>	-	460	490	317
<i>Hemiaulus hauckii</i>	-	-	-	-
<i>Hemiaulus membranaceus</i>	1,410	3,220	-	1,543
<i>Hemiaulus sinensis</i>	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : ๓-010-๙-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 003-11 (page 3 of 6)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E

SAMPLING DATE : February 9, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Gosslerella tropica</i>	-	-	-	-
<i>Guinardia cylindrus</i>	-	-	-	-
<i>Guinardia striata</i>	470	2,760	490	1,240
<i>Lauderia annulata</i>	-	-	-	-
<i>Meunier membranacea</i>	-	1,380	-	460
<i>Navicula</i> sp.	8,460	2,300	6,370	5,710
<i>Nitzschia frigida</i>	-	-	-	-
<i>Nitzschia longissima</i>	-	-	-	-
<i>Nitzschia sigma</i>	-	-	-	-
<i>Odontella mobiliensis</i>	-	-	-	-
<i>Odontella sinensis</i>	-	920	-	307
<i>Palmeria hardmaniana</i>	-	-	-	-
<i>Plagiodiscus nervatus</i>	-	-	-	-
<i>Planktoniella blanda</i>	-	-	-	-
<i>Planktoniella sol</i>	-	-	-	-
<i>Pleurosigma</i> sp.	-	-	-	-
<i>Proboscia alata</i>	-	1,840	-	613
<i>Pseudoguinardia recta</i>	-	460	-	153
<i>Pseudosolenia calcar avis</i>	-	-	-	-
<i>Pseudo-nitzschia pungens</i>	-	-	-	-
<i>Rhizosolenia</i> sp.	-	-	-	-
<i>Rhizosolenia bergonii</i>	-	-	-	-
<i>Rhizosolenia clevei</i> var. <i>communis</i>	-	460	1,960	807
<i>Rhizosolenia clevei</i> var. <i>clevei</i>	3,290	920	980	1,730

Signature

(Siriporn Imwilaiwan)

License ID : 7-010-A-1793



(Sompong Kiatiporn)

Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-11 (page 4 of 6)

Issued date : February 27, 2009

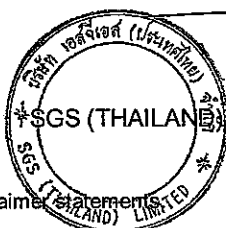
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Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E
SAMPLING DATE : February 9, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Rhizosolenia imbricata</i>	-	-	-	-
<i>Rhizosolenia robusta</i>	470	1,380	490	780
<i>Rhizosolenia styliformis</i>	-	-	-	-
<i>Skeletonema costatum</i>	2,820	8,740	10,290	7,283
<i>Surirella</i> sp.	-	-	-	-
<i>Thalassionema frauenfeldii</i>	3,760	-	980	1,580
<i>Thalassionema nitzschioides</i>	1,880	1,840	-	1,240
<i>Thalassiosira subtilis</i>	-	-	-	-
<i>Thalassiothrix</i> sp.	-	-	-	-
<i>Thalassiothrix longissima</i>	-	-	-	-
<i>Trachyneis</i> sp.	-	-	-	-
Class Dinophyceae				
<i>Amphidium</i> sp.	-	-	-	-
<i>Amphisolenia bidentata</i>	-	-	-	-
<i>Amphisolenia rectangulata</i>	-	2,300	980	1,093
<i>Ceratium breve</i>	-	-	-	-
<i>Ceratium concilians</i>	-	-	-	-
<i>Ceratium contortum</i>	-	-	-	-
<i>Ceratium deflexum</i>	-	-	-	-
<i>Ceratium dens</i>	-	-	-	-
<i>Ceratium extensum</i>	-	-	-	-
<i>Ceratium falcatum</i>	470	-	-	157
<i>Ceratium furca</i>	940	460	490	630
<i>Ceratium fusus</i>	-	-	-	-

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-11 (page 5 of 6)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E

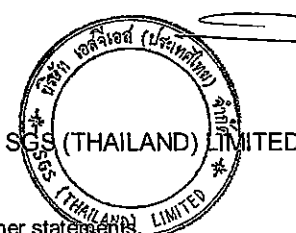
SAMPLING DATE : February 9, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Ceratium inflatum</i>	-	-	-	-
<i>Ceratium karstenii</i>	470	460	490	473
<i>Ceratium longinum</i>	-	-	-	-
<i>Ceratium macroceros</i>	-	920	-	307
<i>Ceratium massiliense</i>	-	460	980	480
<i>Ceratium porrectum</i>	-	460	-	153
<i>Ceratium schmidtii</i>	-	-	-	-
<i>Ceratium trichoceros</i>	1,410	1,380	980	1,257
<i>Ceratium tripos</i>	-	1,380	-	460
<i>Glenodinium</i> sp.	-	-	-	-
<i>Glenodinium cinctum</i>	-	-	-	-
<i>Goniodoma polyedricum</i>	-	-	-	-
<i>Gonyaulax</i> sp.	940	4,600	490	2,010
<i>Gymnodinium</i> sp.	-	-	-	-
<i>Gyrodinium rubrum</i>	-	-	-	-
<i>Ornithocercus steinii</i>	-	-	-	-
<i>Oxytoxum</i> sp.	-	-	-	-
<i>Peridinium</i> sp.	-	-	-	-
<i>Peridinium wisconsinens</i>	-	-	-	-
<i>Phalacroma mitra</i>	-	-	490	163
<i>Phalacroma rotundata</i>	-	-	-	-
<i>Podolampas bipes</i>	-	-	-	-
<i>Podolampas elegans</i>	940	-	490	477
<i>Prorocentrum</i> sp.	-	460	-	153

Siriporn 2

(Siriporn Imwilaiwan)

License ID : 2-010-A-1793



(Sompong Kiatiporn)

Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 003-11 (page 6 of 6)

Issued date : February 27, 2009

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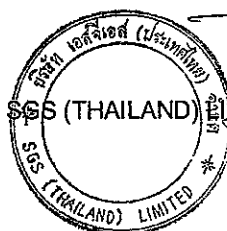
Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E
SAMPLING DATE : February 9, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Prorocentrum gracile</i>	-	-	-	-
<i>Protoperidinium</i> sp.1	-	-	-	-
<i>Protoperidinium</i> sp.2	-	-	-	-
<i>Protoperidinium</i> sp.3	-	-	-	-
<i>Protoperidinium angustum</i>	-	-	-	-
<i>Protoperidinium depressum</i>	-	-	-	-
<i>Protoperidinium diagensis</i>	940	460	490	630
<i>Protoperidinium divergens</i>	-	-	-	-
<i>Protoperidinium elegans</i>	-	-	-	-
<i>Protoperidinium nipponicum</i>	940	2,300	980	1,407
<i>Protoperidinium ovum</i>	-	-	-	-
<i>Protoperidinium quarnerense</i>	-	-	-	-
<i>Protoperidinium stenii</i>	470	-	490	320
<i>Pyrocystis noctiluca</i>	-	-	-	-
<i>Pyrophacus</i> sp.	940	-	1,960	967
Total Phytoplankton Type	26	35	32	44
Total Phytoplankton Amount	142,410	98,900	89,670	110,326
Diversity Index	2.50			

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 9-010-A-1793

SK/SA/BS/Pp



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 003-12 (page 1 of 6)

Issued date : February 27, 2009

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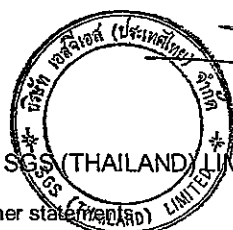
Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E

SAMPLING DATE : February 9, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Cyanophyta				
Class Cyanophyceae				
<i>Oscillatoria</i> sp.	5,800	6,300	20,300	10,800
<i>Oscillatoria erythraea</i>	41,180	2,800	-	14,660
Division Chromophyta				
Class Bacillariophyceae				
<i>Actinocyclus</i> sp.	2,320	2,800	-	1,707
<i>Actinoptychus</i> sp.	-	-	-	-
<i>Actinoptychus senarius</i>	-	-	-	-
<i>Arachnoidiscus</i> sp.	-	-	-	-
<i>Asterolampra marylandica</i>	580	700	1,400	893
<i>Asteromphalus</i> sp.	-	-	-	-
<i>Asteromphalus flabellatus</i>	-	-	-	-
<i>Asteromphalus heptactis</i>	-	-	-	-
<i>Asteromphalus imbricatus</i>	-	-	-	-
<i>Bacillaria paradoxa</i>	-	-	-	-
<i>Bacteriastrum</i> sp.	-	-	-	-
<i>Bacteriastrum comosum</i>	4,640	-	-	1,547
<i>Bacteriastrum furcatum</i>	-	-	-	-
<i>Bacteriastrum hyalinum</i>	-	-	-	-
<i>Chaetoceros aequatorialis</i>	-	-	-	-
<i>Chaetoceros affinis</i>	-	-	-	-
<i>Chaetoceros coarctatus</i>	-	-	-	-
<i>Chaetoceros compressus</i>	-	-	-	-
<i>Chaetoceros convolutus</i>	-	-	-	-
<i>Chaetoceros criophilus</i>	-	-	-	-
<i>Chaetoceros curvisetus</i>	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 3-010-ก-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-12 (page 2 of 6)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
 CONTACT : Khun Morakot Suvarnapruksa
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, North Dara-5
 COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E

SAMPLING DATE : February 9, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Chaetoceros decipiens</i>	-	-	-	-
<i>Chaetoceros denticulatus</i>	-	1,400	-	467
<i>Chaetoceros diadema</i>	-	-	-	-
<i>Chaetoceros didymus</i>	4,640	-	-	1,547
<i>Chaetoceros diversus</i>	-	-	-	-
<i>Chaetoceros lacinus</i>	-	-	-	-
<i>Chaetoceros laevis</i>	-	-	-	-
<i>Chaetoceros lorenzianus</i>	6,380	2,100	-	2,827
<i>Chaetoceros peruvianus</i>	-	-	-	-
<i>Chaetoceros pseudocurvisetus</i>	-	-	700	233
<i>Chaetoceros tetrastichon</i>	-	-	-	-
<i>Climacodium frauenfeldianum</i>	4,640	-	-	1,547
<i>Coscinodiscus asteromphalus</i>	-	-	-	-
<i>Coscinodiscus radiatus</i>	580	-	-	193
<i>Coscinodiscus</i> sp.	-	-	-	-
<i>Dactyliosolen fragillissima</i>	580	-	-	193
<i>Dactyliosolen phuketensis</i>	-	-	-	-
<i>Ditylum sol</i>	-	-	-	-
<i>Entomoneis alata</i>	-	-	-	-
<i>Ethmodiscus</i> sp.	-	-	-	-
<i>Eucampia zodiatus</i>	-	-	-	-
<i>Haslea</i> sp.	580	-	-	193
<i>Hemiaulus hauckii</i>	-	-	-	-
<i>Hemiaulus membranaceus</i>	2,320	1,400	-	1,240
<i>Hemiaulus sinensis</i>	-	-	-	-

Siriporn 2.

(Siriporn Imwilaiwan)

License ID : ๓-010-๓-1793



SGS (THAILAND) LIMITED

(Sompong Kiatiporn)

Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-12 (page 3 of 6)

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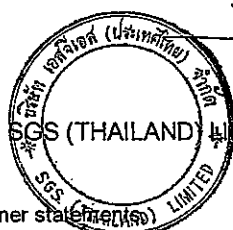
Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E

SAMPLING DATE : February 9, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Gosslerella tropica</i>	-	-	-	-
<i>Guinardia cylindrus</i>	-	-	-	-
<i>Guinardia striata</i>	2,900	-	-	967
<i>Lauderia annulata</i>	-	-	-	-
<i>Meunier membranacea</i>	-	-	-	-
<i>Navicula</i> sp.	3,480	2,800	-	2,093
<i>Nitzschia frigida</i>	-	-	-	-
<i>Nitzschia longissima</i>	-	-	-	-
<i>Nitzschia sigma</i>	-	-	-	-
<i>Odontella mobiliensis</i>	-	-	-	-
<i>Odontella sinensis</i>	-	-	-	-
<i>Palmeria hardmaniana</i>	-	-	-	-
<i>Plagiodiscus nervatus</i>	580	-	-	193
<i>Planktoniella blanda</i>	-	-	-	-
<i>Planktoniella sol</i>	-	-	-	-
<i>Pleurosigma</i> sp.	-	-	-	-
<i>Proboscia alata</i>	580	-	-	193
<i>Pseudoguinardia recta</i>	-	-	-	-
<i>Pseudosolenia calcar avis</i>	-	700	-	233
<i>Pseudo-nitzschia pungens</i>	-	-	-	-
<i>Rhizosolenia</i> sp.	-	-	-	-
<i>Rhizosolenia bergonii</i>	-	-	-	-
<i>Rhizosolenia clevei</i> var. <i>communis</i>	580	700	-	427
<i>Rhizosolenia clevei</i> var. <i>clevei</i>	5,800	700	2,100	2,867

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 7-010-ท-1793



Sompong K.
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-12 (page 4 of 6)

Issued date : February 27, 2009

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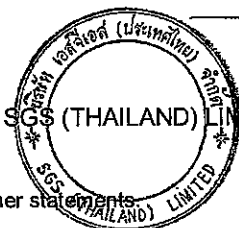
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SAMPLING DATE : February 9, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Rhizosolenia imbricata</i>	-	-	-	-
<i>Rhizosolenia robusta</i>	-	-	-	-
<i>Rhizosolenia styliformis</i>	-	-	-	-
<i>Skeletonema costatum</i>	1,740	-	-	580
<i>Surirella</i> sp.	-	-	-	-
<i>Thalassionema frauenfeldii</i>	2,900	5,600	8,400	5,633
<i>Thalassionema nitzschioides</i>	5,220	-	-	1,740
<i>Thalassiosira subtilis</i>	-	-	-	-
<i>Thalassiothrix</i> sp.	-	-	-	-
<i>Thalassiothrix longissima</i>	-	-	-	-
<i>Trachyneis</i> sp.	-	-	-	-
Class Dinophyceae				
<i>Amphidium</i> sp.	-	-	-	-
<i>Amphisolenia bidentata</i>	-	-	-	-
<i>Amphisolenia rectangulata</i>	1,160	-	-	387
<i>Ceratium breve</i>	-	-	-	-
<i>Ceratium concillians</i>	-	-	-	-
<i>Ceratium contortum</i>	-	700	-	233
<i>Ceratium deflexum</i>	-	-	-	-
<i>Ceratium dens</i>	-	-	-	-
<i>Ceratium extensum</i>	-	-	-	-
<i>Ceratium falcatum</i>	-	2,800	-	933
<i>Ceratium furca</i>	2,900	700	4,200	2,600
<i>Ceratium fusus</i>	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-12 (page 5 of 6)

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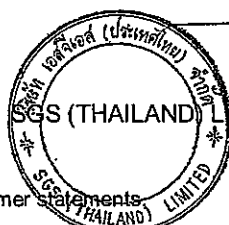
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Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Ceratium inflatum</i>	-	-	-	-
<i>Ceratium karstenii</i>	580	-	-	193
<i>Ceratium longinum</i>	-	-	-	-
<i>Ceratium macroceros</i>	-	-	-	-
<i>Ceratium massiliense</i>	580	-	-	193
<i>Ceratium porrectum</i>	-	-	-	-
<i>Ceratium schmidtii</i>	-	-	-	-
<i>Ceratium trichoceros</i>	580	-	-	193
<i>Ceratium tripos</i>	1,160	700	-	620
<i>Glenodinium</i> sp.	-	-	-	-
<i>Glenodinium cinctum</i>	-	-	-	-
<i>Goniodoma polyedricum</i>	3,480	-	-	1,160
<i>Gonyaulax</i> sp.	580	-	-	193
<i>Gymnodinium</i> sp.	-	-	-	-
<i>Gyrodinium rubrum</i>	-	-	-	-
<i>Ornithocercus steinii</i>	-	-	-	-
<i>Oxytoxum</i> sp.	580	-	-	193
<i>Peridinium</i> sp.	-	-	-	-
<i>Peridinium wisconsinens</i>	-	-	-	-
<i>Phalacroma mitra</i>	-	-	-	-
<i>Phalacroma rotundata</i>	-	-	-	-
<i>Podolampas bipes</i>	-	-	-	-
<i>Podolampas elegans</i>	-	-	-	-
<i>Prorocentrum</i> sp.	8,120	-	-	2,707

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 3-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-12 (page 6 of 6)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Prorocentrum gracile</i>	-	-	-	-
<i>Protoperidinium</i> sp.1	-	-	-	-
<i>Protoperidinium</i> sp.2	-	-	-	-
<i>Protoperidinium</i> sp.3	-	-	-	-
<i>Protoperidinium angustum</i>	580	-	-	193
<i>Protoperidinium depressum</i>	580	-	-	193
<i>Protoperidinium diagensis</i>	-	-	-	-
<i>Protoperidinium divergens</i>	-	-	-	-
<i>Protoperidinium elegans</i>	-	-	-	-
<i>Protoperidinium nipponicum</i>	580	-	700	427
<i>Protoperidinium ovum</i>	-	-	-	-
<i>Protoperidinium quarnerense</i>	580	-	-	193
<i>Protoperidinium stenii</i>	-	-	-	-
<i>Pyrocystis noctiluca</i>	-	-	-	-
<i>Pyrophacus</i> sp.	580	-	-	193
Total Phytoplankton Type	36	16	7	41
Total Phytoplankton Amount	120,640	32,900	37,800	63,777
Diversity Index	2.84			

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 1-010-A-1793

SK/SA/BS/Pp



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 003-13 (page 1 of 6)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E
SAMPLING DATE : February 9, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Cyanophyta				
Class Cyanophyceae				
<i>Oscillatoria</i> sp.	8,120	5,300	4,960	6,127
<i>Oscillatoria erythraea</i>	33,640	22,260	37,820	31,240
Division Chromophyta				
Class Bacillariophyceae				
<i>Actinocyclus</i> sp.	2,320	8,480	9,300	6,700
<i>Actinoptychus</i> sp.	-	-	-	-
<i>Actinoptychus senarius</i>	-	-	-	-
<i>Arachnoidiscus</i> sp.	-	-	-	-
<i>Asterolampra marylandica</i>	2,320	530	-	950
<i>Asteromphalus</i> sp.	-	-	-	-
<i>Asteromphalus flabellatus</i>	-	-	-	-
<i>Asteromphalus heptactis</i>	580	-	-	193
<i>Asteromphalus imbricatus</i>	-	-	-	-
<i>Bacillaria paradoxa</i>	-	-	-	-
<i>Bacteriastrum</i> sp.	-	-	-	-
<i>Bacteriastrum comosum</i>	-	-	-	-
<i>Bacteriastrum furcatum</i>	4,640	1,060	-	1,900
<i>Bacteriastrum hyalinum</i>	-	2,120	-	707
<i>Chaetoceros aequatorialis</i>	-	-	-	-
<i>Chaetoceros affinis</i>	-	-	-	-
<i>Chaetoceros coarctatus</i>	-	-	7,440	2,480
<i>Chaetoceros compressus</i>	-	-	-	-
<i>Chaetoceros convolutus</i>	-	-	-	-
<i>Chaetoceros criophilus</i>	-	2,650	-	883
<i>Chaetoceros curvisetus</i>	-	-	-	-

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : ๓-010-๓-1793



[Signature]
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-13 (page 2 of 6)

Issued date : February 27, 2009

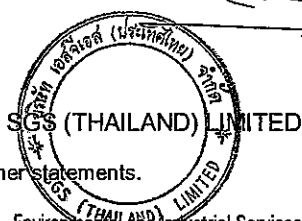
CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E
SAMPLING DATE : February 9, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Chaetoceros decipiens</i>	1,160	-	5,580	2,247
<i>Chaetoceros denticulatus</i>	-	-	-	-
<i>Chaetoceros diadema</i>	-	-	-	-
<i>Chaetoceros didymus</i>	2,320	9,010	1,240	4,190
<i>Chaetoceros diversus</i>	-	1,590	-	530
<i>Chaetoceros lacinosus</i>	1,160	-	-	387
<i>Chaetoceros laevis</i>	-	-	-	-
<i>Chaetoceros lorenzianus</i>	1,740	2,650	4,340	2,910
<i>Chaetoceros peruvianus</i>	-	530	2,480	1,003
<i>Chaetoceros pseudocurvisetus</i>	-	-	-	-
<i>Chaetoceros tetrastichon</i>	-	-	-	-
<i>Climacodium frauenfeldianum</i>	-	-	-	-
<i>Coscinodiscus asteromphalus</i>	-	-	-	-
<i>Coscinodiscus radiatus</i>	580	-	-	193
<i>Coscinodiscus sp.</i>	-	-	-	-
<i>Dactyliosolen fragillissima</i>	-	-	-	-
<i>Dactyliosolen phuketensis</i>	580	-	-	193
<i>Ditylum sol</i>	-	-	-	-
<i>Entomoneis alata</i>	-	-	-	-
<i>Ethmodiscus sp.</i>	-	-	-	-
<i>Eucampia zodiatus</i>	-	-	-	-
<i>Haslea sp.</i>	580	530	-	370
<i>Hemiaulus hauckii</i>	-	-	-	-
<i>Hemiaulus membranaceus</i>	1,160	-	1,860	1,007
<i>Hemiaulus sinensis</i>	-	-	-	-

Siriporn L
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-13 (page 3 of 6)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E

SAMPLING DATE : February 9, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Gossleriella tropica</i>	-	-	-	-
<i>Guinardia cylindrus</i>	-	-	-	-
<i>Guinardia striata</i>	2,320	1,060	1,860	1,747
<i>Lauderia annulata</i>	-	-	-	-
<i>Meunier membranacea</i>	1,160	-	-	387
<i>Navicula</i> sp.	-	-	-	-
<i>Nitzschia frigida</i>	-	-	-	-
<i>Nitzschia longissima</i>	-	-	-	-
<i>Nitzschia sigma</i>	-	-	-	-
<i>Odontella mobiliensis</i>	-	-	-	-
<i>Odontella sinensis</i>	1,740	530	620	963
<i>Palmeria hardmaniana</i>	1,160	2,120	-	1,093
<i>Plagiodiscus nervatus</i>	-	-	-	-
<i>Planktoniella blanda</i>	-	-	-	-
<i>Planktoniella sol</i>	-	-	-	-
<i>Pleurosigma</i> sp.	-	-	-	-
<i>Proboscia alata</i>	1,160	530	1,240	977
<i>Pseudoguinardia recta</i>	-	-	-	-
<i>Pseudosolenia calcar avis</i>	-	530	-	177
<i>Pseudo-nitzschia pungens</i>	-	-	-	-
<i>Rhizosolenia</i> sp.	-	-	-	-
<i>Rhizosolenia bergonii</i>	-	-	-	-
<i>Rhizosolenia clevei</i> var. <i>communis</i>	580	1,590	1,240	1,137
<i>Rhizosolenia clevei</i> var. <i>clevei</i>	6,380	4,770	6,820	5,990

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-13 (page 4 of 6)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Rhizosolenia imbricata</i>	-	-	-	-
<i>Rhizosolenia robusta</i>	580	530	620	577
<i>Rhizosolenia styliformis</i>	-	-	-	-
<i>Skeletonema costatum</i>	2,900	-	-	967
<i>Surirella</i> sp.	-	-	-	-
<i>Thalassionema frauenfeldii</i>	3,480	6,360	-	3,280
<i>Thalassionema nitzschioides</i>	9,860	1,060	6,820	5,913
<i>Thalassiosira subtilis</i>	-	-	-	-
<i>Thalassiothrix</i> sp.	-	-	-	-
<i>Thalassiothrix longissima</i>	-	-	-	-
<i>Trachyneis</i> sp.	-	-	-	-
Class Dinophyceae				
<i>Amphidium</i> sp.	-	-	-	-
<i>Amphisolenia bidentata</i>	-	-	-	-
<i>Amphisolenia rectangularata</i>	580	1,060	620	753
<i>Ceratium breve</i>	-	-	-	-
<i>Ceratium concillians</i>	-	-	-	-
<i>Ceratium contortum</i>	580	530	-	370
<i>Ceratium deflexum</i>	1,160	-	620	593
<i>Ceratium dens</i>	-	-	-	-
<i>Ceratium extensum</i>	-	-	620	207
<i>Ceratium falcatum</i>	-	-	-	-
<i>Ceratium furca</i>	-	3,710	13,020	5,577
<i>Ceratium fusus</i>	580	-	-	193

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-13 (page 5 of 6)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E
SAMPLING DATE : February 9, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Ceratium inflatum</i>	-	-	620	207
<i>Ceratium karstenii</i>	-	-	-	-
<i>Ceratium longinum</i>	-	-	620	207
<i>Ceratium macroceros</i>	580	1,590	1,240	1,137
<i>Ceratium massiliense</i>	-	-	-	-
<i>Ceratium porrectum</i>	580	-	620	400
<i>Ceratium schmidtii</i>	-	-	-	-
<i>Ceratium trichoceros</i>	1,160	-	620	593
<i>Ceratium tripos</i>	580	-	-	193
<i>Glenodinium</i> sp.	-	-	-	-
<i>Glenodinium cinctum</i>	-	-	-	-
<i>Goniodoma polyedricum</i>	-	-	-	-
<i>Gonyaulax</i> sp.	580	530	2,480	1,197
<i>Gymnodinium</i> sp.	-	-	-	-
<i>Gyrodinium rubrum</i>	-	-	-	-
<i>Ornithocercus steinii</i>	-	-	-	-
<i>Oxytoxum</i> sp.	-	-	-	-
<i>Peridinium</i> sp.	-	-	-	-
<i>Peridinium wisconsinens</i>	-	-	-	-
<i>Phalacroma mitra</i>	-	-	-	-
<i>Phalacroma rotundata</i>	-	-	-	-
<i>Podolampas bipes</i>	-	-	-	-
<i>Podolampas elegans</i>	580	-	620	400
<i>Prorocentrum</i> sp.	5,800	-	4,960	3,587

Siriporn 2.

(Siriporn Imwilaiwan)

License ID : 2-010-2-1793



(Sompong Kiatiporn)

Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-13 (page 6 of 6)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E
SAMPLING DATE : February 9, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Prorocentrum gracile</i>	-	-	-	-
<i>Protoperidinium</i> sp.1	-	-	-	-
<i>Protoperidinium</i> sp.2	-	-	-	-
<i>Protoperidinium</i> sp.3	-	-	-	-
<i>Protoperidinium angustum</i>	580	-	-	193
<i>Protoperidinium depressum</i>	-	-	-	-
<i>Protoperidinium diagensis</i>	-	-	-	-
<i>Protoperidinium divergens</i>	580	1,060	-	547
<i>Protoperidinium elegans</i>	-	-	-	-
<i>Protoperidinium nipponicum</i>	1,160	1,060	1,240	1,153
<i>Protoperidinium ovum</i>	-	-	-	-
<i>Protoperidinium quarnerense</i>	-	-	-	-
<i>Protoperidinium stenii</i>	580	-	-	193
<i>Pyrocystis noctiluca</i>	-	-	-	-
<i>Pyrophacus</i> sp.	580	-	1,240	607
Total Phytoplankton Type	41	29	30	51
Total Phytoplankton Amount	108,460	85,330	123,380	105,725
Diversity Index	2.97			

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

SK/SA/BS/Pp



SGS (THAILAND) LIMITED

(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 003-14 (page 1 of 6)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-7
COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.33" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Cyanophyta				
Class Cyanophyceae				
<i>Oscillatoria</i> sp.	960	3,780	2,520	2,420
<i>Oscillatoria erythraea</i>	21,120	56,160	42,840	40,040
Division Chromophyta				
Class Bacillariophyceae				
<i>Actinocyclus</i> sp.	480	9,720	7,560	5,920
<i>Actinoptychus</i> sp.	-	-	-	-
<i>Actinoptychus senarius</i>	-	-	-	-
<i>Arachnoidiscus</i> sp.	-	-	-	-
<i>Asterolampra marylandica</i>	960	2,700	630	1,430
<i>Asteromphalus</i> sp.	-	-	-	-
<i>Asteromphalus flabellatus</i>	-	-	-	-
<i>Asteromphalus heptactis</i>	-	-	-	-
<i>Asteromphalus imbricatus</i>	960	1,620	-	860
<i>Bacillaria paradoxa</i>	-	-	-	-
<i>Bacteriastrium</i> sp.	-	-	-	-
<i>Bacteriastrium comosum</i>	-	1,080	-	360
<i>Bacteriastrium furcatum</i>	960	1,620	1,260	1,280
<i>Bacteriastrium hyalinum</i>	-	-	-	-
<i>Chaetoceros aequatorialis</i>	-	-	-	-
<i>Chaetoceros affinis</i>	-	1,080	3,150	1,410
<i>Chaetoceros coarctatus</i>	2,400	11,880	3,150	5,810
<i>Chaetoceros compressus</i>	-	-	-	-
<i>Chaetoceros convolutus</i>	-	-	-	-
<i>Chaetoceros criophilus</i>	-	-	-	-
<i>Chaetoceros curvisetus</i>	-	-	-	-

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 2-010-N-1793



Sompong Kiatiporn
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 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-14 (page 2 of 6)

Issued date : February 27, 2009

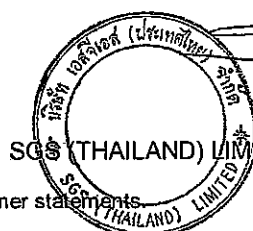
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-7
COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.33" E
SAMPLING DATE : February 9, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Chaetoceros decipiens</i>	-	-	-	-
<i>Chaetoceros denticulatus</i>	-	-	-	-
<i>Chaetoceros diadema</i>	-	-	-	-
<i>Chaetoceros didymus</i>	2,400	8,100	-	3,500
<i>Chaetoceros diversus</i>	-	-	-	-
<i>Chaetoceros laciniosus</i>	-	-	-	-
<i>Chaetoceros laevis</i>	-	-	-	-
<i>Chaetoceros lorentianus</i>	960	1,080	-	680
<i>Chaetoceros peruvianus</i>	-	-	630	210
<i>Chaetoceros pseudocurvisetus</i>	-	-	-	-
<i>Chaetoceros tetrastichon</i>	-	-	-	-
<i>Climacodium frauenfeldianum</i>	-	-	-	-
<i>Coscinodiscus asteromphalus</i>	-	-	-	-
<i>Coscinodiscus radiatus</i>	-	-	-	-
<i>Coscinodiscus sp.</i>	-	-	-	-
<i>Dactyliosolen fragillissima</i>	-	-	-	-
<i>Dactyliosolen phuketensis</i>	-	-	-	-
<i>Ditylum sol</i>	-	-	-	-
<i>Entomoneis alata</i>	-	-	-	-
<i>Ethmodiscus sp.</i>	-	-	-	-
<i>Eucampia zodiatus</i>	-	-	-	-
<i>Haslea sp.</i>	-	540	630	390
<i>Hemiaulus hauckii</i>	-	-	-	-
<i>Hemiaulus membranaceus</i>	1,920	4,860	1,890	2,890
<i>Hemiaulus sinensis</i>	-	-	-	-

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/PP

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Report No. : 2009-00051 / 003-14 (page 3 of 6)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-7
COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.33" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Gossleriella tropica</i>	-	-	-	-
<i>Guinardia cylindrus</i>	-	540	-	180
<i>Guinardia striata</i>	-	2,700	630	1,110
<i>Lauderia annulata</i>	-	-	-	-
<i>Meunier membranacea</i>	-	-	-	-
<i>Navicula</i> sp.	-	4,860	-	1,620
<i>Nitzschia frigida</i>	-	-	-	-
<i>Nitzschia longissima</i>	-	-	-	-
<i>Nitzschia sigma</i>	-	-	-	-
<i>Odontella mobiliensis</i>	-	-	-	-
<i>Odontella sinensis</i>	-	1,080	-	360
<i>Palmeria hardmaniana</i>	-	-	-	-
<i>Plagiodiscus nervatus</i>	-	-	-	-
<i>Planktoniella blanda</i>	-	-	-	-
<i>Planktoniella sol</i>	-	-	-	-
<i>Pleurosigma</i> sp.	-	-	-	-
<i>Proboscia alata</i>	-	1,620	-	540
<i>Pseudoguinardia recta</i>	-	-	-	-
<i>Pseudosolenia calcar avis</i>	-	540	-	180
<i>Pseudo-nitzschia pungens</i>	-	-	-	-
<i>Rhizosolenia</i> sp.	-	-	-	-
<i>Rhizosolenia bergonii</i>	-	-	-	-
<i>Rhizosolenia clevei</i> var. <i>communis</i>	-	-	-	-
<i>Rhizosolenia clevei</i> var. <i>clevei</i>	960	1,620	4,410	2,330

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
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Sompong Kiatiporn
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 Environmental Manager

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-7
COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.33" E
SAMPLING DATE : February 9, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Rhizosolenia imbricata</i>	-	-	-	-
<i>Rhizosolenia robusta</i>	480	-	1,260	580
<i>Rhizosolenia styliiformis</i>	-	-	-	-
<i>Skeletonema costatum</i>	11,520	2,700	48,510	20,910
<i>Surirella</i> sp.	-	-	-	-
<i>Thalassionema frauenfeldii</i>	5,280	-	-	1,760
<i>Thalassionema nitzschioides</i>	2,880	5,940	1,260	3,360
<i>Thalassiosira subtilis</i>	-	-	-	-
<i>Thalassiothrix</i> sp.	-	-	-	-
<i>Thalassiothrix longissima</i>	-	-	-	-
<i>Trachyneis</i> sp.	-	-	-	-
Class Dinophyceae				
<i>Amphidium</i> sp.	-	-	-	-
<i>Amphisolenia bidentata</i>	-	-	-	-
<i>Amphisolenia rectangulata</i>	-	540	630	390
<i>Ceratium breve</i>	-	-	-	-
<i>Ceratium concilians</i>	-	-	-	-
<i>Ceratium contortum</i>	-	-	-	-
<i>Ceratium deflexum</i>	-	-	-	-
<i>Ceratium dens</i>	-	-	-	-
<i>Ceratium extensum</i>	-	-	-	-
<i>Ceratium falcatum</i>	-	-	-	-
<i>Ceratium furca</i>	1,440	-	1,890	1,110
<i>Ceratium fusus</i>	-	-	-	-

Siriporn I.
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 Environmental Manager

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-7
COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.33" E
SAMPLING DATE : February 9, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Ceratium inflatum</i>	-	-	-	-
<i>Ceratium karstenii</i>	-	-	-	-
<i>Ceratium longinum</i>	-	-	-	-
<i>Ceratium macroceros</i>	480	540	-	340
<i>Ceratium massiliense</i>	-	540	-	180
<i>Ceratium porrectum</i>	-	-	630	210
<i>Ceratium schmidtii</i>	-	-	-	-
<i>Ceratium trichoceros</i>	480	1,620	630	910
<i>Ceratium tripos</i>	-	-	-	-
<i>Glenodinium</i> sp.	-	-	-	-
<i>Glenodinium cinctum</i>	-	-	-	-
<i>Goniodoma polyedricum</i>	-	-	-	-
<i>Gonyaulax</i> sp.	960	1,620	630	1,070
<i>Gymnodinium</i> sp.	-	-	-	-
<i>Gyrodinium rubrum</i>	-	-	-	-
<i>Ornithocercus steinii</i>	-	540	630	-
<i>Oxytoxum</i> sp.	-	-	630	210
<i>Peridinium</i> sp.	-	-	-	-
<i>Peridinium wisconsinens</i>	-	-	-	-
<i>Phalacroma mitra</i>	-	-	-	-
<i>Phalacroma rotundata</i>	480	-	-	160
<i>Podolampas bipes</i>	-	-	-	-
<i>Podolampas elegans</i>	-	-	-	-
<i>Prorocentrum</i> sp.	960	1,620	630	1,070

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
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Analysis Report

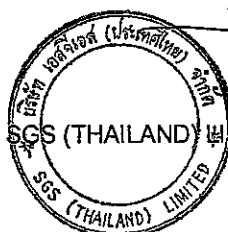
SAMPLE DESIGNATED AS : Phytoplankton Analysis
 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, North Dara-7
 COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.33" E

SAMPLING DATE : February 9, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Prorocentrum gracile</i>	-	-	-	-
<i>Protoperidinium</i> sp.1	-	-	-	-
<i>Protoperidinium</i> sp.2	-	-	-	-
<i>Protoperidinium</i> sp.3	-	-	-	-
<i>Protoperidinium angustum</i>	-	-	-	-
<i>Protoperidinium depressum</i>	1,440	540	630	870
<i>Protoperidinium diagensis</i>	-	-	-	-
<i>Protoperidinium divergens</i>	-	-	-	-
<i>Protoperidinium elegans</i>	-	-	-	-
<i>Protoperidinium nipponicum</i>	1,440	2,160	2,520	2,040
<i>Protoperidinium ovum</i>	-	540	630	390
<i>Protoperidinium quarnerense</i>	-	-	-	-
<i>Protoperidinium stenii</i>	-	1,080	-	360
<i>Pyrocystis noctiluca</i>	-	-	-	-
<i>Pyrophacus</i> sp.	480	-	-	160
Total Phytoplankton Type	24	33	26	41
Total Phytoplankton Amount	62,400	137,160	130,410	109,990
Diversity Index	2.46			

Siriporn L.
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(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 003-15(page 1 of 6)

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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 3
COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 04' 57.78" E
SAMPLING DATE : February 10, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Cyanophyta				
Class Cyanophyceae				
<i>Oscillatoria</i> sp.	18,330	-	4,200	7,510
<i>Oscillatoria erythraea</i>	336,050	14,024,400	10,500	4,790,317
Division Chromophyta				
Class Bacillariophyceae				
<i>Actinocyclus</i> sp.	1,880	4,960	-	2,280
<i>Actinoptychus</i> sp.	-	-	-	-
<i>Actinoptychus senarius</i>	-	-	-	-
<i>Arachnoidiscus</i> sp.	-	-	-	-
<i>Asterolampra marylandica</i>	940	2,480	2,100	1,840
<i>Asteromphalus</i> sp.	-	-	-	-
<i>Asteromphalus flabellatus</i>	-	-	700	233
<i>Asteromphalus heptactis</i>	-	-	-	-
<i>Asteromphalus imbricatus</i>	-	620	-	207
<i>Bacillaria paradoxa</i>	-	-	-	-
<i>Bacteriastrum</i> sp.	-	-	3,500	1,167
<i>Bacteriastrum comosum</i>	-	1,240	-	413
<i>Bacteriastrum furcatum</i>	-	-	-	-
<i>Bacteriastrum hyalinum</i>	-	-	-	-
<i>Chaetoceros aequatorialis</i>	-	-	-	-
<i>Chaetoceros affinis</i>	-	-	-	-
<i>Chaetoceros coarctatus</i>	470	-	-	157
<i>Chaetoceros compressus</i>	-	-	-	-
<i>Chaetoceros convolutus</i>	-	1,240	-	413
<i>Chaetoceros criophilus</i>	-	-	-	-
<i>Chaetoceros curvisetus</i>	-	-	-	-

Sriporn 2.
 (Sriporn Imwilaiwan)
 License ID : 1-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-15(page 2 of 6)

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Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 3
COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 04' 57.78" E
SAMPLING DATE : February 10, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Chaetoceros decipiens</i>	-	-	-	-
<i>Chaetoceros denticulatus</i>	-	-	-	-
<i>Chaetoceros diadema</i>	-	-	-	-
<i>Chaetoceros didymus</i>	-	1,240	-	413
<i>Chaetoceros diversus</i>	-	-	-	-
<i>Chaetoceros laciniosus</i>	-	-	-	-
<i>Chaetoceros laevis</i>	-	-	-	-
<i>Chaetoceros lorenzianus</i>	-	1,240	3,500	1,580
<i>Chaetoceros peruvianus</i>	470	-	-	157
<i>Chaetoceros pseudocurvisetus</i>	-	-	-	-
<i>Chaetoceros tetrastichon</i>	-	-	-	-
<i>Climacodium frauenfeldianum</i>	-	3,100	-	1,033
<i>Coscinodiscus asteromphalus</i>	-	-	-	-
<i>Coscinodiscus radiatus</i>	-	-	-	-
<i>Coscinodiscus sp.</i>	-	-	-	-
<i>Dactylosolen fragillissima</i>	-	-	-	-
<i>Dactylosolen phuketensis</i>	-	620	-	207
<i>Ditylum sol</i>	-	-	-	-
<i>Entomoneis alata</i>	-	-	-	-
<i>Ethmodiscus sp.</i>	-	-	-	-
<i>Eucampia zodiatus</i>	-	-	-	-
<i>Haslea sp.</i>	-	-	-	-
<i>Hemiaulus hauckii</i>	-	-	-	-
<i>Hemiaulus membranaceus</i>	4,700	4,340	2,800	3,947
<i>Hemiaulus sinensis</i>	-	620	-	207

Siriporn I.
(Siriporn Imwilaiwan)
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Report No. : 2009-00051 / 003-15(page 3 of 6)

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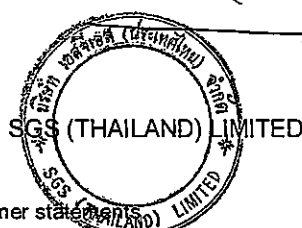
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Analysis Report

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COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 04' 57.78" E
SAMPLING DATE : February 10, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Gossleriella tropica</i>	-	-	-	-
<i>Guinardia cylindrus</i>	-	620	-	207
<i>Guinardia striata</i>	-	3,720	-	1,240
<i>Lauderia annulata</i>	-	-	-	-
<i>Meunier membranacea</i>	-	-	-	-
<i>Navicula</i> sp.	-	1,860	2,800	1,553
<i>Nitzschia frigida</i>	-	-	-	-
<i>Nitzschia longissima</i>	-	-	-	-
<i>Nitzschia sigma</i>	-	-	-	-
<i>Odontella mobiliensis</i>	-	-	-	-
<i>Odontella sinensis</i>	-	-	-	-
<i>Palmeria hardmaniana</i>	-	620	-	207
<i>Plagiodiscus nervatus</i>	-	-	-	-
<i>Planktoniella blanda</i>	-	-	-	-
<i>Planktoniella sol</i>	-	-	-	-
<i>Pleurosigma</i> sp.	-	-	-	-
<i>Proboscia alata</i>	-	1,860	-	620
<i>Pseudoguinardia recta</i>	-	-	-	-
<i>Pseudosolenia calcar avis</i>	-	620	-	207
<i>Pseudo-nitzschia pungens</i>	-	-	-	-
<i>Rhizosolenia</i> sp.	-	-	-	-
<i>Rhizosolenia bergonii</i>	-	-	-	-
<i>Rhizosolenia clevei</i> var. <i>communis</i>	940	1,240	-	727
<i>Rhizosolenia clevei</i> var. <i>clevei</i>	2,350	18,600	2,100	7,683

Siriporn 2.
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Report No. : 2009-00051 / 003-15(page 4 of 6)

Issued date : February 27, 2009

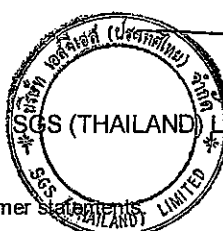
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Analysis Report

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SAMPLING LOCATION : Concession Block G6/48, Control 3
COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 04' 57.78" E
SAMPLING DATE : February 10, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Rhizosolenia imbricata</i>	-	-	-	-
<i>Rhizosolenia robusta</i>	-	-	-	-
<i>Rhizosolenia styliformis</i>	-	-	-	-
<i>Skeletonema costatum</i>	-	7,440	-	2,480
<i>Surirella</i> sp.	-	-	-	-
<i>Thalassionema frauenfeldii</i>	-	-	2,800	933
<i>Thalassionema nitzschioides</i>	-	3,100	-	1,033
<i>Thalassiosira subtilis</i>	-	-	-	-
<i>Thalassiothrix</i> sp.	-	-	-	-
<i>Thalassiothrix longissima</i>	-	-	-	-
<i>Trachyneis</i> sp.	-	-	-	-
Class Dinophyceae				
<i>Amphidium</i> sp.	-	-	-	-
<i>Amphisolenia bidentata</i>	-	-	-	-
<i>Amphisolenia rectangulata</i>	-	620	-	207
<i>Ceratium breve</i>	-	-	-	-
<i>Ceratium concillians</i>	-	-	700	233
<i>Ceratium contortum</i>	470	-	-	157
<i>Ceratium deflexum</i>	-	-	-	-
<i>Ceratium dens</i>	940	-	-	313
<i>Ceratium extensum</i>	-	-	-	-
<i>Ceratium falcatum</i>	470	-	-	157
<i>Ceratium furca</i>	940	-	-	313
<i>Ceratium fusus</i>	-	-	-	-

Siriporn 1.
 (Siriporn Imwilaiwan)
 License ID : 1-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 003-15(page 5 of 6)

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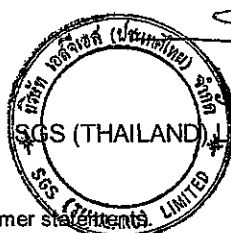
Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 3
COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 04' 57.78" E

SAMPLING DATE : February 10, 2009

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Ceratium inflatum</i>	-	-	-	-
<i>Ceratium karstenii</i>	-	-	-	-
<i>Ceratium longinum</i>	-	-	-	-
<i>Ceratium macroceros</i>	-	-	-	-
<i>Ceratium massiliense</i>	-	-	-	-
<i>Ceratium porrectum</i>	-	-	-	-
<i>Ceratium schmidtii</i>	-	-	-	-
<i>Ceratium trichoceros</i>	1,410	-	-	470
<i>Ceratium tripos</i>	-	-	-	-
<i>Glenodinium</i> sp.	-	-	-	-
<i>Glenodinium cinctum</i>	-	-	-	-
<i>Goniodoma polyedricum</i>	-	620	-	207
<i>Gonyaulax</i> sp.	-	1,240	-	413
<i>Gymnodinium</i> sp.	-	-	-	-
<i>Gyrodinium rubrum</i>	-	-	-	-
<i>Ornithocercus steinii</i>	-	-	-	-
<i>Oxytoxum</i> sp.	-	-	-	-
<i>Peridinium</i> sp.	-	-	-	-
<i>Peridinium wisconsinens</i>	-	-	-	-
<i>Phalacroma mitra</i>	-	-	-	-
<i>Phalacroma rotundata</i>	-	-	-	-
<i>Podolampas bipes</i>	-	-	-	-
<i>Podolampas elegans</i>	-	-	-	-
<i>Prorocentrum</i> sp.	-	-	-	-

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatporn
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 Environmental Manager

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Report No. : 2009-00051 / 003-15(page 6 of 6)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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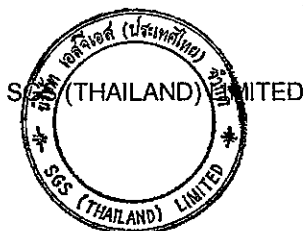
Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** February 10, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 3
COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 04' 57.78" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Prorocentrum gracile</i>	-	-	-	-
<i>Protoperidinium</i> sp.1	-	-	-	-
<i>Protoperidinium</i> sp.2	-	-	-	-
<i>Protoperidinium</i> sp.3	-	-	-	-
<i>Protoperidinium angustum</i>	-	-	-	-
<i>Protoperidinium depressum</i>	-	-	-	-
<i>Protoperidinium diagensis</i>	-	-	-	-
<i>Protoperidinium divergens</i>	-	620	-	207
<i>Protoperidinium elegans</i>	-	-	-	-
<i>Protoperidinium nipponicum</i>	-	-	-	-
<i>Protoperidinium ovum</i>	-	-	-	-
<i>Protoperidinium quarnerense</i>	-	-	-	-
<i>Protoperidinium stenii</i>	-	-	-	-
<i>Pyrocystis noctiluca</i>	-	-	-	-
<i>Pyrophacus</i> sp.	-	-	-	-
Total Phytoplankton Type	14	26	11	38
Total Phytoplankton Amount	370,360	14,088,880	35,700	4,831,648
Diversity Index	0.07			

Siriporn
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 Environmental Manager

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Report No. : 2009-00202 / 003-1 (page 1 of 6)

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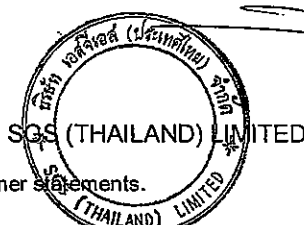
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis SAMPLING DATE : March 30, 2009
 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
 COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Cyanophyta				
Class Cyanophyceae				
<i>Oscillatoria</i> sp.	5,200	24,800	12,400	14,133
<i>Oscillatoria erythraea</i>	101,400	93,000	51,667	82,022
Division Chromophyta				
Class Bacillariophyceae				
<i>Actinocyclus</i> sp.	-	-	-	-
<i>Actinoptychus</i> sp.	-	-	-	-
<i>Actinoptychus senarius</i>	-	4,133	6,200	3,444
<i>Arachnoidiscus</i> sp.	5,200	-	-	1,733
<i>Asterolampra marylandica</i>	2,600	-	-	867
<i>Asteromphalus</i> sp.	-	-	-	-
<i>Asteromphalus flabellatus</i>	-	2,067	2,067	1,378
<i>Asteromphalus heptactis</i>	-	-	-	-
<i>Asteromphalus imbricatus</i>	-	-	-	-
<i>Bacillaria paradoxa</i>	5,200	-	-	1,733
<i>Bacteriastrum</i> sp.	-	-	-	-
<i>Bacteriastrum comosum</i>	-	-	-	-
<i>Bacteriastrum furcatum</i>	-	-	-	-
<i>Bacteriastrum hyalinum</i>	-	-	-	-
<i>Chaetoceros aequatorialis</i>	-	-	-	-
<i>Chaetoceros affinis</i>	-	-	-	-
<i>Chaetoceros coarctatus</i>	2,600	-	2,067	1,556
<i>Chaetoceros compressus</i>	-	-	-	-
<i>Chaetoceros convolutus</i>	-	-	-	-
<i>Chaetoceros criophilus</i>	-	-	-	-
<i>Chaetoceros curvisetus</i>	5,200	-	-	1,733

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00202 / 003-1 (page 2 of 6)

Issued date : April 22, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** March 30, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Chaetoceros decipiens</i>	-	-	-	-
<i>Chaetoceros denticulatus</i>	-	-	-	-
<i>Chaetoceros diadema</i>	-	-	-	-
<i>Chaetoceros didymus</i>	-	-	-	-
<i>Chaetoceros diversus</i>	-	-	-	-
<i>Chaetoceros lacinosus</i>	-	-	-	-
<i>Chaetoceros laevis</i>	-	-	-	-
<i>Chaetoceros lorenzianus</i>	-	-	-	-
<i>Chaetoceros peruvianus</i>	-	-	-	-
<i>Chaetoceros pseudocurvisetus</i>	-	-	-	-
<i>Chaetoceros tetrastichon</i>	-	-	-	-
<i>Climacodium frauenfeldianum</i>	-	-	-	-
<i>Coscinodiscus asteromphalus</i>	-	-	-	-
<i>Coscinodiscus radiatus</i>	-	-	-	-
<i>Coscinodiscus sp.</i>	15,600	8,267	10,333	11,400
<i>Dactyliosolen fragillissima</i>	-	-	-	-
<i>Dactyliosolen phuketensis</i>	-	-	-	-
<i>Ditylum sol</i>	2,600	-	-	867
<i>Entomoneis alata</i>	2,600	-	-	867
<i>Ethmodiscus sp.</i>	-	2,067	-	689
<i>Eucampia zodiatus</i>	7,800	-	-	2,600
<i>Haslea sp.</i>	-	-	-	-
<i>Hemiaulus hauckii</i>	-	-	-	-
<i>Hemiaulus membranaceus</i>	-	-	-	-
<i>Hemiaulus sinensis</i>	-	-	-	-

Siriporn L
 (Siriporn Imwilaiwan)
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Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00202 / 003-1 (page 3 of 6)

Issued date : April 22, 2009

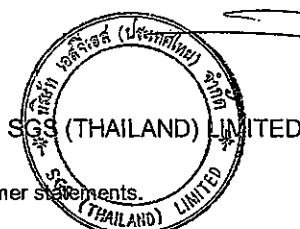
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** March 30, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Gosslerella tropica</i>	2,600	-	-	867
<i>Guinardia cylindrus</i>	-	2,067	-	689
<i>Guinardia striata</i>	-	-	-	-
<i>Lauderia annulata</i>	2,600	-	-	867
<i>Meunier membranacea</i>	-	-	-	-
<i>Navicula</i> sp.	-	-	-	-
<i>Nitzschia frigida</i>	5,200	-	-	1,733
<i>Nitzschia longissima</i>	5,200	-	-	1,733
<i>Nitzschia sigma</i>	5,200	-	-	1,733
<i>Odontella mobiliensis</i>	2,600	-	-	867
<i>Odontella sinensis</i>	-	-	-	-
<i>Palmeria hardmaniana</i>	-	-	-	-
<i>Plagiodiscus nervatus</i>	-	-	-	-
<i>Planktoniella blanda</i>	5,200	2,067	2,067	3,111
<i>Planktoniella sol</i>	2,600	-	-	867
<i>Pleurosigma</i> sp.	2,600	-	2,067	1,556
<i>Proboscia alata</i>	2,600	-	-	867
<i>Pseudoguinardia recta</i>	-	-	-	-
<i>Pseudosolenia calcar avis</i>	-	-	-	-
<i>Pseudo-nitzschia pungens</i>	2,600	-	-	867
<i>Rhizosolenia</i> sp.	-	-	-	-
<i>Rhizosolenia bergonii</i>	2,600	-	2,067	1,556
<i>Rhizosolenia clevei</i> var. <i>communis</i>	-	-	-	-
<i>Rhizosolenia clevei</i> var. <i>clevei</i>	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
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Sompong Kiatiporn
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 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00202 / 003-1 (page 4 of 6)

Issued date : April 22, 2009

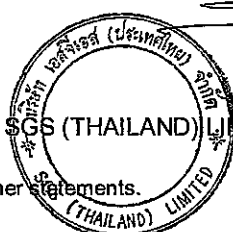
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** March 30, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Bacillariophyceae				
<i>Rhizosolenia imbricata</i>	-	-	-	-
<i>Rhizosolenia robusta</i>	-	-	-	-
<i>Rhizosolenia styliformis</i>	2,600	-	-	867
<i>Skeletonema costatum</i>	-	-	-	-
<i>Surirella</i> sp.	-	-	-	-
<i>Thalassionema frauenfeldii</i>	-	-	-	-
<i>Thalassionema nitzschioides</i>	5,200	2,067	6,200	4,489
<i>Thalassiosira subtilis</i>	5,200	2,067	4,133	3,800
<i>Thalassiothrix</i> sp.	-	-	-	-
<i>Thalassiothrix longissima</i>	-	-	-	-
<i>Trachyneis</i> sp.	2,600	-	-	867
Class Dinophyceae				
<i>Amphidium</i> sp.	-	2,067	-	689
<i>Amphisolenia bidentata</i>	-	-	-	-
<i>Amphisolenia rectangulata</i>	-	2,067	4,133	2,067
<i>Ceratium breve</i>	-	-	-	-
<i>Ceratium concilians</i>	-	-	-	-
<i>Ceratium contortum</i>	-	-	-	-
<i>Ceratium deflexum</i>	2,600	-	2,067	1,556
<i>Ceratium dens</i>	-	-	2,067	689
<i>Ceratium extensum</i>	2,600	-	-	867
<i>Ceratium falcatum</i>	-	-	-	-
<i>Ceratium furca</i>	-	-	-	-
<i>Ceratium fusus</i>	-	-	-	-

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00202 / 003-1 (page 5 of 6)

Issued date : April 22, 2009

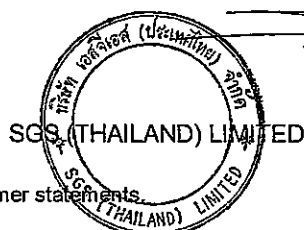
CLIENT : PEARL OIL (THAILAND) LTD.
 CONTACT : Khun Morakot Suvarnapruksa
 ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
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Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis SAMPLING DATE : March 30, 2009
 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
 COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Ceratium inflatum</i>	-	-	-	-
<i>Ceratium karstenii</i>	-	-	-	-
<i>Ceratium longinum</i>	-	-	-	-
<i>Ceratium macroceros</i>	2,600	-	-	867
<i>Ceratium massiliense</i>	-	-	-	-
<i>Ceratium porrectum</i>	-	-	-	-
<i>Ceratium schmidtii</i>	-	-	-	-
<i>Ceratium trichoceros</i>	5,200	-	-	1,733
<i>Ceratium tripos</i>	-	-	-	-
<i>Glenodinium</i> sp.	5,200	-	-	1,733
<i>Glenodinium cinctum</i>	-	2,067	-	689
<i>Goniodoma polyedricum</i>	-	-	-	-
<i>Gonyaulax</i> sp.	-	2,067	2,067	1,378
<i>Gymnodinium</i> sp.	5,200	4,133	4,133	4,489
<i>Gyrodinium rubrum</i>	-	2,067	-	689
<i>Ornithocercus steinii</i>	-	-	-	-
<i>Oxytoxum</i> sp.	-	-	-	-
<i>Peridinium</i> sp.	31,200	20,667	28,933	26,933
<i>Peridinium wisconsinens</i>	-	-	-	-
<i>Phalacroma mitra</i>	-	-	-	-
<i>Phalacroma rotundata</i>	-	-	-	-
<i>Podolampas bipes</i>	-	-	-	-
<i>Podolampas elegans</i>	-	-	2,067	689
<i>Prorocentrum</i> sp.	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
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 Environmental Manager

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Report No. : 2009-00202 / 003-1 (page 6 of 6)

Issued date : April 22, 2009

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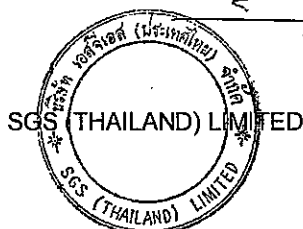
Analysis Report

SAMPLE DESIGNATED AS : Phytoplankton Analysis **SAMPLING DATE :** March 30, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E

Detail	Phytoplankton (Cell/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Division Chromophyta (Cont'd)				
Class Dinophyceae				
<i>Prorocentrum gracile</i>	-	-	-	-
<i>Protoperidinium</i> sp.1	-	-	-	-
<i>Protoperidinium</i> sp.2	-	-	-	-
<i>Protoperidinium</i> sp.3	-	4,133	-	1,378
<i>Protoperidinium angustum</i>	-	-	-	-
<i>Protoperidinium depressum</i>	-	-	-	-
<i>Protoperidinium diagensis</i>	-	-	-	-
<i>Protoperidinium divergens</i>	-	-	-	-
<i>Protoperidinium elegans</i>	-	-	-	-
<i>Protoperidinium nipponicum</i>	-	-	-	-
<i>Protoperidinium ovum</i>	-	-	-	-
<i>Protoperidinium quarnerense</i>	-	-	-	-
<i>Protoperidinium stenii</i>	-	-	-	-
<i>Pyrocystis noctiluca</i>	2,600	-	-	867
<i>Pyrophacus</i> sp.	-	-	-	-
Total Phytoplankton Type	35	18	18	47
Total Phytoplankton Amount	270,400	181,867	146,733	199,671
Diversity Index	2.52			

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-ก-1793

SK/SA/BS/Pp



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 004-1 (page 1 of 9)

Issued date : February 27, 2009

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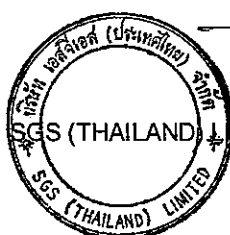
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, North Dara-1
 COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E
 SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa				
Subphylum Plasmodroma				
Class Sarcodina				
Subclass Rhizophoda				
Order Foraminiferida				
<i>Gallitellia</i> sp.	7,671	1,377	-	3,016
<i>Globorotalia</i> sp.	16,128	591	-	5,573
Foraminiferans*	-	-	-	-
Subclass Actinopoda				
<i>Acanthometron pellucidum</i>	-	-	-	-
<i>Lithomelissa monoceras</i>	-	-	-	-
radiolarians*	1,179	1,179	1,401	1,253
Class Acntherea				
Order Chaunacanthida				
<i>Stauracon pallidus</i>	-	-	-	-
Subphylum Ciliophora				
Class Ciliata				
<i>Epirocylloides</i> sp.	-	-	-	-
<i>Vorticella oceanica</i>	-	-	-	-
Order Tintinida				
Family Codonellidae				
<i>Leprotintinnus nordquisti</i>	-	-	-	-
<i>Tintinnopsis</i> sp.1	-	-	-	-
<i>Tintinnopsis gracilis</i>	-	-	-	-

Remark : * Not identify

Siriporn 1.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 004-1 (page 2 of 9)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E
SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Class Ciliata				
Order Tintinida				
Family Codonellopsidae				
<i>Codonellopsis morchella</i>	-	1,377	-	459
<i>Codonellopsis oftenfeldi</i>	-	-	-	-
Family Rhabdonellidae				
<i>Protorhabdonella</i> sp.1	-	-	-	-
<i>Protorhabdonella</i> sp.2	-	-	-	-
<i>Protorhabdonella simplex</i>	-	-	801	267
<i>Rhabdonella</i> sp.1	-	-	-	-
<i>Rhabdonella</i> sp.2	198	-	-	66
<i>Rhabdonella</i> sp.3	-	-	-	-
<i>Rhabdonella</i> sp.4	-	-	-	-
<i>Rhabdonella</i> sp.5	-	-	-	-
<i>Rhabdonella conica</i>	393	-	600	331
<i>Rhabdonella cuspidata</i>	-	-	-	-
<i>Rhabdonella poculum</i>	-	-	-	-
Family Tintinidae				
<i>Steenstrupiella</i> sp.	-	-	-	-
<i>Amphorelloopsis</i> sp.	-	-	-	-
<i>Amphorelloopsis acuta</i>	-	198	801	333
<i>Dadayiella cuspis</i>	-	-	-	-
<i>Eutintinnus</i> sp.1	-	-	-	-
<i>Eutintinnus</i> sp.2	-	-	-	-
<i>Eutintinnus</i> sp.3	-	-	-	-

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : Q-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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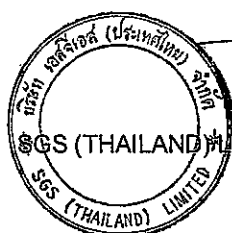
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E
SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Subphylum Ciliophora				
Class Ciliata				
Order Tintinida				
Family Tintinidae				
<i>Eutintinnus maculatus</i>	-	-	-	-
<i>Eutintinnus perminutus</i>	-	-	399	133
<i>Salpingella</i> sp.	-	-	-	-
Phylum Cnidaria				
Class Hydrozoa				
Hydromedusae*	-	-	-	-
Order Anthomedusa				
Anthomedusae*	-	-	-	-
Order Leptomedusa				
Family Eutimidae				
<i>Eutima</i> sp.	-	-	-	-
Order Siphonophora				
Family Diphyidae				
<i>Lensia</i> sp.	-	-	-	-
Siphonophora*	-	-	-	-
Phylum Ctenophora				
Class Tentaculata				
Order Cydippida				
Cydippid larvae*	-	-	-	-

Remark : * Not identify

Siriporn L.
 (Siriporn Imwilaiwan)
 License ID : 1-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

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Issued date : February 27, 2009

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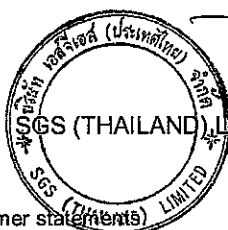
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E
SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Rotifera				
Class Monogononta				
Order Ploima				
Family Sagittidae				
<i>Keratella cochlearis</i>	-	-	-	-
Family Synchaetidae				
<i>Synchaeta</i> sp.	-	-	-	-
Phylum Chaetognatha				
Class Sagittoidea				
Family Sagittidae				
<i>Sagitta</i> spp.	-	-	-	-
Phylum Annelida				
Class Polychaeta				
<i>Nereis pelagica</i>	-	-	-	-
Polychaete larvae*	-	-	-	-
Family Tomopteridae				
<i>Tomopteris</i> sp.	-	-	-	-
Phylum Arthropoda				
Class Crustacea				
Subclass Branchiopoda				
Order Diplostraca				
<i>Pseudoevadne tergestina</i>	-	198	-	66
Subclass Ostracoda				
Order Myodocopa				
Ostracods*	-	-	-	-

Remark : * Not identify

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : ๓-010-๓-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E
SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Crustacea				
Subclass Ostracoda				
Order Myodocopa				
Family Conchoecia				
<i>Euconchoecia</i> sp.	-	-	-	-
<i>Conchoecia</i> sp.	-	-	-	-
Family Cypridinidae				
<i>Cypridina</i> sp.	-	-	-	-
<i>Philomedes</i> sp.	-	-	-	-
Subclass Copepoda				
Copepod nauplii*	8,850	7,278	6,801	7,643
Order Calanoida				
<i>Canthocalanus pauper</i>	-	-	-	-
<i>Subeucalanus subcrassus</i>	-	-	-	-
<i>Undinula vulgaris</i>	-	-	-	-
Calanoid copepodid*	1,377	984	999	1,120
Calanoid copepods*	-	-	-	-
Family Pseudocalanidae				
<i>Clausocalanus furcatus</i>	-	-	-	-
Family Paracalanidae				
<i>Paracalanus aculeatus</i>	-	-	-	-
<i>Acrocalanus gibber</i>	198	-	-	66
<i>Acrocalanus gracilis</i>	-	-	-	-
Family Temoridae				
<i>Temora discaudata</i>	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 0-010-A-1793



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 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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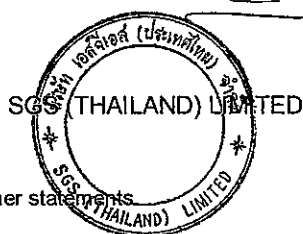
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E
SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Calanoida				
Family Pontellidae				
<i>Labidocera acuta</i>	-	-	-	-
Family Candaciidae				
<i>Candacia</i> sp.	-	-	-	-
Family Acartiidae				
<i>Acartia erythraea</i>	-	-	-	-
Order Cyclopoida				
<i>Farranula</i> sp.1	-	198	-	66
<i>Farranula</i> sp.2	-	-	-	-
<i>Farranula concinna</i>	-	198	-	66
<i>Farranula gibbula</i>	-	-	-	-
Cyclopoid copepodid*	786	786	399	657
Family Oithonidae				
<i>Oithona</i> sp.	-	198	-	66
Family Oncaeiidae				
<i>Oncaea</i> sp.	-	-	-	-
<i>Oncaea conifera</i>	-	198	-	66
<i>Oncaea venusta</i>	-	198	-	66
Family Corycaeiidae				
<i>Corycaeus</i> sp.1	-	-	-	-
<i>Corycaeus</i> sp.2	-	-	-	-
<i>Corycaeus agilis</i>	393	198	-	197

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E
SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Cyclopoida				
Family Corycaeidae				
<i>Corycaeus asiaticus</i>	-	198	-	66
<i>Corycaeus speciosus</i>	393	198	-	197
Family Sapphirinidae				
<i>Sapphirina</i> sp.1	198	-	-	66
<i>Sapphirina</i> sp.2	198	-	-	66
Order Harpacticoida				
Harpacticoid copepodid*	-	198	-	66
Family Macrosetellidae				
<i>Macrosetella gracilis</i>	198	393	-	197
<i>Microsetella norvegica</i>	1,968	393	-	787
Family Clytemnestidae				
<i>Clytemnestra scutellata</i>	-	-	-	-
Family Tachiidae				
<i>Euterpina acutifrons</i>	-	198	-	66
Subclass Cirripedia				
Cirripede nauplius*	-	-	-	-
Cypris larvae*	-	-	-	-
Subclass Malacostraca				
Order Amphipoda				
Amphipods*	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 004-1 (page 8 of 9)

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Analysis Report

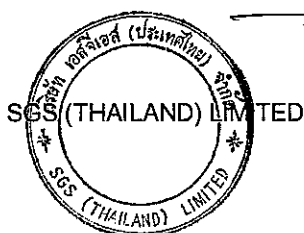
SAMPLE DESIGNATED AS : Zooplankton Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Malacostraca				
Order Decapoda				
<i>Lucifer</i> sp.	-	-	-	-
Brachyuran larvae*	-	-	-	-
Pagurid larvae*	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Gastropod larvae*	591	-	-	197
Order Thecosomata				
Family Limacinidae				
<i>Limacina inflata</i>	-	-	-	-
Family Cavoliniidae				
<i>Creseis</i> sp.	-	-	-	-
<i>Diacria quadridentata</i>	-	-	-	-
<i>Diacria trispinosa</i>	-	-	-	-
<i>Carinaria</i> sp.	-	-	-	-
Class Pelecypoda (Bivalia)				
Pelecypod larvae*	786	-	-	262
Phylum Echinodermata				
Class Ophiuroidea				
Ophiopluteus larvae*	-	-	-	-

Remark : * Not identify

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

SK/SA/BS/Pp



(Sompong Kiatiporn)
 Environmental Manager

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, North Dara-1
 COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E

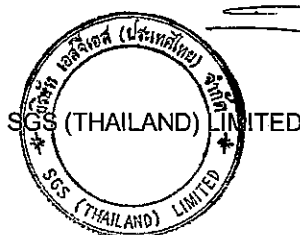
SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Chordata				
Class Larvacea				
Family Oikopleuridae				
<i>Oikopleura</i> sp.	-	198	-	66
<i>Oikopleura albicans</i>	-	-	-	-
<i>Oikopleura dioica</i>	-	-	-	-
<i>Oikopleura fusiformis</i>	-	-	-	-
<i>Oikopleura longicauda</i>	-	-	-	-
<i>Oikopleura parva</i>	-	-	-	-
Family Fritillariidae				
<i>Fritillaria</i> sp.	198	198	-	132
Class Thaliacea				
Order Doliolida				
Family Doliolidae				
<i>Doliolum denticulatum</i>	-	-	-	-
Order Salpida				
Family Salpidae				
<i>Cyclosalpa</i> sp.	-	-	-	-
<i>Salpa</i> sp.	-	-	-	-
Class Pisces				
Fish eggs*	-	-	-	-
Total Zooplankton Type	18	23	8	32
Total Zooplankton Amount	41,703	17,130	12,201	23,678

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

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(Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 004-2 (page 1 of 9)

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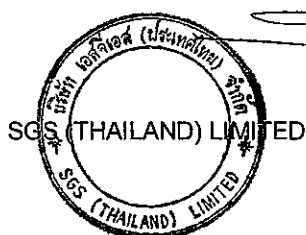
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, North Dara-2
 COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E
 SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa				
Subphylum Plasmodroma				
Class Sarcodina				
Subclass Rhizophoda				
Order Foraminiferida				
<i>Gallitellia</i> sp.	2,199	213	-	804
<i>Globorotalia</i> sp.	12,801	-	-	4,267
Foraminiferans*	-	-	-	-
Subclass Actinopoda				
<i>Acanthometron pellucidum</i>	-	-	-	-
<i>Lithomelissa monoceras</i>	-	-	-	-
radiolarians*	999	213	-	404
Class Acntherea				
Order Chaunacanthida				
<i>Stauracon pallidus</i>	-	-	-	-
Subphylum Ciliophora				
Class Ciliata				
<i>Epiplocyloides</i> sp.	-	-	-	-
<i>Vorticella oceanica</i>	-	-	-	-
Order Tintinida				
Family Codonellidae				
<i>Leptotintinnus nordquisti</i>	-	-	-	-
<i>Tintinnopsis</i> sp.1	-	-	-	-
<i>Tintinnopsis gracilis</i>	-	-	-	-

Remark : * Not identify

Sinpm 2.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-2
COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E
SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Class Ciliata				
Order Tintinida				
Family Codonellopsidae				
<i>Codonellopsis morchella</i>	-	213	774	329
<i>Codonellopsis oftenfeldi</i>	-	-	-	-
Family Rhabdonellidae				
<i>Protorhabdonella</i> sp.1	-	-	-	-
<i>Protorhabdonella</i> sp.2	-	-	-	-
<i>Protorhabdonella simplex</i>	801	852	-	551
<i>Rhabdonella</i> sp.1	-	-	-	-
<i>Rhabdonella</i> sp.2	-	-	-	-
<i>Rhabdonella</i> sp.3	-	-	-	-
<i>Rhabdonella</i> sp.4	-	-	-	-
<i>Rhabdonella</i> sp.5	-	-	-	-
<i>Rhabdonella conica</i>	-	-	192	64
<i>Rhabdonella cuspidata</i>	-	-	-	-
<i>Rhabdonella poculum</i>	-	-	-	-
Family Tintinidae				
<i>Steenstrupiella</i> sp.	-	-	-	-
<i>Amphorelloopsis</i> sp.	-	-	-	-
<i>Amphorelloopsis acuta</i>	801	213	-	338
<i>Dadayiella cuspis</i>	-	-	-	-
<i>Eutintinnus</i> sp.1	-	-	-	-
<i>Eutintinnus</i> sp.2	-	-	-	-
<i>Eutintinnus</i> sp.3	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-2
COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E
SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Subphylum Ciliophora				
Class Ciliata				
Order Tintinida				
Family Tintinidae				
<i>Eutintinnus maculatus</i>	-	-	-	-
<i>Eutintinnus perminutus</i>	801	213	-	338
<i>Salpingella</i> sp.	-	-	-	-
Phylum Cnidaria				
Class Hydrozoa				
Hydromedusae*	-	-	-	-
Order Anthomedusa				
Anthomedusae*	-	-	-	-
Order Leptomedusa				
Family Eutimididae				
<i>Eutima</i> sp.	-	-	-	-
Order Siphonophora				
Family Diphyidae				
<i>Lensia</i> sp.	-	-	-	-
Siphonophora*	-	-	-	-
Phylum Ctenophora				
Class Tentaculata				
Order Cydippida				
Cydippid larvae*	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 9-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-2 (page 4 of 9)

Issued date : February 27, 2009

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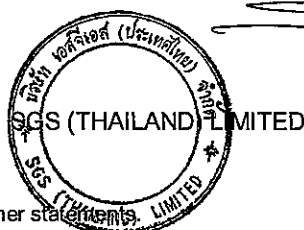
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-2
COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E
SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Rotifera				
Class Monogononta				
Order Ploima				
Family Sagittidae				
<i>Keratella cochlearis</i>	-	-	-	-
Family Synchaetidae				
<i>Synchaeta</i> sp.	-	-	-	-
Phylum Chaetognatha				
Class Sagittioidea				
Family Sagittidae				
<i>Sagitta</i> spp.	-	-	-	-
Phylum Annelida				
Class Polychaeta				
<i>Nereis pelagica</i>	-	-	-	-
Polychaete larvae*	600	-	387	329
Family Tomopteridae				
<i>Tomopteris</i> sp.	-	-	-	-
Phylum Arthropoda				
Class Crustacea				
Subclass Branchiopoda				
Order Diplostraca				
<i>Pseudoevadne tergestina</i>	-	-	-	-
Subclass Ostracoda				
Order Myodocopa				
Ostracods*	-	-	-	-

Remark : * Not identify

Siriporn 1.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Analysis Report

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 COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E

SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Crustacea				
Subclass Ostracoda				
Order Myodocopa				
Family Conchoecia				
<i>Euconchoecia</i> sp.	-	-	192	64
<i>Conchoecia</i> sp.	-	-	-	-
Family Cypridinidae				
<i>Cypridina</i> sp.	-	-	-	-
<i>Philomedes</i> sp.	-	-	-	-
Subclass Copepoda				
Copepod nauplii*	11,400	8,748	12,759	10,969
Order Calanoida				
<i>Canthocalanus pauper</i>	-	-	-	-
<i>Subeucalanus subcrassus</i>	-	213	-	71
<i>Undinula vulgaris</i>	-	-	-	-
Calanoid copepodid*	801	1,281	1,548	1,210
Calanoid copepods*	-	-	-	-
Family Pseudocalanidae				
<i>Clausocalanus furcatus</i>	-	-	-	-
Family Paracalanidae				
<i>Paracalanus aculeatus</i>	-	-	-	-
<i>Acrocalanus gibber</i>	399	-	-	133
<i>Acrocalanus gracilis</i>	-	-	-	-
Family Temoridae				
<i>Temora discaudata</i>	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 1-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E

SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Calanoida				
Family Pontellidae				
<i>Labidocera acuta</i>	-	-	-	-
Family Candaciidae				
<i>Candacia</i> sp.	-	-	-	-
Family Acartiidae				
<i>Acartia erythraea</i>	-	-	-	-
Order Cyclopoida				
<i>Farranula</i> sp.1	-	-	-	-
<i>Farranula</i> sp.2	-	-	-	-
<i>Farranula concinna</i>	-	-	-	-
<i>Farranula gibbula</i>	-	426	-	142
Cyclopoid copepodid*	-	426	387	271
Family Oithonidae				
<i>Oithona</i> sp.	-	213	387	200
Family Oncaeidae				
<i>Oncaea</i> sp.	-	-	-	-
<i>Oncaea conifera</i>	399	213	-	204
<i>Oncaea venusta</i>	-	-	-	-
Family Corycaeidae				
<i>Corycaeus</i> sp.1	-	-	-	-
<i>Corycaeus</i> sp.2	-	-	-	-
<i>Corycaeus agilis</i>	-	-	-	-

Remark : * Not identify

Siriporn I.

(Siriporn Imwilaiwan)

License ID : 7-010-A-1793

(Signature)

(Sompong Kiatiporn)

Environmental Manager

SK/SA/BS/Pp



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Report No. : 2009-00051 / 004-2 (page 7 of 9)

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Analysis Report

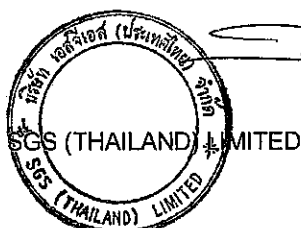
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SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Cyclopoida				
Family Corycaeidae				
<i>Corycaeus asiaticus</i>	-	-	-	-
<i>Corycaeus speciosus</i>	-	-	192	64
Family Sapphirinidae				
<i>Sapphirina</i> sp.1	-	213	-	71
<i>Sapphirina</i> sp.2	-	-	-	-
Order Harpacticoida				
Harpacticoid copepodid*	-	213	-	71
Family Macrosetellidae				
<i>Macrosetella gracilis</i>	-	-	-	-
<i>Macrosetella norvegica</i>	999	213	1161	791
Family Clytemnestridae				
<i>Clytemnestra scutellata</i>	-	-	-	-
Family Tachiidae				
<i>Euterpina acutifrons</i>	-	213	-	71
Subclass Cirripedia				
Cirripede nauplius*	-	-	-	-
Cypris larvae*	-	-	-	-
Subclass Malacostraca				
Order Amphipoda				
Amphipods*	-	-	-	-

Remark : * Not identify

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

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Analysis Report

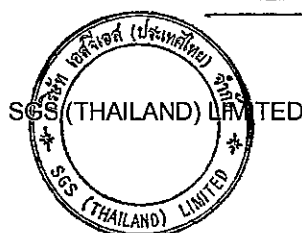
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COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E
SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Malacostraca				
Order Decapoda				
<i>Lucifer</i> sp.	-	-	-	-
Brachyuran larvae*	-	-	-	-
Pagurid larvae*	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Gastropod larvae*	600	213	-	271
Order Thecosomata				
Family Limacinidae				
<i>Limacina inflata</i>	-	-	-	-
Family Cavoliniidae				
<i>Creseis</i> sp.	-	-	-	-
<i>Diacria quadridentata</i>	-	-	-	-
<i>Diacria trispinosa</i>	-	-	-	-
<i>Carinaria</i> sp.	-	-	-	-
Class Pelecypoda (Bivalia)				
Pelecypod larvae*	600	-	192	264
Phylum Echinodermata				
Class Ophiuroidea				
Ophiopluteus larvae*	-	-	-	-

Remark : * Not identify

Siripom 2
 (Siripom Imwilaiwan)
 License ID : 2-010-A-1793

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(Sompong Kiatiporn)
 Environmental Manager

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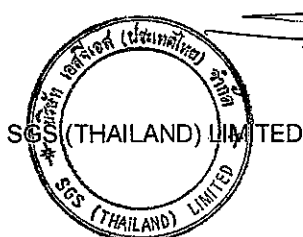
Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-2
COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E
SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Chordata				
Class Larvacea				
Family Oikopleuridae				
<i>Oikopleura</i> sp.	-	213	579	264
<i>Oikopleura albicans</i>	-	-	-	-
<i>Oikopleura dioica</i>	-	-	-	-
<i>Oikopleura fusiformis</i>	-	-	-	-
<i>Oikopleura longicauda</i>	-	-	-	-
<i>Oikopleura parva</i>	-	-	-	-
Family Fritillariidae				
<i>Fritillaria</i> sp.	-	213	-	71
Class Thaliacea				
Order Doliolida				
Family Doliolidae				
<i>Doliolum denticulatum</i>	-	-	-	-
Order Salpida				
Family Salpidae				
<i>Cyclosalpa</i> sp.	-	-	-	-
<i>Salpa</i> sp.	-	-	-	-
Class Pisces				
Fish eggs*	-	-	-	-
Total Zooplankton Type	14	20	12	27
Total Zooplankton Amount	34,200	14,928	18,750	22,626

Remark : * Not identify

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-3 (page 1 of 9)

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Analysis Report

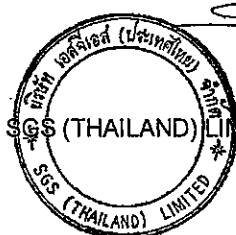
SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-3
COORDINATION (WGS84) : 9° 15' 17.75" N, 101° 10' 54.90" E
SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa				
Subphylum Plasmodroma				
Class Sarcodina				
Subclass Rhizophoda				
Order Foraminiferida				
<i>Gallitellia</i> sp.	333	-	-	111
<i>Globorotalia</i> sp.	501	168	489	386
Foraminiferans*	-	-	981	327
Subclass Actinopoda				
<i>Acanthometron pellucidum</i>	-	-	-	-
<i>Lithomelissa monoceras</i>	-	-	-	-
radiolarians*	999	666	1,470	1,045
Class Acntherea				
Order Chaunacanthida				
<i>Stauracon pallidus</i>	-	-	-	-
Subphylum Ciliophora				
Class Ciliata				
<i>Epiplocyloides</i> sp.	-	-	-	-
<i>Vorticella oceanica</i>	-	-	-	-
Order Tintinida				
Family Codonellidae				
<i>Leprotintinnus nordquisti</i>	-	-	-	-
<i>Tintinnopsis</i> sp.1	-	-	-	-
<i>Tintinnopsis gracilis</i>	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

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 Environmental Manager

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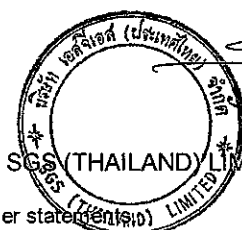
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SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Class Ciliata				
Order Tintinida				
Family Codonellopsidae				
<i>Codonellopsis morchella</i>	834	834	489	719
<i>Codonellopsis oftenfeldi</i>	-	-	-	-
Family Rhabdonellidae				
<i>Protorhabdonella</i> sp.1	-	-	-	-
<i>Protorhabdonella</i> sp.2	-	-	-	-
<i>Protorhabdonella simplex</i>	-	2,334	-	778
<i>Rhabdonella</i> sp.1	501	-	-	167
<i>Rhabdonella</i> sp.2	-	-	-	-
<i>Rhabdonella</i> sp.3	-	-	-	-
<i>Rhabdonella</i> sp.4	-	-	489	163
<i>Rhabdonella</i> sp.5	-	-	-	-
<i>Rhabdonella conica</i>	168	-	-	56
<i>Rhabdonella cuspidata</i>	-	-	-	-
<i>Rhabdonella poculum</i>	-	-	-	-
Family Tintinidae				
<i>Steenstrupiella</i> sp.	-	-	-	-
<i>Amphorelloopsis</i> sp.	-	-	-	-
<i>Amphorelloopsis acuta</i>	666	168	-	278
<i>Dadayiella cuspis</i>	-	-	-	-
<i>Eutintinnus</i> sp.1	-	-	-	-
<i>Eutintinnus</i> sp.2	-	-	-	-
<i>Eutintinnus</i> sp.3	-	-	-	-

Remark : * Not identify

Siriporn L.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Subphylum Ciliophora				
Class Ciliata				
Order Tintinida				
Family Tintinidae				
<i>Eutintinnus maculatus</i>	-	-	-	-
<i>Eutintinnus perminutus</i>	333	168	-	167
<i>Salpingella</i> sp.	-	-	-	-
Phylum Cnidaria				
Class Hydrozoa				
Hydromedusae*	-	-	981	327
Order Anthomedusa				
Anthomedusae*	-	-	-	-
Order Leptomedusa				
Family Eutimididae				
<i>Eutima</i> sp.	-	-	-	-
Order Siphonophora				
Family Diphyidae				
<i>Lensia</i> sp.	-	-	-	-
Siphonophora*	-	-	-	-
Phylum Ctenophora				
Class Tentaculata				
Order Cydippida				
<i>Cydippid larvae*</i>	-	-	-	-

Remark : * Not identify

Siriporn L.
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Rotifera				
Class Monogononta				
Order Ploima				
Family Sagittidae				
<i>Keratella cochlearis</i>	-	-	-	-
Family Synchaetidae				
<i>Synchaeta</i> sp.	-	-	-	-
Phylum Chaetognatha				
Class Sagittoidea				
Family Sagittidae				
<i>Sagitta</i> spp.	-	-	-	-
Phylum Annelida				
Class Polychaeta				
<i>Nereis pelagica</i>	-	-	-	-
Polychaete larvae*	333	333	489	385
Family Tomopteridae				
<i>Tomopteris</i> sp.	-	-	-	-
Phylum Arthropoda				
Class Crustacea				
Subclass Branchiopoda				
Order Diplostraca				
<i>Pseudoevadne tergestina</i>	-	-	-	-
Subclass Ostracoda				
Order Myodocopa				
Ostracods*	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Crustacea				
Subclass Ostracoda				
Order Myodocopa				
Family Conchoecia				
<i>Euconchoecia</i> sp.	-	501	-	167
<i>Conchoecia</i> sp.	-	-	-	-
Family Cypridinidae				
<i>Cypridina</i> sp.	-	-	-	-
<i>Philomedes</i> sp.	-	-	-	-
Subclass Copepoda				
Copepod nauplii*	14,334	16,167	32,829	21,110
Order Calanoida				
<i>Canthocalanus pauper</i>	-	-	-	-
<i>Subeucalanus subcrassus</i>	-	-	-	-
<i>Undinula vulgaris</i>	-	-	-	-
Calanoid copepodid*	1,332	666	2,451	1,483
Calanoid copepods*	-	-	-	-
Family Pseudocalanidae				
<i>Clausocalanus furcatus</i>	-	-	-	-
Family Paracalanidae				
<i>Paracalanus aculeatus</i>	-	-	2,451	817
<i>Acrocalanus gibber</i>	168	501	1,470	713
<i>Acrocalanus gracilis</i>	-	-	2,940	980
Family Temoridae				
<i>Temora discaudata</i>	-	-	-	-

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 0-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-3 (page 6 of 9)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
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 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-3
COORDINATION (WGS84) : 9° 15' 17.75" N, 101° 10' 54.90" E
SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Calanoida				
Family Pontellidae				
<i>Labidocera acuta</i>	-	-	-	-
Family Candaciidae				
<i>Candacia</i> sp.	-	-	-	-
Family Acartiidae				
<i>Acartia erythraea</i>	-	-	-	-
Order Cyclopoida				
<i>Farranula</i> sp.1	168	168	1,470	602
<i>Farranula</i> sp.2	168	168	-	112
<i>Farranula concinna</i>	-	-	-	-
<i>Farranula gibbula</i>	-	-	-	-
Cyclopoid copepodid*	168	333	-	167
Family Oithonidae				
<i>Oithona</i> sp.	501	501	1,959	987
Family Oncaeiidae				
<i>Oncaea</i> sp.	-	-	-	-
<i>Oncaea conifera</i>	333	-	-	111
<i>Oncaea venusta</i>	834	501	489	608
Family Corycaeiidae				
<i>Corycaeus</i> sp.1	-	-	-	-
<i>Corycaeus</i> sp.2	-	-	489	163
<i>Corycaeus agilis</i>	168	-	-	56

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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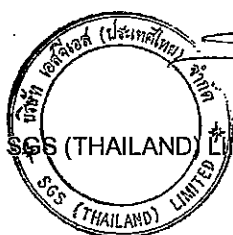
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SAMPLING LOCATION : Concession Block G6/48, North Dara-3
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SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Cyclopoida				
Family Corycaeidae				
<i>Corycaeus asiaticus</i>	-	-	-	-
<i>Corycaeus speciosus</i>	-	-	-	-
Family Sapphirinidae				
<i>Sapphirina</i> sp.1	-	-	-	-
<i>Sapphirina</i> sp.2	-	-	-	-
Order Harpacticoida				
Harpacticoid copepodid*	-	-	-	-
Family Macrosetellidae				
<i>Macrosetella gracilis</i>	-	-	-	-
<i>Macrosetella norvegica</i>	1,167	-	4,410	1,859
Family Clytemnestidae				
<i>Clytemnestra scutellata</i>	-	-	-	-
Family Tachiidae				
<i>Euterpina acutifrons</i>	-	-	489	163
Subclass Cirripedia				
Cirripede nauplius*	-	-	-	-
Cypris larvae*	-	-	-	-
Subclass Malacostraca				
Order Amphipoda				
Amphipods*	-	-	-	-

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



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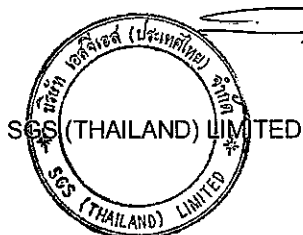
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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-3
COORDINATION (WGS84) : 9° 15' 17.75" N, 101° 10' 54.90" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Malacostraca				
Order Decapoda				
<i>Lucifer</i> sp.	-	-	-	-
Brachyuran larvae*	-	-	489	163
Pagurid larvae*	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Gastropod larvae*	-	333	-	111
Order Thecosomata				
Family Limacinidae				
<i>Limacina inflata</i>	-	-	-	-
Family Cavoliniidae				
<i>Creseis</i> sp.	-	-	489	163
<i>Diacria quadridentata</i>	-	-	-	-
<i>Diacria trispinosa</i>	-	-	-	-
<i>Carinaria</i> sp.	-	-	-	-
Class Pelecypoda (Bivalia)				
Pelecypod larvae*	168	333	-	167
Phylum Echinodermata				
Class Ophiuroidea				
Ophiopluteus larvae*	168	-	489	219

Remark : * Not identify

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 0-010-0-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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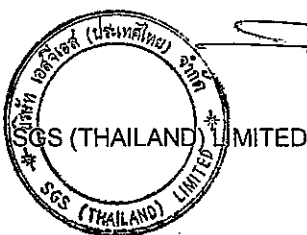
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-3
COORDINATION (WGS84) : 9° 15' 17.75" N, 101° 10' 54.90" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Chordata				
Class Larvacea				
Family Oikopleuridae				
<i>Oikopleura</i> sp.	168	-	-	56
<i>Oikopleura albicans</i>	-	-	-	-
<i>Oikopleura dioica</i>	-	-	-	-
<i>Oikopleura fusiformis</i>	-	-	-	-
<i>Oikopleura longicauda</i>	-	-	-	-
<i>Oikopleura parva</i>	-	-	-	-
Family Fritillariidae				
<i>Fritillaria</i> sp.	-	-	-	-
Class Thaliacea				
Order Doliolida				
Family Doliolidae				
<i>Doliolum denticulatum</i>	-	-	-	-
Order Salpida				
Family Salpidae				
<i>Cyclosalpa</i> sp.	-	-	-	-
<i>Salpa</i> sp.	-	-	-	-
Class Pisces				
Fish eggs*	-	-	-	-
Total Zooplankton Type	23	18	21	35
Total Zooplankton Amount	24,513	24,843	58,302	35,886

Remark : * Not identify

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-4 (page 1 of 9)

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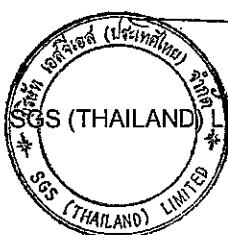
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, West Dara-5
COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa				
Subphylum Plasmodroma				
Class Sarcodina				
Subclass Rhizophoda				
Order Foraminiferida				
<i>Gallitellia</i> sp.	-	-	-	-
<i>Globorotalia</i> sp.	213	-	-	71
Foraminiferans*	-	-	-	-
Subclass Actinopoda				
<i>Acanthometron pellucidum</i>	-	-	-	-
<i>Lithomelissa monoceras</i>	-	-	-	-
radiolarians*	639	519	-	386
Class Acntherea				
Order Chaunacanthida				
<i>Stauracon pallidus</i>	-	-	-	-
Subphylum Ciliophora				
Class Ciliata				
<i>Epillocyloides</i> sp.	-	-	-	-
<i>Vorticella oceanica</i>	-	-	-	-
Order Tintinida				
Family Codonellidae				
<i>Leprotintinnus nordquisti</i>	-	-	-	-
<i>Tintinnopsis</i> sp.1	-	-	-	-
<i>Tintinnopsis gracilis</i>	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Analysis Report

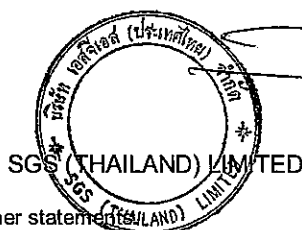
SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, West Dara-5
COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E

SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Class Ciliata				
Order Tintinida				
Family Codonellopsidae				
<i>Codonellopsis morchella</i>	-	-	-	-
<i>Codonellopsis oftenfeldi</i>	639	831	1,017	829
Family Rhabdonellidae				
<i>Protorhabdonella</i> sp.1	-	-	-	-
<i>Protorhabdonella</i> sp.2	-	-	-	-
<i>Protorhabdonella simplex</i>	-	-	813	271
<i>Rhabdonella</i> sp.1	-	-	-	-
<i>Rhabdonella</i> sp.2	-	-	-	-
<i>Rhabdonella</i> sp.3	-	-	-	-
<i>Rhabdonella</i> sp.4	-	-	-	-
<i>Rhabdonella</i> sp.5	-	-	-	-
<i>Rhabdonella conica</i>	1,494	765	1,830	1,363
<i>Rhabdonella cuspidata</i>	-	-	-	-
<i>Rhabdonella poculum</i>	-	-	408	136
Family Tintinidae				
<i>Steenstrupiella</i> sp.	-	-	-	-
<i>Amphorelloopsis</i> sp.	-	-	-	-
<i>Amphorelloopsis acuta</i>	213	156	-	123
<i>Dadayiella cuspis</i>	-	-	-	-
<i>Eutintinnus</i> sp.1	-	-	-	-
<i>Eutintinnus</i> sp.2	-	-	-	-
<i>Eutintinnus</i> sp.3	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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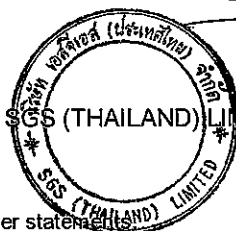
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, West Dara-5
COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E
SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Subphylum Ciliophora				
Class Ciliata				
Order Tintinida				
Family Tintinidae				
<i>Eutintinnus maculatus</i>	1,494	-	813	769
<i>Eutintinnus perminutus</i>	426	-	-	142
<i>Salpingella</i> sp.	-	-	-	-
Phylum Cnidaria				
Class Hydrozoa				
Hydromedusae*	-	-	-	-
Order Anthomedusa				
Anthomedusae*	-	-	-	-
Order Leptomedusa				
Family Eutimidae				
<i>Eutima</i> sp.	-	-	-	-
Order Siphonophora				
Family Diphyidae				
<i>Lensia</i> sp.	-	-	-	-
Siphonophora*	-	-	-	-
Phylum Ctenophora				
Class Tentaculata				
Order Cydippida				
Cydippid larvae*	-	-	-	-

Remark : * Not identify

Siriporn L
 (Siriporn Imwilaiwan)
 License ID : 9-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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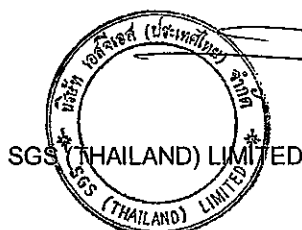
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SAMPLING LOCATION : Concession Block G6/48, West Dara-5
COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E
SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Rotifera				
Class Monogononta				
Order Ploima				
Family Sagittidae				
<i>Keratella cochlearis</i>	-	-	-	-
Family Synchaetidae				
<i>Synchaeta</i> sp.	-	-	-	-
Phylum Chaetognatha				
Class Sagittoidea				
Family Sagittidae				
<i>Sagitta</i> spp.	426	156	-	194
Phylum Annelida				
Class Polychaeta				
<i>Nereis pelagica</i>	-	-	-	-
Polychaete larvae*	1,068	-	-	356
Family Tomopteridae				
<i>Tomopteris</i> sp.	-	-	-	-
Phylum Arthropoda				
Class Crustacea				
Subclass Branchiopoda				
Order Diplostraca				
<i>Pseudoevadne tergestina</i>	-	-	-	-
Subclass Ostracoda				
Order Myodocopa				
Ostracods*	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Crustacea				
Subclass Ostracoda				
Order Myodocopa				
Family Conchoecia				
<i>Euconchoecia</i> sp.	-	-	-	-
<i>Conchoecia</i> sp.	-	-	-	-
Family Cypridinidae				
<i>Cypridina</i> sp.	-	-	-	-
<i>Philomedes</i> sp.	-	-	-	-
Subclass Copepoda				
Copepod nauplii*	2,988	4,680	6,099	4,589
Order Calanoida				
<i>Canthocalanus pauper</i>	-	-	-	-
<i>Subeucalanus subcrassus</i>	-	-	-	-
<i>Undinula vulgaris</i>	-	-	-	-
Calanoid copepodid*	213	2,913	204	1,110
Calanoid copepods*	-	-	-	-
Family Pseudocalanidae				
<i>Clausocalanus furcatus</i>	-	-	-	-
Family Paracalanidae				
<i>Paracalanus aculeatus</i>	-	-	-	-
<i>Acrocalanus gibber</i>	213	156	204	191
<i>Acrocalanus gracilis</i>	-	-	-	-
Family Temoridae				
<i>Temora discaudata</i>	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 9-010-A-1793



(Signature)
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 Environmental Manager

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Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Calanoida				
Family Pontellidae				
<i>Labidocera acuta</i>	-	-	-	-
Family Candaciidae				
<i>Candacia</i> sp.	-	-	-	-
Family Acartiidae				
<i>Acartia erythraea</i>	-	-	-	-
Order Cyclopoida				
<i>Farranula</i> sp.1	-	156	-	52
<i>Farranula</i> sp.2	-	-	-	-
<i>Farranula concinna</i>	-	-	-	-
<i>Farranula gibbula</i>	-	156	-	52
Cyclopoid copepodid*	-	-	408	136
Family Oithonidae				
<i>Oithona</i> sp.	-	-	609	203
Family Oncaeidae				
<i>Oncaea</i> sp.	-	-	-	-
<i>Oncaea conifera</i>	-	156	-	52
<i>Oncaea venusta</i>	-	-	-	-
Family Corycaeidae				
<i>Corycaeus</i> sp.1	-	-	-	-
<i>Corycaeus</i> sp.2	-	-	-	-
<i>Corycaeus agilis</i>	-	519	204	241

Remark : * Not identify

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 0-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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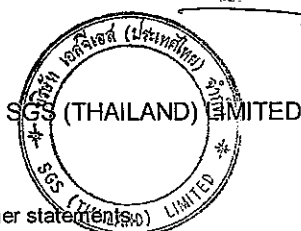
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SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Cyclopoida				
Family Corycaeidae				
<i>Corycaeus asiaticus</i>	-	-	408	136
<i>Corycaeus speciosus</i>	-	-	-	-
Family Sapphirinidae				
<i>Sapphirina</i> sp.1	-	-	-	-
<i>Sapphirina</i> sp.2	-	-	-	-
Order Harpacticoida				
Harpacticoid copepodid*	-	-	-	-
Family Macrosetellidae				
<i>Macrosetella gracilis</i>	-	-	1,017	339
<i>Microsetella norvegica</i>	-	-	1,626	542
Family Clytemnestridae				
<i>Clytemnestra scutellata</i>	-	-	-	-
Family Tachiidae				
<i>Euterpina acutifrons</i>	-	-	-	-
Subclass Cirripedia				
Cirripede nauplius*	-	-	-	-
Cypris larvae*	-	-	-	-
Subclass Malacostraca				
Order Amphipoda				
Amphipods*	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 7-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statement.

Report No. : 2009-00051 / 004-4 (page 8 of 9)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, West Dara-5
COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E
SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Malacostraca				
Order Decapoda				
<i>Lucifer</i> sp.	-	-	-	-
Brachyuran larvae*	-	-	-	-
Pagurid larvae*	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Gastropod larvae*	-	156	408	188
Order Thecosomata				
Family Limacinidae				
<i>Limacina inflata</i>	-	-	-	-
Family Cavoliniidae				
<i>Creseis</i> sp.	-	-	-	-
<i>Diacria quadridentata</i>	-	-	-	-
<i>Diacria trispinosa</i>	-	-	-	-
<i>Carinaria</i> sp.	-	-	-	-
Class Pelecypoda (Bivalia)				
Pelecypod larvae*	213	-	-	71
Phylum Echinodermata				
Class Ophiuroidea				
Ophiopluteus larvae*	-	-	-	-

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 7-010-A-1793

Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SGS (THAILAND) LIMITED

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-4 (page 9 of 9)

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Analysis Report

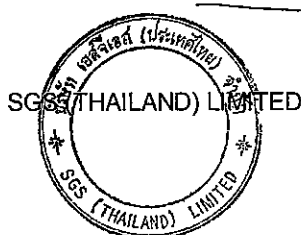
SAMPLE DESIGNATED AS : Zooplankton Analysis
 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, West Dara-5
 COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E
 SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Chordata				
Class Larvacea				
Family Oikopleuridae				
<i>Oikopleura</i> sp.	213	312	-	175
<i>Oikopleura albicans</i>	-	-	-	-
<i>Oikopleura dioica</i>	-	-	-	-
<i>Oikopleura fusiformis</i>	-	-	-	-
<i>Oikopleura longicauda</i>	-	-	-	-
<i>Oikopleura parva</i>	-	-	-	-
Family Fritillariidae				
<i>Fritillaria</i> sp.	-	-	-	-
Class Thaliacea				
Order Doliolida				
Family Doliolidae				
<i>Doliolum denticulatum</i>	-	-	-	-
Order Salpida				
Family Salpidae				
<i>Cyclosalpa</i> sp.	-	-	-	-
<i>Salpa</i> sp.	-	-	-	-
Class Pisces				
Fish eggs*	-	-	-	-
Total Zooplankton Type	14	14	15	26
Total Zooplankton Amount	10,452	11,631	16,068	12,717

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

SK/SA/BS/Pp



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Report No. : 2009-00051 / 004-5 (page 1 of 9)

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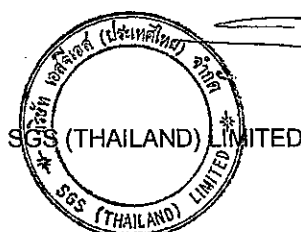
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, West Dara-6
 COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E
 SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa				
Subphylum Plasmodroma				
Class Sarcodina				
Subclass Rhizophoda				
Order Foraminiferida				
<i>Gallitella</i> sp.	-	-	-	-
<i>Globorotalia</i> sp.	-	-	-	-
Foraminiferans*	-	-	-	-
Subclass Actinopoda				
<i>Acanthometron pellucidum</i>	-	-	-	-
<i>Lithomelissa monoceras</i>	-	-	-	-
radiolarians*	441	7,419	5,181	4,347
Class Acntherea				
Order Chaunacanthida				
<i>Stauracon pallidus</i>	-	-	-	-
Subphylum Ciliophora				
Class Ciliata				
<i>Epilpocyloides</i> sp.	219	-	-	73
<i>Vorticella oceanica</i>	5,499	-	-	1,833
Order Tintinida				
Family Codonellidae				
<i>Leptotintinnus nordquisti</i>	-	-	-	-
<i>Tintinnopsis</i> sp.1	-	-	-	-
<i>Tintinnopsis gracilis</i>	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



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Report No. : 2009-00051 / 004-5 (page 2 of 9)

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, West Dara-6
 COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E

SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Class Ciliata				
Order Tintinida				
Family Codonellopsidae				
<i>Codonellopsis morchella</i>	-	3,180	3,699	2,293
<i>Codonellopsis oftenfeldi</i>	1,101	-	-	367
Family Rhabdonellidae				
<i>Protorhabdonella</i> sp.1	-	-	-	-
<i>Protorhabdonella</i> sp.2	-	-	-	-
<i>Protorhabdonella simplex</i>	-	-	-	-
<i>Rhabdonella</i> sp.1	-	-	-	-
<i>Rhabdonella</i> sp.2	-	1,059	741	600
<i>Rhabdonella</i> sp.3	-	-	-	-
<i>Rhabdonella</i> sp.4	-	2,121	-	707
<i>Rhabdonella</i> sp.5	-	-	-	-
<i>Rhabdonella conica</i>	660	-	-	220
<i>Rhabdonella cuspidata</i>	-	-	-	-
<i>Rhabdonella poculum</i>	-	-	-	-
Family Tintinidae				
<i>Steenstrupiella</i> sp.	-	-	-	-
<i>Amphorelloopsis</i> sp.	-	1,059	-	353
<i>Amphorelloopsis acuta</i>	441	-	-	147
<i>Dadayiella cuspis</i>	-	-	-	-
<i>Eutintinnus</i> sp.1	-	-	-	-
<i>Eutintinnus</i> sp.2	-	-	741	247
<i>Eutintinnus</i> sp.3	-	-	-	-

Remark : * Not identify

Siriporn J.
 (Siriporn Imwilaiwan)
 License ID : 0-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-5 (page 3 of 9)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, West Dara-6
COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E
SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Subphylum Ciliophora				
Class Ciliata				
Order Tintinida				
Family Tintinidae				
<i>Eutintinnus maculatus</i>	-	-	-	-
<i>Eutintinnus perminutus</i>	441	1,059	1,479	993
<i>Salpingella</i> sp.	-	-	-	-
Phylum Cnidaria				
Class Hydrozoa				
Hydromedusae*	-	-	-	-
Order Anthomedusa				
Anthomedusae*	-	-	-	-
Order Leptomedusa				
Family Eutimididae				
<i>Eutima</i> sp.	-	-	-	-
Order Siphonophora				
Family Diphyidae				
<i>Lensia</i> sp.	-	-	-	-
Siphonophora*	-	-	-	-
Phylum Ctenophora				
Class Tentaculata				
Order Cydippida				
Cydippid larvae*	-	1,059	-	353

Remark : * Not identify

Sinpm 1.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-5 (page 4 of 9)

Issued date : February 27, 2009

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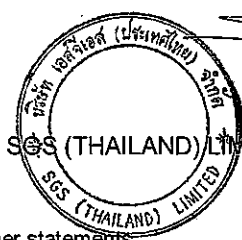
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, West Dara-6
COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Rotifera				
Class Monogononta				
Order Ploima				
Family Sagittidae				
<i>Keratella cochlearis</i>	-	-	-	-
Family Synchaetidae				
<i>Synchaeta</i> sp.	-	-	-	-
Phylum Chaetognatha				
Class Sagittoidea				
Family Sagittidae				
<i>Sagitta</i> spp.	-	-	-	-
Phylum Annelida				
Class Polychaeta				
<i>Nereis pelagica</i>	-	-	-	-
Polychaete larvae*	-	2,121	741	954
Family Tomopteridae				
<i>Tomopteris</i> sp.	-	-	-	-
Phylum Arthropoda				
Class Crustacea				
Subclass Branchiopoda				
Order Diplostraca				
<i>Pseudoevadne tergestina</i>	-	-	-	-
Subclass Ostracoda				
Order Myodocopa				
Ostracods*	-	-	-	-

Remark : * Not identify

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-5 (page 5 of 9)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, West Dara-6
COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E
SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Crustacea				
Subclass Ostracoda				
Order Myodocopa				
Family Conchoecia				
<i>Euconchoecia</i> sp.	-	-	-	-
<i>Conchoecia</i> sp.	-	-	-	-
Family Cypridinidae				
<i>Cypridina</i> sp.	-	-	-	-
<i>Philomedes</i> sp.	-	-	-	-
Subclass Copepoda				
Copepod nauplii*	7,260	16,959	11,841	12,020
Order Calanoida				
<i>Canthocalanus pauper</i>	-	-	-	-
<i>Subeucalanus subcrassus</i>	-	-	-	-
<i>Undinula vulgaris</i>	-	-	-	-
Calanoid copepodid*	660	2,121	2,220	1,667
Calanoid copepods*	-	2,121	-	707
Family Pseudocalanidae				
<i>Clausocalanus furcatus</i>	-	-	-	-
Family Paracalanidae				
<i>Paracalanus aculeatus</i>	-	-	-	-
<i>Acrocalanus gibber</i>	219	1,059	1,479	919
<i>Acrocalanus gracilis</i>	-	-	-	-
Family Temoridae				
<i>Temora discaudata</i>	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-5 (page 6 of 9)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, West Dara-6
COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E
SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Calanoida				
Family Pontellidae				
<i>Labidocera acuta</i>	-	-	-	-
Family Candaciidae				
<i>Candacia</i> sp.	-	-	-	-
Family Acartiidae				
<i>Acartia erythraea</i>	-	-	-	-
Order Cyclopoida				
<i>Farranula</i> sp.1	-	-	-	-
<i>Farranula</i> sp.2	-	-	-	-
<i>Farranula concinna</i>	-	-	-	-
<i>Farranula gibbula</i>	-	1,059	-	353
Cyclopoid copepodid*	219	-	-	73
Family Oithonidae				
<i>Oithona</i> sp.	-	-	-	-
Family Oncaeiidae				
<i>Oncaea</i> sp.	-	1,059	-	353
<i>Oncaea conifera</i>	219	-	-	73
<i>Oncaea venusta</i>	-	-	-	-
Family Corycaeiidae				
<i>Corycaeus</i> sp.1	-	-	-	-
<i>Corycaeus</i> sp.2	-	-	-	-
<i>Corycaeus agilis</i>	219	-	-	73

Remark : * Not identify

Siniam 2
 (Siriporn Imwilaiwan)
 License ID : 3-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-5 (page 7 of 9)

Issued date : February 27, 2009

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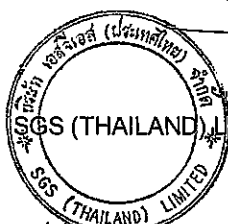
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, West Dara-6
COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E
SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Cyclopoida				
Family Corycaeidae				
<i>Corycaeus asiaticus</i>	-	-	-	-
<i>Corycaeus speciosus</i>	-	-	-	-
Family Sapphirinidae				
<i>Sapphirina</i> sp.1	-	-	-	-
<i>Sapphirina</i> sp.2	-	-	-	-
Order Harpacticoida				
Harpacticoid copepodid*	-	-	-	-
Family Macrosetellidae				
<i>Macrosetella gracilis</i>	-	-	-	-
<i>Microsetella norvegica</i>	660	4,239	2,961	2,620
Family Clytemnestidae				
<i>Clytemnestra scutellata</i>	-	-	-	-
Family Tachiidae				
<i>Euterpina acutifrons</i>	-	-	-	-
Subclass Cirripedia				
Cirripede nauplius*	-	-	-	-
Cypris larvae*	-	-	-	-
Subclass Malacostraca				
Order Amphipoda				
Amphipods*	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : ๓-010-๓-1793



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 Environmental Manager

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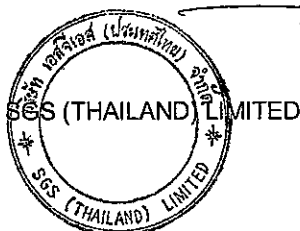
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Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Malacostraca				
Order Decapoda				
<i>Lucifer</i> sp.	-	-	-	-
Brachyuran larvae*	-	-	-	-
Pagurid larvae*	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Gastropod larvae*	-	-	741	247
Order Thecosomata				
Family Limacinidae				
<i>Limacina inflata</i>	-	-	-	-
Family Cavoliniidae				
<i>Creseis</i> sp.	-	-	-	-
<i>Diacria quadridentata</i>	-	-	-	-
<i>Diacria trispinosa</i>	-	-	-	-
<i>Carinaria</i> sp.	-	-	-	-
Class Pelecypoda (Bivalia)				
Pelecypod larvae*	-	-	-	-
Phylum Echinodermata				
Class Ophiuroidea				
Ophiopluteus larvae*	-	-	-	-

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



Sompong Kiatiporn
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 Environmental Manager

SK/SA/BS/Pp

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Analysis Report

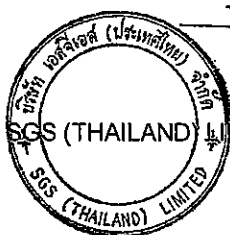
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SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Chordata				
Class Larvacea				
Family Oikopleuridae				
<i>Oikopleura</i> sp.	-	2,121	741	954
<i>Oikopleura albicans</i>	-	-	-	-
<i>Oikopleura dioica</i>	-	-	-	-
<i>Oikopleura fusiformis</i>	-	-	-	-
<i>Oikopleura longicauda</i>	-	-	-	-
<i>Oikopleura parva</i>	-	-	-	-
Family Fritillariidae				
<i>Fritillaria</i> sp.	-	-	-	-
Class Thaliacea				
Order Doliolida				
Family Doliolidae				
<i>Doliolum denticulatum</i>	-	-	-	-
Order Salpida				
Family Salpidae				
<i>Cyclosalpa</i> sp.	-	-	-	-
<i>Salpa</i> sp.	-	-	-	-
Class Pisces				
Fish eggs*	-	-	-	-
Total Zooplankton Type	14	16	12	26
Total Zooplankton Amount	18,258	49,815	32,565	33,546

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

SK/SA/BS/Pp



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 004-6 (page 1 of 9)

Issued date : February 27, 2009

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CONTACT : Khun Morakot Suvarnapruksa
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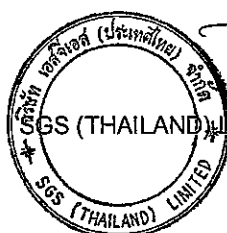
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa				
Subphylum Plasmodroma				
Class Sarcodina				
Subclass Rhizophoda				
Order Foraminiferida				
<i>Gallitellia</i> sp.	-	-	-	-
<i>Globorotalia</i> sp.	-	-	-	-
Foraminiferans*	-	-	-	-
Subclass Actinopoda				
<i>Acanthometron pellucidum</i>	-	-	-	-
<i>Lithomelissa monoceras</i>	-	-	-	-
radiolarians*	852	2,244	1,539	1,545
Class Acntherea				
Order Chaunacanthida				
<i>Staurocon pallidus</i>	-	-	-	-
Subphylum Ciliophora				
Class Ciliata				
<i>Epiplocyloides</i> sp.	-	-	-	-
<i>Vorticella oceanica</i>	-	-	3,081	1,027
Order Tintinida				
Family Codonellidae				
<i>Leprotintinnus nordquisti</i>	-	-	-	-
<i>Tintinnopsis</i> sp.1	-	-	-	-
<i>Tintinnopsis gracilis</i>	-	-	-	-

Remark : * Not identify

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 7-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-6 (page 2 of 9)

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
 COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E

SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Class Ciliata				
Order Tintinida				
Family Codonellopsidae				
<i>Codonellopsis morchella</i>	-	204	-	68
<i>Codonellopsis oftenfeldi</i>	-	-	-	-
Family Rhabdonellidae				
<i>Protorhabdonella</i> sp.1	-	-	-	-
<i>Protorhabdonella</i> sp.2	-	-	660	220
<i>Protorhabdonella simplex</i>	-	-	-	-
<i>Rhabdonella</i> sp.1	-	-	-	-
<i>Rhabdonella</i> sp.2	-	-	219	73
<i>Rhabdonella</i> sp.3	-	204	-	68
<i>Rhabdonella</i> sp.4	-	-	-	-
<i>Rhabdonella</i> sp.5	-	-	-	-
<i>Rhabdonella conica</i>	-	204	-	68
<i>Rhabdonella cuspidata</i>	-	-	-	-
<i>Rhabdonella poculum</i>	-	-	-	-
Family Tintinidae				
<i>Steenstrupiella</i> sp.	-	-	-	-
<i>Amphorelloopsis</i> sp.	-	-	-	-
<i>Amphorelloopsis acuta</i>	-	204	-	68
<i>Dadayiella cuspis</i>	-	-	-	-
<i>Eutintinnus</i> sp.1	-	-	-	-
<i>Eutintinnus</i> sp.2	-	-	-	-
<i>Eutintinnus</i> sp.3	-	-	-	-

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-6 (page 3 of 9)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
 COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E
 SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Subphylum Ciliophora				
Class Ciliata				
Order Tintinida				
Family Tintinidae				
<i>Eutintinnus maculatus</i>	-	-	219	73
<i>Eutintinnus perminutus</i>	-	204	441	215
<i>Salpingella</i> sp.	-	-	-	-
Phylum Cnidaria				
Class Hydrozoa				
Hydromedusae*	-	-	-	-
Order Anthomedusa				
Anthomedusae*	-	-	-	-
Order Leptomedusa				
Family Eutimididae				
<i>Eutima</i> sp.	-	-	-	-
Order Siphonophora				
Family Diphyidae				
<i>Lensia</i> sp.	-	-	-	-
Siphonophora*	-	-	-	-
Phylum Ctenophora				
Class Tentaculata				
Order Cydippida				
Cydippid larvae*	-	-	-	-

Remark : * Not identify

Siriporn 1.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-6 (page 4 of 9)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Rotifera				
Class Monogononta				
Order Ploima				
Family Sagittidae				
<i>Keratella cochlearis</i>	-	-	-	-
Family Synchaetidae				
<i>Synchaeta</i> sp.	-	-	-	-
Phylum Chaetognatha				
Class Sagittoidea				
Family Sagittidae				
<i>Sagitta</i> spp.	-	204	-	68
Phylum Annelida				
Class Polychaeta				
<i>Nereis pelagica</i>	-	-	-	-
Polychaete larvae*	426	204	-	210
Family Tomopteridae				
<i>Tomopteris</i> sp.	-	-	-	-
Phylum Arthropoda				
Class Crustacea				
Subclass Branchiopoda				
Order Diplostraca				
<i>Pseudoevadne tergestina</i>	-	-	-	-
Subclass Ostracoda				
Order Myodocopa				
Ostracods*	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-6 (page 5 of 9)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E
SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Crustacea				
Subclass Ostracoda				
Order Myodocopa				
Family Conchoecia				
<i>Euconchoecia</i> sp.	-	-	-	-
<i>Conchoecia</i> sp.	-	-	-	-
Family Cypridinidae				
<i>Cypridina</i> sp.	-	-	-	-
<i>Philomedes</i> sp.	-	-	-	-
Subclass Copepoda				
Copepod nauplii*	11,733	6,324	11,880	9,979
Order Calanoida				
<i>Canthocalanus pauper</i>	-	-	-	-
<i>Subeucalanus subcrassus</i>	-	-	-	-
<i>Undinula vulgaris</i>	426	-	-	142
Calanoid copepodid*	426	2,925	2,859	2,070
Calanoid copepods*	-	-	-	-
Family Pseudocalanidae				
<i>Clausocalanus furcatus</i>	-	-	-	-
Family Paracalanidae				
<i>Paracalanus aculeatus</i>	-	-	-	-
<i>Acrocalanus gibber</i>	-	-	-	-
<i>Acrocalanus gracilis</i>	-	-	-	-
Family Temoridae				
<i>Temora discaudata</i>	-	-	-	-

Remark : * Not identify

Siriporn L
 (Siriporn Imwilaiwan)
 License ID : 0-010-P-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-6 (page 6 of 9)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E
SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Calanoida				
Family Pontellidae				
<i>Labidocera acuta</i>	-	-	-	-
Family Candaciidae				
<i>Candacia</i> sp.	-	-	-	-
Family Acartiidae				
<i>Acartia erythraea</i>	-	-	-	-
Order Cyclopoida				
<i>Farranula</i> sp.1	-	-	-	-
<i>Farranula</i> sp.2	-	-	-	-
<i>Farranula concinna</i>	-	-	-	-
<i>Farranula gibbula</i>	426	-	219	215
Cyclopoid copepodid*	426	-	660	362
Family Oithonidae				
<i>Oithona</i> sp.	-	-	219	73
Family Oncaeeidae				
<i>Oncaea</i> sp.	-	-	-	-
<i>Oncaea conifera</i>	-	-	-	-
<i>Oncaea venusta</i>	-	-	-	-
Family Corycaeeidae				
<i>Corycaeus</i> sp.1	-	-	-	-
<i>Corycaeus</i> sp.2	-	-	-	-
<i>Corycaeus agilis</i>	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-6 (page 7 of 9)

Issued date : February 27, 2009

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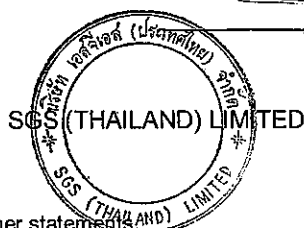
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E
SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Cyclopoida				
Family Corycaeidae				
<i>Corycaeus asiaticus</i>	-	-	219	73
<i>Corycaeus speciosus</i>	-	-	-	-
Family Sapphirinidae				
<i>Sapphirina</i> sp.1	-	-	-	-
<i>Sapphirina</i> sp.2	-	-	-	-
Order Harpacticoida				
Harpacticoid copepodid*	-	-	-	-
Family Macrosetellidae				
<i>Macrosetella gracilis</i>	-	-	219	73
<i>Microsetella norvegica</i>	4,266	681	2,199	2,382
Family Clytemnestridae				
<i>Clytemnestra scutellata</i>	-	-	-	-
Family Tachiidae				
<i>Euterpina acutifrons</i>	-	-	-	-
Subclass Cirripedia				
Cirripede nauplius*	-	-	-	-
Cypris larvae*	-	-	-	-
Subclass Malacostraca				
Order Amphipoda				
Amphipods*	-	-	-	-

Remark : * Not identify

Siriporn
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-6 (page 8 of 9)

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E
SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Malacostraca				
Order Decapoda				
<i>Lucifer</i> sp.	-	-	-	-
Brachyuran larvae*	-	-	-	-
Pagurid larvae*	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Gastropod larvae*	213	204	441	286
Order Thecosomata				
Family Limacinidae				
<i>Limacina inflata</i>	-	-	-	-
Family Cavoliniidae				
<i>Creseis</i> sp.	-	-	-	-
<i>Diacria quadridentata</i>	-	-	-	-
<i>Diacria trispinosa</i>	-	-	-	-
<i>Carinaria</i> sp.	-	-	-	-
Class Pelecypoda (Bivalia)				
Pelecypod larvae*	-	-	219	73
Phylum Echinodermata				
Class Ophiuroidea				
Ophiopluteus larvae*	-	204	-	68

Remark : * Not identify

Siriporn L
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793

SK/SA/BS/Pp



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 004-6 (page 9 of 9)

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E

SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Chordata				
Class Larvacea				
Family Oikopleuridae				
<i>Oikopleura</i> sp.	-	204	219	141
<i>Oikopleura albicans</i>	-	-	-	-
<i>Oikopleura dioica</i>	-	-	-	-
<i>Oikopleura fusiformis</i>	-	-	-	-
<i>Oikopleura longicauda</i>	-	-	-	-
<i>Oikopleura parva</i>	-	-	-	-
Family Fritillariidae				
<i>Fritillaria</i> sp.	-	-	-	-
Class Thaliacea				
Order Doliolida				
Family Doliolidae				
<i>Doliolum denticulatum</i>	-	-	-	-
Order Salpida				
Family Salpidae				
<i>Cyclosalpa</i> sp.	-	-	-	-
<i>Salpa</i> sp.	-	-	-	-
Class Pisces				
Fish eggs*	-	-	-	-
Total Zooplankton Type	9	14	17	25
Total Zooplankton Amount	19,194	14,214	25,512	19,640

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : ๓-010-๓-1793

SK/SA/BS/Pp



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 004-7 (page 1 of 9)

Issued date : February 27, 2009

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Analysis Report

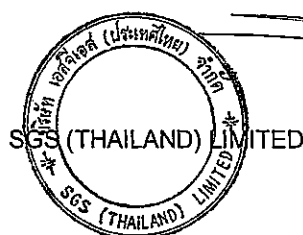
SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Krut-2
COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E

SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa				
Subphylum Plasmodroma				
Class Sarcodina				
Subclass Rhizophoda				
Order Foraminiferida				
<i>Gallitellia</i> sp.	-	-	162	54
<i>Globorotalia</i> sp.	-	-	-	-
Foraminiferans*	-	741	-	247
Subclass Actinopoda				
<i>Acanthometron pellucidum</i>	-	-	-	-
<i>Lithomelissa monoceras</i>	-	-	-	-
radiolarians*	-	1,410	1,620	1,010
Class Acnatharea				
Order Chaunacanthida				
<i>Stauracon pallidus</i>	-	-	-	-
Subphylum Ciliophora				
Class Ciliata				
<i>Epplocyloides</i> sp.	-	-	-	-
<i>Vorticella oceanica</i>	-	-	-	-
Order Tintinida				
Family Codonellidae				
<i>Leptotintinnus nordquisti</i>	-	-	-	-
<i>Tintinnopsis</i> sp.1	-	-	-	-
<i>Tintinnopsis gracilis</i>	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaivan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-7 (page 2 of 9)

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Krut-2
COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E

SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Class Ciliata				
Order Tintinida				
Family Codonellopsidae				
<i>Codonellopsis morchella</i>	-	-	-	-
<i>Codonellopsis oftenfeldi</i>	-	-	-	-
Family Rhabdonellidae				
<i>Protorhabdonella</i> sp.1	-	-	-	-
<i>Protorhabdonella</i> sp.2	-	-	-	-
<i>Protorhabdonella simplex</i>	-	-	162	54
<i>Rhabdonella</i> sp.1	-	-	-	-
<i>Rhabdonella</i> sp.2	-	-	162	54
<i>Rhabdonella</i> sp.3	-	-	702	234
<i>Rhabdonella</i> sp.4	-	-	-	-
<i>Rhabdonella</i> sp.5	-	-	-	-
<i>Rhabdonella conica</i>	408	-	162	190
<i>Rhabdonella cuspidata</i>	-	-	-	-
<i>Rhabdonella poculum</i>	204	741	-	315
Family Tintinidae				
<i>Steenstrupiella</i> sp.	-	-	-	-
<i>Amphorellopsis</i> sp.	-	-	-	-
<i>Amphorellopsis acuta</i>	408	-	1,242	550
<i>Dadayiella cuspis</i>	1,422	741	540	901
<i>Eutintinnus</i> sp.1	-	-	324	108
<i>Eutintinnus</i> sp.2	-	-	-	-
<i>Eutintinnus</i> sp.3	-	741	-	247

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 0-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 004-7 (page 3 of 9)

Issued date : February 27, 2009

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Analysis Report

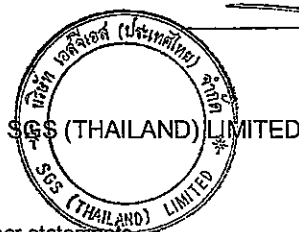
SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Krut-2
COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E

SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Subphylum Ciliophora				
Class Ciliata				
Order Tintinida				
Family Tintinidae				
<i>Eutintinnus maculatus</i>	-	-	-	-
<i>Eutintinnus perminutus</i>	-	-	-	-
<i>Salpingella</i> sp.	-	-	-	-
Phylum Cnidaria				
Class Hydrozoa				
Hydromedusae*	-	-	-	-
Order Anthomedusa				
Anthomedusae*	-	-	-	-
Order Leptomedusa				
Family Eutimidae				
<i>Eutima</i> sp.	-	-	-	-
Order Siphonophora				
Family Diphyidae				
<i>Lensia</i> sp.	-	-	-	-
Siphonophora*	-	-	-	-
Phylum Ctenophora				
Class Tentaculata				
Order Cydippida				
Cydippid larvae*	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Analysis Report

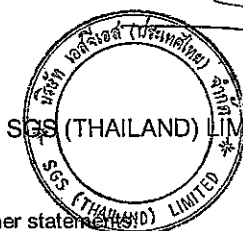
SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Krut-2
COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E

SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Rotifera				
Class Monogononta				
Order Ploima				
Family Sagittidae				
<i>Keratella cochlearis</i>	-	-	-	-
Family Synchaetidae				
<i>Synchaeta</i> sp.	-	-	-	-
Phylum Chaetognatha				
Class Sagittioidea				
Family Sagittidae				
<i>Sagitta</i> spp.	-	-	-	-
Phylum Annelida				
Class Polychaeta				
<i>Nereis pelagica</i>	-	-	-	-
Polychaete larvae*	813	1479	-	764
Family Tomopteridae				
<i>Tomopteris</i> sp.	-	-	-	-
Phylum Arthropoda				
Class Crustacea				
Subclass Branchiopoda				
Order Diplostraca				
<i>Pseudoevadne tergestina</i>	-	-	-	-
Subclass Ostracoda				
Order Myodocopa				
Ostracods*	-	-	-	-

Remark : * Not identify

Siriporn 2
 (Siriporn Imwilaiwan)
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(Sompong Kiatiporn)
 Environmental Manager

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Analysis Report

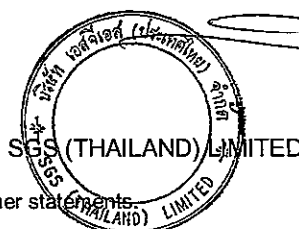
SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Krut-2
COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E

SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Crustacea				
Subclass Ostracoda				
Order Myodocopa				
Family Conchoecia				
<i>Euconchoecia</i> sp.	-	-	-	-
<i>Conchoecia</i> sp.	-	-	-	-
Family Cypridinidae				
<i>Cypridina</i> sp.	-	-	-	-
<i>Philomedes</i> sp.	-	-	-	-
Subclass Copepoda				
Copepod nauplii*	7,524	11,100	6,804	8,476
Order Calanoida				
<i>Canthocalanus pauper</i>	-	-	-	-
<i>Subeucalanus subcrassus</i>	-	-	-	-
<i>Undinula vulgaris</i>	-	-	-	-
Calanoid copepodid*	366	-	1,242	536
Calanoid copepods*	-	741	-	247
Family Pseudocalanidae				
<i>Clausocalanus furcatus</i>	-	-	-	-
Family Paracalanidae				
<i>Paracalanus aculeatus</i>	-	-	-	-
<i>Acrocalanus gibber</i>	-	-	-	-
<i>Acrocalanus gracilis</i>	-	-	-	-
Family Temoridae				
<i>Temora discaudata</i>	-	-	-	-

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Krut-2
COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E
SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Calanoida				
Family Pontellidae				
<i>Labidocera acuta</i>	-	-	-	-
Family Candaciidae				
<i>Candacia</i> sp.	-	-	-	-
Family Acartiidae				
<i>Acartia erythraea</i>	-	-	-	-
Order Cyclopoida				
<i>Farranula</i> sp.1	-	-	-	-
<i>Farranula</i> sp.2	-	-	-	-
<i>Farranula concinna</i>	-	-	-	-
<i>Farranula gibbula</i>	-	741	-	247
Cyclopoid copepodid*	813	-	-	271
Family Oithonidae				
<i>Oithona</i> sp.	-	-	162	54
Family Oncaeiidae				
<i>Oncaea</i> sp.	-	-	-	-
<i>Oncaea conifera</i>	-	-	-	-
<i>Oncaea venusta</i>	-	741	-	247
Family Corycaeiidae				
<i>Corycaeus</i> sp.1	-	-	-	-
<i>Corycaeus</i> sp.2	-	-	-	-
<i>Corycaeus agilis</i>	-	-	162	54

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Krut-2
COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E

SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Cyclopoida				
Family Corycaeidae				
<i>Corycaeus asiaticus</i>	204	-	-	68
<i>Corycaeus speciosus</i>	-	-	-	-
Family Sapphirinidae				
<i>Sapphirina</i> sp.1	-	-	-	-
<i>Sapphirina</i> sp.2	-	-	-	-
Order Harpacticoida				
Harpacticoid copepodid*	-	-	-	-
Family Macrosetellidae				
<i>Macrosetella gracilis</i>	-	-	-	-
<i>Macrosetella norvegica</i>	408	1,479	1,620	1,169
Family Clytemnestidae				
<i>Clytemnestra scutellata</i>	-	-	-	-
Family Tachiidae				
<i>Euterpina acutifrons</i>	-	-	-	-
Subclass Cirripedia				
Cirripede nauplius*	-	-	-	-
Cypris larvae*	-	-	-	-
Subclass Malacostraca				
Order Amphipoda				
Amphipods*	-	-	-	-

Remark : * Not identify

Siriporn ?
 (Siriporn Imwilaiwan)
 License ID : ๓-010-๙-1793



(Sompong Kiatiporn)
 Environmental Manager

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Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Krut-2
COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E

SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Malacostraca				
Order Decapoda				
<i>Lucifer</i> sp.	-	-	-	-
Brachyuran larvae*	-	-	-	-
Pagurid larvae*	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Gastropod larvae*	204	-	162	122
Order Thecosomata				
Family Limacinidae				
<i>Limacina inflata</i>	-	-	-	-
Family Cavoliniidae				
<i>Creseis</i> sp.	-	-	-	-
<i>Diacria quadridentata</i>	-	-	-	-
<i>Diacria trispinosa</i>	-	-	-	-
<i>Carinaria</i> sp.	-	-	-	-
Class Pelecypoda (Bivalia)				
Pelecypod larvae*	-	-	162	54
Phylum Echinodermata				
Class Ophiuroidea				
Ophiopluteus larvae*	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 7-010-A-1793

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Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 004-7 (page 9 of 9)

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Krut-2
COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E

SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Chordata				
Class Larvacea				
Family Oikopleuridae				
<i>Oikopleura</i> sp.	-	-	-	-
<i>Oikopleura albicans</i>	-	-	-	-
<i>Oikopleura dioica</i>	-	-	-	-
<i>Oikopleura fusiformis</i>	-	-	-	-
<i>Oikopleura longicauda</i>	-	-	-	-
<i>Oikopleura parva</i>	-	-	-	-
Family Fritillariidae				
<i>Fritillaria</i> sp.	-	-	-	-
Class Thaliacea				
Order Doliolida				
Family Doliolidae				
<i>Doliolum denticulatum</i>	-	-	-	-
Order Salpida				
Family Salpidae				
<i>Cyclosalpa</i> sp.	-	-	-	-
<i>Salpa</i> sp.	-	-	-	-
Class Pisces				
Fish eggs*	-	-	-	-
Total Zooplankton Type	11	11	16	25
Total Zooplankton Amount	12,774	20,655	15,390	16,273

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 004-8 (page 1 of 9)

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa				
Subphylum Plasmodroma				
Class Sarcodina				
Subclass Rhizophoda				
Order Foraminiferida				
<i>Gallitellia</i> sp.	324	-	-	108
<i>Globorotalia</i> sp.	864	-	-	288
Foraminiferans*	1,242	-	-	414
Subclass Actinopoda				
<i>Acanthometron pellucidum</i>	-	-	-	-
<i>Lithomelissa monoceras</i>	-	-	-	-
radiolarians*	-	-	-	-
Class Acntherea				
Order Chaunacanthida				
<i>Stauracon pallidus</i>	-	-	-	-
Subphylum Ciliophora				
Class Ciliata				
<i>Epiplocyloides</i> sp.	-	-	-	-
<i>Vorticella oceanica</i>	-	-	-	-
Order Tintinida				
Family Codonellidae				
<i>Leprotintinnus nordquisti</i>	-	-	-	-
<i>Tintinnopsis</i> sp.1	-	-	-	-
<i>Tintinnopsis gracilis</i>	-	-	-	-

Remark : * Not identify

Siriporn I
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



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 Environmental Manager

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Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Class Ciliata				
Order Tintinida				
Family Codonellopsidae				
<i>Codonellopsis morchella</i>	864	4,266	2,241	2,457
<i>Codonellopsis oftenfeldi</i>	-	-	141	47
Family Rhabdonellidae				
<i>Protorhabdonella</i> sp.1	-	-	-	-
<i>Protorhabdonella</i> sp.2	-	-	-	-
<i>Protorhabdonella simplex</i>	-	852	561	471
<i>Rhabdonella</i> sp.1	-	-	-	-
<i>Rhabdonella</i> sp.2	324	-	-	108
<i>Rhabdonella</i> sp.3	-	-	-	-
<i>Rhabdonella</i> sp.4	-	-	-	-
<i>Rhabdonella</i> sp.5	-	-	-	-
<i>Rhabdonella conica</i>	-	-	420	140
<i>Rhabdonella cuspidata</i>	-	-	-	-
<i>Rhabdonella poculum</i>	-	426	141	189
Family Tintinidae				
<i>Steenstrupiella</i> sp.	-	-	-	-
<i>Amphorelloopsis</i> sp.	-	-	-	-
<i>Amphorelloopsis acuta</i>	162	-	561	241
<i>Dadayiella cuspis</i>	-	-	141	47
<i>Eutintinnus</i> sp.1	702	-	-	234
<i>Eutintinnus</i> sp.2	-	-	-	-
<i>Eutintinnus</i> sp.3	-	-	-	-

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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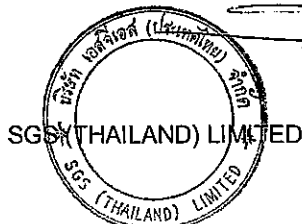
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SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E
SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Subphylum Ciliophora				
Class Ciliata				
Order Tintinida				
Family Tintinidae				
<i>Eutintinnus maculatus</i>	-	2,772	1,119	1,297
<i>Eutintinnus perminutus</i>	324	-	279	201
<i>Salpingella</i> sp.	-	-	-	-
Phylum Cnidaria				
Class Hydrozoa				
Hydromedusae*	-	-	-	-
Order Anthomedusa				
Anthomedusae*	-	-	-	-
Order Leptomedusa				
Family Eutimididae				
<i>Eutima</i> sp.	-	-	-	-
Order Siphonophora				
Family Diphyidae				
<i>Lensia</i> sp.	-	-	-	-
Siphonophora*	-	-	-	-
Phylum Ctenophora				
Class Tentaculata				
Order Cydippida				
Cydippid larvae*	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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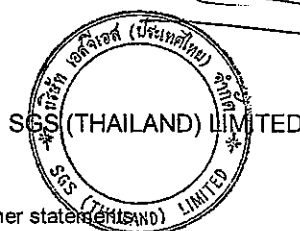
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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E
SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Rotifera				
Class Monogononta				
Order Ploima				
Family Sagittidae				
<i>Keratella cochlearis</i>	-	-	-	-
Family Synchaetidae				
<i>Synchaeta</i> sp.	-	-	-	-
Phylum Chaetognatha				
Class Sagittoidea				
Family Sagittidae				
<i>Sagitta</i> spp.	-	-	-	-
Phylum Annelida				
Class Polychaeta				
<i>Nereis pelagica</i>	-	-	-	-
Polychaete larvae*	-	-	-	-
Family Tomopteridae				
<i>Tomopteris</i> sp.	-	-	-	-
Phylum Arthropoda				
Class Crustacea				
Subclass Branchiopoda				
Order Diplostraca				
<i>Pseudoevadne tergestina</i>	-	-	-	-
Subclass Ostracoda				
Order Myodocopa				
Ostracods*	-	-	-	-

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 7-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

This report is issued in accordance to the disclaimer statement

Report No. : 2009-00051 / 004-8 (page 5 of 9)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Crustacea				
Subclass Ostracoda				
Order Myodocopa				
Family Conchoecia				
<i>Euconchoecia</i> sp.	-	-	-	-
<i>Conchoecia</i> sp.	-	-	-	-
Family Cypridinidae				
<i>Cypridina</i> sp.	-	-	-	-
<i>Philomedes</i> sp.	-	-	-	-
Subclass Copepoda				
Copepod nauplii*	8,100	23,892	16,101	16,031
Order Calanoida				
<i>Canthocalanus pauper</i>	-	-	-	-
<i>Subeucalanus subcrassus</i>	-	-	-	-
<i>Undinula vulgaris</i>	-	-	-	-
Calanoid copepodid*	2,322	5,547	1,401	3,090
Calanoid copepods*	-	-	-	-
Family Pseudocalanidae				
<i>Clausocalanus furcatus</i>	-	-	-	-
Family Paracalanidae				
<i>Paracalanus aculeatus</i>	-	-	-	-
<i>Acrocalanus gibber</i>	-	-	-	-
<i>Acrocalanus gracilis</i>	-	-	-	-
Family Temoridae				
<i>Temora discaudata</i>	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E
SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Calanoida				
Family Pontellidae				
<i>Labidocera acuta</i>	-	-	-	-
Family Candaciidae				
<i>Candacia</i> sp.	-	-	-	-
Family Acartiidae				
<i>Acartia erythraea</i>	-	-	-	-
Order Cyclopoida				
<i>Farranula</i> sp.1	-	-	-	-
<i>Farranula</i> sp.2	-	-	-	-
<i>Farranula concinna</i>	-	-	-	-
<i>Farranula gibbula</i>	-	-	-	-
Cyclopoid copepodid*	-	1,068	1,680	916
Family Oithonidae				
<i>Oithona</i> sp.	162	-	-	54
Family Oncaeeidae				
<i>Oncaea</i> sp.	-	-	-	-
<i>Oncaea conifera</i>	-	2,133	-	711
<i>Oncaea venusta</i>	324	-	-	108
Family Corycaeeidae				
<i>Corycaeus</i> sp.1	-	-	-	-
<i>Corycaeus</i> sp.2	-	-	-	-
<i>Corycaeus agilis</i>	162	-	141	101

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 1-010-ค-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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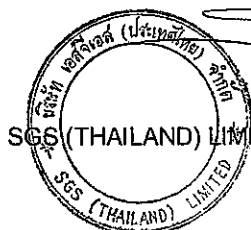
Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Cyclopoida				
Family Corycaeidae				
<i>Corycaeus asiaticus</i>	-	-	141	47
<i>Corycaeus speciosus</i>	-	-	-	-
Family Sapphirinidae				
<i>Sapphirina</i> sp.1	-	-	-	-
<i>Sapphirina</i> sp.2	-	-	-	-
Order Harpacticoida				
Harpacticoid copepodid*	-	-	-	-
Family Macrosetellidae				
<i>Macrosetella gracilis</i>	-	-	561	187
<i>Macrosetella norvegica</i>	1,458	2,133	1,680	1,757
Family Clytemnestridae				
<i>Clytemnestra scutellata</i>	-	-	-	-
Family Tachiidae				
<i>Euterpina acutifrons</i>	-	-	-	-
Subclass Cirripedia				
Cirripede nauplius*	-	-	-	-
Cypris larvae*	-	-	-	-
Subclass Malacostraca				
Order Amphipoda				
Amphipods*	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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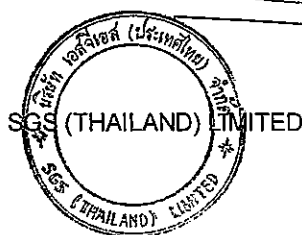
Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E
SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Malacostraca				
Order Decapoda				
<i>Lucifer</i> sp.	-	-	-	-
Brachyuran larvae*	-	-	-	-
Pagurid larvae*	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Gastropod larvae*	324	-	-	108
Order Thecosomata				
Family Limacinidae				
<i>Limacina inflata</i>	-	-	-	-
Family Cavoliniidae				
<i>Creseis</i> sp.	-	-	-	-
<i>Diacria quadridentata</i>	-	-	-	-
<i>Diacria trispinosa</i>	-	-	-	-
<i>Carinaria</i> sp.	-	-	-	-
Class Pelecypoda (Bivalia)				
Pelecypod larvae*	-	-	-	-
Phylum Echinodermata				
Class Ophiuroidea				
Ophiopluteus larvae*	-	-	-	-

Remark : * Not identify

Siriporn L
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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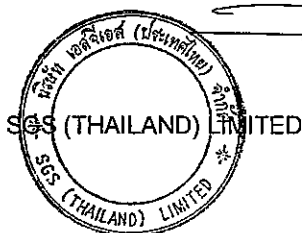
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Chordata				
Class Larvacea				
Family Oikopleuridae				
<i>Oikopleura</i> sp.	-	1,068	-	356
<i>Oikopleura albicans</i>	-	-	-	-
<i>Oikopleura dioica</i>	-	-	-	-
<i>Oikopleura fusiformis</i>	-	-	-	-
<i>Oikopleura longicauda</i>	-	-	-	-
<i>Oikopleura parva</i>	-	-	-	-
Family Fritillariidae				
<i>Fritillaria</i> sp.	-	426	-	142
Class Thaliacea				
Order Doliolida				
Family Doliolidae				
<i>Doliolum denticulatum</i>	-	-	-	-
Order Salpida				
Family Salpidae				
<i>Cyclosalpa</i> sp.	-	-	-	-
<i>Salpa</i> sp.	-	-	-	-
Class Pisces				
Fish eggs*	-	-	-	-
Total Zooplankton Type	15	11	16	27
Total Zooplankton Amount	17,658	44,583	27,309	29,850

Remark : * Not identify

Siriporn L.
 (Siriporn Imvilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-9 (page 1 of 9)

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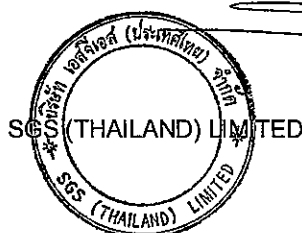
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 1
COORDINATION (WGS84) : 9° 07' 19.92" N, 101° 05' 58.26" E
SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa				
Subphylum Plasmodroma				
Class Sarcodina				
Subclass Rhizophoda				
Order Foraminiferida				
<i>Gallitellia</i> sp.	-	-	-	-
<i>Globorotalia</i> sp.	-	-	-	-
Foraminiferans*	-	-	-	-
Subclass Actinopoda				
<i>Acanthometron pellucidum</i>	-	-	-	-
<i>Lithomelissa monoceras</i>	-	-	-	-
radiolarians*	360	192	999	517
Class Acntherea				
Order Chaunacanthida				
<i>Stauracon pallidus</i>	-	-	-	-
Subphylum Ciliophora				
Class Ciliata				
<i>Epiplocyloides</i> sp.	-	-	-	-
<i>Vorticella oceanica</i>	-	-	-	-
Order Tintinida				
Family Codonellidae				
<i>Leprotintinnus nordquisti</i>	-	-	-	-
<i>Tintinnopsis</i> sp.1	-	-	-	-
<i>Tintinnopsis gracilis</i>	-	-	-	-

Remark : * Not identify

Siriporn L.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-9 (page 2 of 9)

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Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 1
COORDINATION (WGS84) : 9° 07' 19.92" N, 101° 05' 58.26" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Class Ciliata				
Order Tintinida				
Family Codonellopsidae				
<i>Codonellopsis morchella</i>	-	774	999	591
<i>Codonellopsis oftenfeldi</i>	-	-	-	-
Family Rhabdonellidae				
<i>Protorhabdonella</i> sp.1	180	-	-	60
<i>Protorhabdonella</i> sp.2	-	-	-	-
<i>Protorhabdonella simplex</i>	-	-	-	-
<i>Rhabdonella</i> sp.1	-	-	-	-
<i>Rhabdonella</i> sp.2	-	579	-	193
<i>Rhabdonella</i> sp.3	180	-	-	60
<i>Rhabdonella</i> sp.4	-	-	-	-
<i>Rhabdonella</i> sp.5	-	-	-	-
<i>Rhabdonella conica</i>	180	387	-	189
<i>Rhabdonella cuspidata</i>	-	-	-	-
<i>Rhabdonella poculum</i>	-	-	-	-
Family Tintinidae				
<i>Steenstrupiella</i> sp.	-	-	-	-
<i>Amphorelloopsis</i> sp.	-	-	-	-
<i>Amphorelloopsis acuta</i>	-	-	-	-
<i>Dadayiella cuspis</i>	-	-	399	133
<i>Eutintinnus</i> sp.1	-	-	-	-
<i>Eutintinnus</i> sp.2	-	-	-	-
<i>Eutintinnus</i> sp.3	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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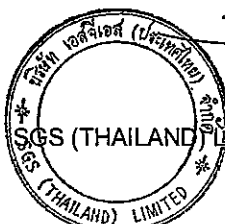
Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 1
COORDINATION (WGS84) : 9° 07' 19.92" N, 101° 05' 58.26" E
SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Subphylum Ciliophora				
Class Ciliata				
Order Tintinida				
Family Tintinidae				
<i>Eutintinnus maculatus</i>	-	-	-	-
<i>Eutintinnus perminutus</i>	180	-	-	60
<i>Salpingella</i> sp.	-	-	-	-
Phylum Cnidaria				
Class Hydrozoa				
Hydromedusae*	-	-	-	-
Order Anthomedusa				
Anthomedusae*	-	-	-	-
Order Leptomedusa				
Family Eutimidae				
<i>Eutima</i> sp.	-	-	-	-
Order Siphonophora				
Family Diphyidae				
<i>Lensia</i> sp.	-	-	-	-
Siphonophora*	-	-	-	-
Phylum Ctenophora				
Class Tentaculata				
Order Cydippida				
<i>Cydippid larvae*</i>	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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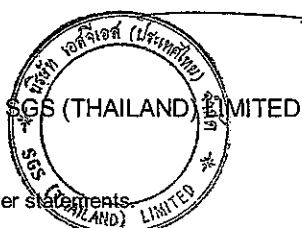
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COORDINATION (WGS84) : 9° 07' 19.92" N, 101° 05' 58.26" E
SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Rotifera				
Class Monogononta				
Order Ploima				
Family Sagittidae				
<i>Keratella cochlearis</i>	-	-	-	-
Family Synchaetidae				
<i>Synchaeta</i> sp.	-	-	399	133
Phylum Chaetognatha				
Class Sagittoidea				
Family Sagittidae				
<i>Sagitta</i> spp.	-	-	-	-
Phylum Annelida				
Class Polychaeta				
<i>Nereis pelagica</i>	-	-	-	-
Polychaete larvae*	-	-	600	200
Family Tomopteridae				
<i>Tomopteris</i> sp.	-	-	-	-
Phylum Arthropoda				
Class Crustacea				
Subclass Branchiopoda				
Order Diplostraca				
<i>Pseudoevadne tergestina</i>	180	-	-	60
Subclass Ostracoda				
Order Myodocopa				
Ostracods*	-	-	-	-

Remark : * Not identify

Siriporn I.
(Siriporn Imwilaiwan)
License ID : 2-010-A-1793



Sompong Kiatiporn
(Sompong Kiatiporn)
Environmental Manager

SK/SA/BS/Pp

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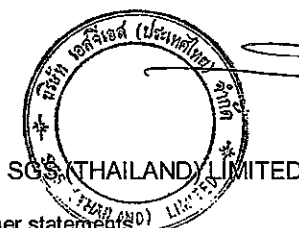
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Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Crustacea				
Subclass Ostracoda				
Order Myodocopa				
Family Conchoecia				
<i>Euconchoecia</i> sp.	-	-	-	-
<i>Conchoecia</i> sp.	-	-	-	-
Family Cypridinidae				
<i>Cypridina</i> sp.	-	-	-	-
<i>Philomedes</i> sp.	-	-	-	-
Subclass Copepoda				
Copepod nauplii*	960	3,480	2,601	2,347
Order Calanoida				
<i>Canthocalanus pauper</i>	-	-	-	-
<i>Subeucalanus subcrassus</i>	-	-	-	-
<i>Undinula vulgaris</i>	-	-	-	-
Calanoid copepodid*	960	1,161	-	707
Calanoid copepods*	-	-	-	-
Family Pseudocalanidae				
<i>Clausocalanus furcatus</i>	-	-	-	-
Family Paracalanidae				
<i>Paracalanus aculeatus</i>	-	-	-	-
<i>Acrocalanus gibber</i>	-	-	-	-
<i>Acrocalanus gracilis</i>	-	-	-	-
Family Temoridae				
<i>Temora discaudata</i>	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwifaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/PP

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Analysis Report

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Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Calanoida				
Family Pontellidae				
<i>Labidocera acuta</i>	-	-	-	-
Family Candaciidae				
<i>Candacia</i> sp.	-	-	-	-
Family Acartiidae				
<i>Acartia erythraea</i>	-	-	-	-
Order Cyclopoida				
<i>Farranula</i> sp.1	-	192	-	64
<i>Farranula</i> sp.2	-	-	-	-
<i>Farranula concinna</i>	-	-	-	-
<i>Farranula gibbula</i>	-	-	-	-
Cyclopoid copepodid*	-	-	801	267
Family Oithonidae				
<i>Oithona</i> sp.	-	-	-	-
Family Oncaeeidae				
<i>Oncaea</i> sp.	-	-	-	-
<i>Oncaea conifera</i>	-	-	-	-
<i>Oncaea venusta</i>	-	-	-	-
Family Corycaeeidae				
<i>Corycaeus</i> sp.1	-	-	-	-
<i>Corycaeus</i> sp.2	-	-	-	-
<i>Corycaeus agilis</i>	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-9 (page 7 of 9)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 1
COORDINATION (WGS84) : 9° 07' 19.92" N, 101° 05' 58.26" E
SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Cyclopoida				
Family Corycaeiidae				
<i>Corycaeus asiaticus</i>	-	-	399	133
<i>Corycaeus speciosus</i>	-	-	-	-
Family Sapphirinidae				
<i>Sapphirina</i> sp.1	-	-	-	-
<i>Sapphirina</i> sp.2	-	-	-	-
Order Harpacticoida				
Harpacticoid copepodid*	-	-	-	-
Family Macrosetellidae				
<i>Macrosetella gracilis</i>	-	-	-	-
<i>Macrosetella norvegica</i>	600	192	-	264
Family Clytemnestridae				
<i>Clytemnestra scutellata</i>	-	-	-	-
Family Tachiidae				
<i>Euterpina acutifrons</i>	-	-	-	-
Subclass Cirripedia				
Cirripede nauplius*	-	-	-	-
Cypris larvae*	-	-	-	-
Subclass Malacostraca				
Order Amphipoda				
Amphipods*	-	192	-	64

Remark : * Not identify

Siriporn I
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 1
COORDINATION (WGS84) : 9° 07' 19.92" N, 101° 05' 58.26" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Malacostraca				
Order Decapoda				
<i>Lucifer</i> sp.	-	-	-	-
Brachyuran larvae*	-	-	-	-
Pagurid larvae*	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Gastropod larvae*	-	387	399	262
Order Thecosomata				
Family Limacinidae				
<i>Limacina inflata</i>	-	-	-	-
Family Cavoliniidae				
<i>Creseis</i> sp.	-	-	-	-
<i>Diacria quadridentata</i>	-	-	-	-
<i>Diacria trispinosa</i>	-	-	-	-
<i>Carinaria</i> sp.	-	-	-	-
Class Pelecypoda (Bivalia)				
Pelecypod larvae*	360	-	201	187
Phylum Echinodermata				
Class Ophiuroidea				
Ophiopluteus larvae*	-	-	-	-


Remark : * Not identify

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

SK/SA/BS/Pp

[Signature]
 (Sompong Kiatiporn)
 Environmental Manager

SGS (THAILAND) LIMITED



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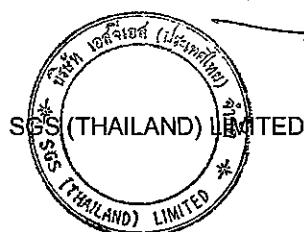
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 1
COORDINATION (WGS84) : 9° 07' 19.92" N, 101° 05' 58.26" E
SAMPLING DATE : February 6, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Chordata				
Class Larvacea				
Family Oikopleuridae				
<i>Oikopleura</i> sp.	-	192	-	64
<i>Oikopleura albicans</i>	-	-	-	-
<i>Oikopleura dioica</i>	-	-	-	-
<i>Oikopleura fusiformis</i>	-	-	-	-
<i>Oikopleura longicauda</i>	-	-	-	-
<i>Oikopleura parva</i>	-	-	-	-
Family Fritillariidae				
<i>Fritillaria</i> sp.	-	-	-	-
Class Thaliacea				
Order Doliolida				
Family Doliolidae				
<i>Doliolum denticulatum</i>	-	-	-	-
Order Salpida				
Family Salpidae				
<i>Cyclosalpa</i> sp.	-	-	-	-
<i>Salpa</i> sp.	-	-	-	-
Class Pisces				
Fish eggs*	180	-	-	60
Total Zooplankton Type	11	11	10	22
Total Zooplankton Amount	4,320	7,728	7,797	6,615

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 3-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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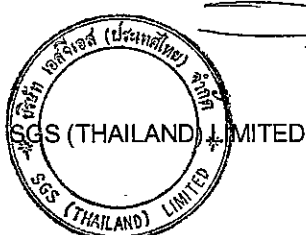
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 2
COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E
SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa				
Subphylum Plasmodroma				
Class Sarcodina				
Subclass Rhizophoda				
Order Foraminiferida				
<i>Gallitellia</i> sp.	1,320	-	-	440
<i>Globorotalia</i> sp.	660	-	-	220
Foraminiferans*	-	-	-	-
Subclass Actinopoda				
<i>Acanthometron pellucidum</i>	-	-	-	-
<i>Lithomelissa monoceras</i>	-	-	-	-
Radiolarians*	198	2,712	960	1,290
Class Acntherea				
Order Chaunacanthida				
<i>Stauracon pallidus</i>	-	-	-	-
Subphylum Ciliophora				
Class Ciliata				
<i>Epiplocyloides</i> sp.	-	-	-	-
<i>Vorticella oceanica</i>	-	-	960	320
Order Tintinida				
Family Codonellidae				
<i>Leprotintinnus nordquisti</i>	-	-	-	-
<i>Tintinnopsis</i> sp.1	-	-	960	320
<i>Tintinnopsis gracilis</i>	-	-	-	-

Remark : * Not identify

Siriporn 1.
 (Siriporn Imwilaiwan)
 License ID : 7-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Analysis Report

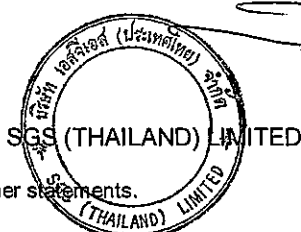
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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 2
COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E

SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Class Ciliata				
Order Tintinida				
Family Codonellopsidae				
<i>Codonellopsis morchella</i>	-	1,233	-	411
<i>Codonellopsis oftenfeldi</i>	-	-	-	-
Family Rhabdonellidae				
<i>Protorhabdonella</i> sp.1	-	-	-	-
<i>Protorhabdonella</i> sp.2	-	-	-	-
<i>Protorhabdonella simplex</i>	-	-	-	-
<i>Rhabdonella</i> sp.1	-	-	-	-
<i>Rhabdonella</i> sp.2	-	-	-	-
<i>Rhabdonella</i> sp.3	-	-	480	160
<i>Rhabdonella</i> sp.4	-	-	-	-
<i>Rhabdonella</i> sp.5	-	-	-	-
<i>Rhabdonella conica</i>	-	246	-	82
<i>Rhabdonella cuspidata</i>	-	-	-	-
<i>Rhabdonella poculum</i>	-	-	-	-
Family Tintinidae				
<i>Steenstrupiella</i> sp.	-	-	-	-
<i>Amphorelloopsis</i> sp.	-	-	-	-
<i>Amphorelloopsis acuta</i>	-	-	-	-
<i>Dadayiella cuspis</i>	-	-	-	-
<i>Eutintinnus</i> sp.1	-	-	-	-
<i>Eutintinnus</i> sp.2	-	-	-	-
<i>Eutintinnus</i> sp.3	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/PP

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Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 2
COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E
SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Subphylum Ciliophora				
Class Ciliata				
Order Tintinida				
Family Tintinidae				
<i>Eutintinnus maculatus</i>	-	-	-	-
<i>Eutintinnus perminutus</i>	396	-	-	132
<i>Salpingella</i> sp.	-	-	-	-
Phylum Cnidaria				
Class Hydrozoa				
Hydromedusae*	-	-	-	-
Order Anthomedusa				
Anthomedusae*	-	-	-	-
Order Leptomedusa				
Family Eutimididae				
<i>Eutima</i> sp.	-	-	-	-
Order Siphonophora				
Family Diphyidae				
<i>Lensia</i> sp.	-	-	-	-
Siphonophora*	-	-	-	-
Phylum Ctenophora				
Class Tentaculata				
Order Cydippida				
Cydippid larvae*	-	-	-	-

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-10 (page 4 of 9)

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Analysis Report

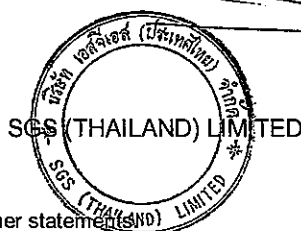
SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 2
COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E

SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Rotifera				
Class Monogononta				
Order Ploima				
Family Sagittidae				
<i>Keratella cochlearis</i>	-	-	-	-
Family Synchaetidae				
<i>Synchaeta</i> sp.	-	-	-	-
Phylum Chaetognatha				
Class Sagittoidea				
Family Sagittidae				
<i>Sagitta</i> spp.	-	-	-	-
Phylum Annelida				
Class Polychaeta				
<i>Nereis pelagica</i>	-	-	-	-
Polychaete larvae*	660	246	960	622
Family Tomopteridae				
<i>Tomopteris</i> sp.	-	-	-	-
Phylum Arthropoda				
Class Crustacea				
Subclass Branchiopoda				
Order Diplostraca				
<i>Pseudoevadne tergestina</i>	-	-	-	-
Subclass Ostracoda				
Order Myodocopa				
Ostracods*	198	-	-	66

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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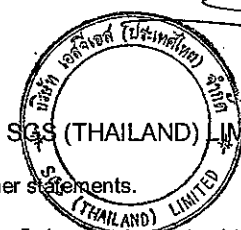
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COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E
SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Crustacea				
Subclass Ostracoda				
Order Myodocopa				
Family Conchoecia				
<i>Euconchoecia</i> sp.	-	-	-	-
<i>Conchoecia</i> sp.	-	-	-	-
Family Cypridinidae				
<i>Cypridina</i> sp.	-	-	-	-
<i>Philomedes</i> sp.	-	-	-	-
Subclass Copepoda				
Copepod nauplii*	8,118	11,592	34,560	18,090
Order Calanoida				
<i>Canthocalanus pauper</i>	-	-	-	-
<i>Subeucalanus subcrassus</i>	-	-	-	-
<i>Undinula vulgaris</i>	-	-	-	-
Calanoid copepodid*	2,178	3,207	1,920	2,435
Calanoid copepods*	-	-	2,880	960
Family Pseudocalanidae				
<i>Clausocalanus furcatus</i>	-	-	-	-
Family Paracalanidae				
<i>Paracalanus aculeatus</i>	-	-	1,440	480
<i>Acrocalanus gibber</i>	-	-	-	-
<i>Acrocalanus gracilis</i>	-	-	480	160
Family Temoridae				
<i>Temora discaudata</i>	-	246	-	82

Remark : * Not identify

Siriporn I
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E

SAMPLING DATE : February 7, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Calanoida				
Family Pontellidae				
<i>Labidocera acuta</i>	-	-	-	-
Family Candaciidae				
<i>Candacia</i> sp.	-	-	-	-
Family Acartiidae				
<i>Acartia erythraea</i>	-	-	480	160
Order Cyclopoida				
<i>Farranula</i> sp.1	396	-	480	292
<i>Farranula</i> sp.2	-	-	-	-
<i>Farranula concinna</i>	-	-	-	-
<i>Farranula gibbula</i>	-	-	480	160
Cyclopoid copepodid*	-	-	-	-
Family Oithonidae				
<i>Oithona</i> sp.	198	-	-	66
Family Oncaeidae				
<i>Oncaea</i> sp.	-	-	-	-
<i>Oncaea conifera</i>	-	-	-	-
<i>Oncaea venusta</i>	-	-	-	-
Family Corycaeidae				
<i>Corycaeus</i> sp.1	-	-	1,920	640
<i>Corycaeus</i> sp.2	-	-	-	-
<i>Corycaeus agilis</i>	198	246	-	148

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 1-010-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Cyclopoida				
Family Corycaeidae				
<i>Corycaeus asiaticus</i>	-	-	-	-
<i>Corycaeus speciosus</i>	-	-	-	-
Family Sapphirinidae				
<i>Sapphirina</i> sp.1	-	-	-	-
<i>Sapphirina</i> sp.2	-	-	-	-
Order Harpacticoida				
Harpacticoid copepodid*	-	-	-	-
Family Macrosetellidae				
<i>Macrosetella gracilis</i>	-	-	-	-
<i>Microsetella norvegica</i>	660	492	480	544
Family Clytemnestidae				
<i>Clytemnestra scutellata</i>	-	-	-	-
Family Tachiidae				
<i>Euterpina acutifrons</i>	-	246	-	82
Subclass Cirripedia				
Cirripede nauplius*	-	-	3,360	1,120
Cypris larvae*	-	-	-	-
Subclass Malacostraca				
Order Amphipoda				
Amphipods*	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SGS (THAILAND) LIMITED

SK/SA/BS/Pp

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Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Malacostraca				
Order Decapoda				
<i>Lucifer</i> sp.	-	-	480	160
Brachyuran larvae*	-	-	-	-
Pagurid larvae*	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Gastropod larvae*	660	741	-	467
Order Thecosomata				
Family Limacinidae				
<i>Limacina inflata</i>	-	-	-	-
Family Cavoliniidae				
<i>Creseis</i> sp.	-	-	960	320
<i>Diacria quadridentata</i>	-	-	-	-
<i>Diacria trispinosa</i>	-	-	-	-
<i>Carinaria</i> sp.	-	-	-	-
Class Pelecypoda (Bivalia)				
Pelecypod larvae*	396	-	-	132
Phylum Echinodermata				
Class Ophiuroidea				
Ophiopluteus larvae*	-	-	-	-

Remark : * Not identify

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793

SK/SA/BS/Pp

SGS (THAILAND) LIMITED



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 004-10 (page 9 of 9)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 2
COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Chordata				
Class Larvacea				
Family Oikopleuridae				
<i>Oikopleura</i> sp.	-	246	960	402
<i>Oikopleura albicans</i>	-	-	-	-
<i>Oikopleura dioica</i>	-	-	-	-
<i>Oikopleura fusiformis</i>	-	-	-	-
<i>Oikopleura longicauda</i>	-	-	-	-
<i>Oikopleura parva</i>	-	-	-	-
Family Fritillariidae				
<i>Fritillaria</i> sp.	198	-	-	66
Class Thaliacea				
Order Doliolida				
Family Doliolidae				
<i>Doliolum denticulatum</i>	-	-	-	-
Order Salpida				
Family Salpidae				
<i>Cyclosalpa</i> sp.	-	-	-	-
<i>Salpa</i> sp.	-	-	-	-
Class Pisces				
Fish eggs*	-	-	-	-
Total Zooplankton Type	15	12	19	32
Total Zooplankton Amount	16,434	21,453	55,200	31,029

Remark : * Not identify

Siriporn L
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-11 (page 1 of 9)

Issued date : February 27, 2009

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Analysis Report

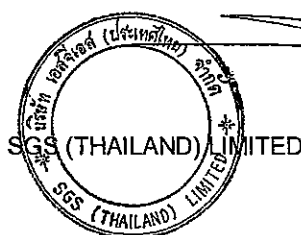
SAMPLE DESIGNATED AS : Zooplankton Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa				
Subphylum Plasmodroma				
Class Sarcodina				
Subclass Rhizophoda				
Order Foraminiferida				
<i>Gallitellia</i> sp.	-	-	-	-
<i>Globorotalia</i> sp.	-	-	-	-
Foraminiferans*	-	-	489	163
Subclass Actinopoda				
<i>Acanthometron pellucidum</i>	-	-	-	-
<i>Lithomelissa monoceras</i>	-	-	-	-
radiolarians*	156	-	3,429	1,195
Class Acntherea				
Order Chaunacanthida				
<i>Staurocon pallidus</i>	-	-	-	-
Subphylum Ciliophora				
Class Ciliata				
<i>Epiplocyloides</i> sp.	-	-	-	-
<i>Vorticella oceanica</i>	-	-	-	-
Order Tintinida				
Family Codonellidae				
<i>Leprotintinnus nordquisti</i>	-	-	-	-
<i>Tintinnopsis</i> sp.1	-	-	-	-
<i>Tintinnopsis gracilis</i>	156	-	-	52

Remark : * Not identify

Siriporn L.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

SK/SA/BS/Pp



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 004-11 (page 2 of 9)

Issued date : February 27, 2009

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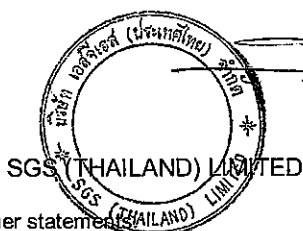
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E
SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Class Ciliata				
Order Tintinida				
Family Codonellopsidae				
<i>Codonellopsis morchella</i>	312	-	2,940	1,084
<i>Codonellopsis oftenfeldi</i>	-	-	-	-
Family Rhabdonellidae				
<i>Protorhabdonella</i> sp.1	-	-	-	-
<i>Protorhabdonella</i> sp.2	-	-	-	-
<i>Protorhabdonella simplex</i>	-	612	-	204
<i>Rhabdonella</i> sp.1	-	-	-	-
<i>Rhabdonella</i> sp.2	-	-	981	327
<i>Rhabdonella</i> sp.3	-	-	-	-
<i>Rhabdonella</i> sp.4	-	-	-	-
<i>Rhabdonella</i> sp.5	-	-	-	-
<i>Rhabdonella conica</i>	627	612	489	576
<i>Rhabdonella cuspidata</i>	-	-	-	-
<i>Rhabdonella poculum</i>	-	-	2,940	980
Family Tintinidae				
<i>Steenstrupiella</i> sp.	-	-	-	-
<i>Amphorelloopsis</i> sp.	-	-	-	-
<i>Amphorelloopsis acuta</i>	-	-	1,470	490
<i>Dadayiella cuspis</i>	-	-	-	-
<i>Eutintinnus</i> sp.1	-	-	-	-
<i>Eutintinnus</i> sp.2	-	-	-	-
<i>Eutintinnus</i> sp.3	-	-	-	-

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : ๓-010-๓-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-11 (page 3 of 9)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

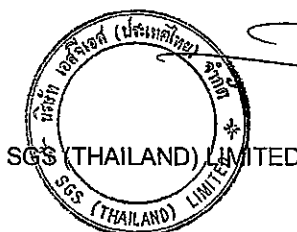
SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E

SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Subphylum Ciliophora				
Class Ciliata				
Order Tintinida				
Family Tintinidae				
<i>Eutintinnus maculatus</i>	312	459	-	257
<i>Eutintinnus perminutus</i>	471	459	1,470	800
<i>Salpingella</i> sp.	-	-	-	-
Phylum Cnidaria				
Class Hydrozoa				
Hydromedusae*	-	-	-	-
Order Anthomedusa				
Anthomedusae*	-	-	-	-
Order Leptomedusa				
Family Eutimidae				
<i>Eutima</i> sp.	-	-	-	-
Order Siphonophora				
Family Diphyidae				
<i>Lensia</i> sp.	-	-	-	-
Siphonophora*	-	-	-	-
Phylum Ctenophora				
Class Tentaculata				
Order Cydippida				
Cydippid larvae*	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-11 (page 4 of 9)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E
SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Rotifera				
Class Monogononta				
Order Ploima				
Family Sagittidae				
<i>Keratella cochlearis</i>	-	-	-	-
Family Synchaetidae				
<i>Synchaeta</i> sp.	-	-	-	-
Phylum Chaetognatha				
Class Sagittoidea				
Family Sagittidae				
<i>Sagitta</i> spp.	-	306	-	102
Phylum Annelida				
Class Polychaeta				
<i>Nereis pelagica</i>	-	-	-	-
Polychaete larvae*	156	-	489	215
Family Tomopteridae				
<i>Tomopteris</i> sp.	-	-	-	-
Phylum Arthropoda				
Class Crustacea				
Subclass Branchiopoda				
Order Diplostraca				
<i>Pseudoevadne tergestina</i>	-	-	-	-
Subclass Ostracoda				
Order Myodocopa				
Ostracods*	-	-	-	-

Remark : * Not identify

Siriporn L
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-11 (page 5 of 9)

Issued date : February 27, 2009

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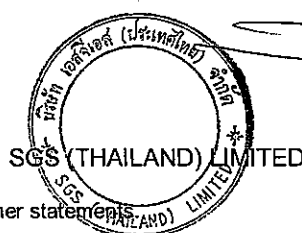
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Crustacea				
Subclass Ostracoda				
Order Myodocopa				
Family Conchoecia				
<i>Euconchoecia</i> sp.	-	-	-	-
<i>Conchoecia</i> sp.	-	-	-	-
Family Cypridinidae				
<i>Cypridina</i> sp.	-	-	-	-
<i>Philomedes</i> sp.	-	-	-	-
Subclass Copepoda				
Copepod nauplii*	4,857	6,900	29,889	13,882
Order Calanoida				
<i>Canthocalanus pauper</i>	-	-	-	-
<i>Subeucalanus subcrassus</i>	156	-	-	52
<i>Undinula vulgaris</i>	-	-	-	-
Calanoid copepodid*	1,098	1,227	981	1,102
Calanoid copepods*	-	-	2,940	980
Family Pseudocalanidae				
<i>Clausocalanus furcatus</i>	-	-	-	-
Family Paracalanidae				
<i>Paracalanus aculeatus</i>	-	-	-	-
<i>Acrocalanus gibber</i>	-	-	-	-
<i>Acrocalanus gracilis</i>	-	-	-	-
Family Temoridae				
<i>Temora discaudata</i>	-	-	-	-

Remark : * Not identify

Siriporn
 (Siriporn Imwilaiwan)
 License ID : 0-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-11 (page 6 of 9)

Issued date : February 27, 2009

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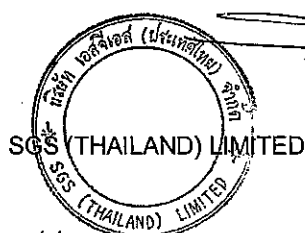
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E
SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Calanoida				
Family Pontellidae				
<i>Labidocera acuta</i>	-	-	-	-
Family Candaciidae				
<i>Candacia</i> sp.	-	-	-	-
Family Acartiidae				
<i>Acartia erythraea</i>	-	-	-	-
Order Cyclopoida				
<i>Farranula</i> sp.1	-	-	-	-
<i>Farranula</i> sp.2	-	-	-	-
<i>Farranula concinna</i>	-	-	-	-
<i>Farranula gibbula</i>	156	-	1,470	542
Cyclopoid copepodid*	312	306	-	206
Family Oithonidae				
<i>Oithona</i> sp.	-	612	-	204
Family Oncaeiidae				
<i>Oncaea</i> sp.	-	-	-	-
<i>Oncaea conifera</i>	-	-	-	-
<i>Oncaea venusta</i>	-	-	-	-
Family Corycaeiidae				
<i>Corycaeus</i> sp.1	-	-	-	-
<i>Corycaeus</i> sp.2	-	-	-	-
<i>Corycaeus agilis</i>	-	-	-	-

Remark : * Not identify

Siriporn J.
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-11 (page 7 of 9)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E

SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Cyclopoida				
Family Corycaeidae				
<i>Corycaeus asiaticus</i>	-	-	-	-
<i>Corycaeus speciosus</i>	-	-	-	-
Family Sapphirinidae				
<i>Sapphirina</i> sp.1	-	-	-	-
<i>Sapphirina</i> sp.2	-	-	-	-
Order Harpacticoida				
Harpacticoid copepodid*	-	-	-	-
Family Macrosetellidae				
<i>Macrosetella gracilis</i>	-	-	-	-
<i>Microsetella norvegica</i>	627	-	981	536
Family Clytemnestidae				
<i>Clytemnestra scutellata</i>	-	-	-	-
Family Tachiidae				
<i>Euterpina acutifrons</i>	-	-	-	-
Subclass Cirripedia				
Cirripede nauplius*	-	-	-	-
Cypris larvae*	-	-	-	-
Subclass Malacostraca				
Order Amphipoda				
Amphipods*	-	-	-	-

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-11 (page 8 of 9)

Issued date : February 27, 2009

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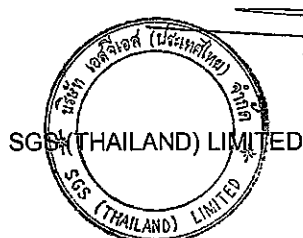
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E
SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Malacostraca				
Order Decapoda				
<i>Lucifer</i> sp.	-	-	-	-
Brachyuran larvae*	-	-	-	-
Pagurid larvae*	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Gastropod larvae*	-	-	489	163
Order Thecosomata				
Family Limacinidae				
<i>Limacina inflata</i>	-	-	-	-
Family Cavoliniidae				
<i>Cresels</i> sp.	-	-	-	-
<i>Diacria quadridentata</i>	-	-	-	-
<i>Diacria trispinosa</i>	-	-	-	-
<i>Carinaria</i> sp.	-	-	-	-
Class Pelecypoda (Bivalia)				
Pelecypod larvae*	-	-	-	-
Phylum Echinodermata				
Class Ophiuroidea				
Ophiopluteus larvae*	-	-	489	163

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-11 (page 9 of 9)

Issued date : February 27, 2009

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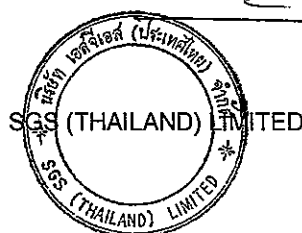
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E
SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Chordata				
Class Larvacea				
Family Oikopleuridae				
<i>Oikopleura</i> sp.	-	612	-	204
<i>Oikopleura albicans</i>	-	-	-	-
<i>Oikopleura dioica</i>	-	-	-	-
<i>Oikopleura fusiformis</i>	-	-	-	-
<i>Oikopleura longicauda</i>	-	-	-	-
<i>Oikopleura parva</i>	-	-	-	-
Family Fritillariidae				
<i>Fritillaria</i> sp.	-	-	-	-
Class Thaliacea				
Order Doliolida				
Family Doliolidae				
<i>Doliolum denticulatum</i>	-	-	-	-
Order Salpida				
Family Salpidae				
<i>Cyclosalpa</i> sp.	-	-	-	-
<i>Salpa</i> sp.	-	-	-	-
Class Pisces				
Fish eggs*	-	-	-	-
Total Zooplankton Type	13	10	16	24
Total Zooplankton Amount	9,396	12,105	51,936	24,479

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-12 (page 1 of 9)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa				
Subphylum Plasmodroma				
Class Sarcodina				
Subclass Rhizophoda				
Order Foraminiferida				
<i>Gallitellia</i> sp.	-	-	-	-
<i>Globorotalia</i> sp.	-	-	-	-
Foraminiferans*	-	-	-	-
Subclass Actinopoda				
<i>Acanthometron pellucidum</i>	-	-	-	-
<i>Lithomelissa monoceras</i>	-	-	-	-
radiolarians*	774	468	699	647
Class Acntherea				
Order Chaunacanthida				
<i>Stauracon pallidus</i>	-	-	-	-
Subphylum Ciliophora				
Class Ciliata				
<i>Epilpocylodes</i> sp.	-	-	234	78
<i>Vorticella oceanica</i>	1,353	1,632	-	995
Order Tintinida				
Family Codonellidae				
<i>Leptotintinnus nordquisti</i>	-	-	-	-
<i>Tintinnopsis</i> sp.1	-	-	-	-
<i>Tintinnopsis gracilis</i>	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/PP

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Report No. : 2009-00051 / 004-12 (page 2 of 9)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E
SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Class Ciliata				
Order Tintinida				
Family Codonellopsidae				
<i>Codonellopsis morchella</i>	-	-	-	-
<i>Codonellopsis oftenfeldi</i>	-	-	-	-
Family Rhabdonellidae				
<i>Protorhabdonella</i> sp.1	-	-	-	-
<i>Protorhabdonella</i> sp.2	774	1,167	-	647
<i>Protorhabdonella simplex</i>	1,161	699	1,401	1,087
<i>Rhabdonella</i> sp.1	-	-	-	-
<i>Rhabdonella</i> sp.2	-	-	-	-
<i>Rhabdonella</i> sp.3	-	-	-	-
<i>Rhabdonella</i> sp.4	-	-	-	-
<i>Rhabdonella</i> sp.5	192	-	-	64
<i>Rhabdonella conica</i>	579	234	468	427
<i>Rhabdonella cuspidata</i>	-	-	-	-
<i>Rhabdonella poculum</i>	-	-	234	78
Family Tintinidae				
<i>Steenstrupiella</i> sp.	-	-	-	-
<i>Amphorelloopsis</i> sp.	-	-	-	-
<i>Amphorelloopsis acuta</i>	192	-	-	64
<i>Dadayiella cuspis</i>	-	-	-	-
<i>Eutintinnus</i> sp.1	-	-	-	-
<i>Eutintinnus</i> sp.2	-	-	-	-
<i>Eutintinnus</i> sp.3	-	-	-	-

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 9-010-A-1793



(Sompong Kiatiporn)
 (Sompong Kiatiporn)
 Environmental Manager

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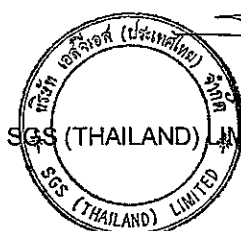
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Subphylum Ciliophora				
Class Ciliata				
Order Tintinida				
Family Tintinidae				
<i>Eutintinnus maculatus</i>	-	-	-	-
<i>Eutintinnus perminutus</i>	192	1,167	234	531
<i>Salpingella</i> sp.	-	-	-	-
Phylum Cnidaria				
Class Hydrozoa				
Hydromedusae*	-	-	-	-
Order Anthomedusa				
Anthomedusae*	192	-	234	142
Order Leptomedusa				
Family Eutimididae				
<i>Eutima</i> sp.	-	-	-	-
Order Siphonophora				
Family Diphyidae				
<i>Lensia</i> sp.	-	-	-	-
Siphonophora*	-	-	-	-
Phylum Ctenophora				
Class Tentaculata				
Order Cydippida				
Cydippid larvae*	-	-	-	-

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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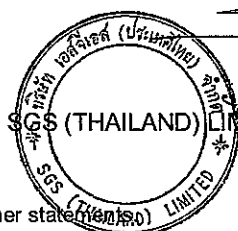
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E
SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Rotifera				
Class Monogononta				
Order Ploima				
Family Sagittidae				
<i>Keratella cochlearis</i>	-	-	234	78
Family Synchaetidae				
<i>Synchaeta</i> sp.	-	-	-	-
Phylum Chaetognatha				
Class Sagittoidea				
Family Sagittidae				
<i>Sagitta</i> spp.	192	-	-	64
Phylum Annelida				
Class Polychaeta				
<i>Nereis pelagica</i>	-	-	-	-
Polychaete larvae*	387	-	699	362
Family Tomopteridae				
<i>Tomopteris</i> sp.	-	-	-	-
Phylum Arthropoda				
Class Crustacea				
Subclass Branchiopoda				
Order Diplostraca				
<i>Pseudoevadne tergestina</i>	-	-	-	-
Subclass Ostracoda				
Order Myodocopa				
Ostracods*	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E
SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Crustacea				
Subclass Ostracoda				
Order Myodocopa				
Family Conchoecia				
<i>Euconchoecia</i> sp.	-	-	-	-
<i>Conchoecia</i> sp.	-	-	-	-
Family Cypridinidae				
<i>Cypridina</i> sp.	-	-	234	78
<i>Philomedes</i> sp.	-	-	-	-
Subclass Copepoda				
Copepod nauplii*	6,960	7,233	10,032	8,075
Order Calanoida				
<i>Canthocalanus pauper</i>	-	-	468	156
<i>Subeucalanus subcrassus</i>	-	-	-	-
<i>Undinula vulgaris</i>	-	-	-	-
Calanoid copepodid*	966	468	468	634
Calanoid copepods*	-	-	-	-
Family Pseudocalanidae				
<i>Clausocalanus furcatus</i>	-	-	234	78
Family Paracalanidae				
<i>Paracalanus aculeatus</i>	-	-	-	-
<i>Acrocalanus gibber</i>	-	-	-	-
<i>Acrocalanus gracilis</i>	-	-	-	-
Family Temoridae				
<i>Temora discaudata</i>	-	-	-	-

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E
SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Calanoida				
Family Pontellidae				
<i>Labidocera acuta</i>	-	-	-	-
Family Candaciidae				
<i>Candacia</i> sp.	192	-	-	64
Family Acartiidae				
<i>Acartia erythraea</i>	-	-	-	-
Order Cyclopoida				
<i>Farranula</i> sp.1	-	-	-	-
<i>Farranula</i> sp.2	-	-	933	311
<i>Farranula concinna</i>	-	-	-	-
<i>Farranula gibbula</i>	192	-	-	64
Cyclopoid copepodid*	192	468	468	376
Family Oithonidae				
<i>Oithona</i> sp.	-	-	-	-
Family Oncaeeidae				
<i>Oncaea</i> sp.	-	-	-	-
<i>Oncaea conifera</i>	-	-	-	-
<i>Oncaea venusta</i>	-	-	-	-
Family Corycaeeidae				
<i>Corycaeus</i> sp.1	-	-	-	-
<i>Corycaeus</i> sp.2	-	-	-	-
<i>Corycaeus agilis</i>	-	-	-	-

Remark : * Not identify

Siriporn L.
 (Siriporn Imwilaiwan)
 License ID : ๓-010-๓-1793



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 Environmental Manager

SK/SA/BS/Pp

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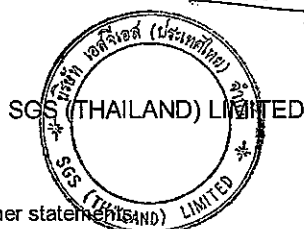
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Cyclopoida				
Family Corycaeidae				
<i>Corycaeus asiaticus</i>	387	-	-	129
<i>Corycaeus speciosus</i>	-	-	-	-
Family Sapphirinidae				
<i>Sapphirina</i> sp.1	-	-	-	-
<i>Sapphirina</i> sp.2	-	-	-	-
Order Harpacticoida				
Harpacticoid copepodid*	-	-	-	-
Family Macrosetellidae				
<i>Macrosetella gracilis</i>	-	-	-	-
<i>Microsetella norvegica</i>	1,932	468	699	1,033
Family Clytemnestridae				
<i>Clytemnestra scutellata</i>	-	-	468	156
Family Tachiidae				
<i>Euterpina acutifrons</i>	-	-	-	-
Subclass Cirripedia				
Cirripede nauplius*	-	-	-	-
Cypris larvae*	-	-	-	-
Subclass Malacostraca				
Order Amphipoda				
Amphipods*	-	-	-	-

Remark : * Not identify

Siriporn
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
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 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-12 (page 8 of 9)

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Analysis Report

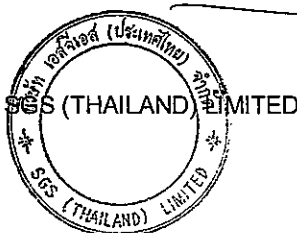
SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E
SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Malacostraca				
Order Decapoda				
<i>Lucifer</i> sp.	-	-	-	-
Brachyuran larvae*	-	-	-	-
Pagurid larvae*	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Gastropod larvae*	-	-	-	-
Order Thecosomata				
Family Limacinidae				
<i>Limacina inflata</i>	-	-	-	-
Family Cavoliniidae				
<i>Creseis</i> sp.	-	-	-	-
<i>Diacria quadridentata</i>	-	-	-	-
<i>Diacria trispinosa</i>	-	-	-	-
<i>Carinaria</i> sp.	-	-	-	-
Class Pelecypoda (Bivalia)				
Pelecypod larvae*	-	-	-	-
Phylum Echinodermata				
Class Ophiuroidea				
Ophiopluteus larvae*	-	-	-	-

Remark : * Not identify

Siriporn L.
 (Siriporn Imwilaiwan)
 License ID : 9-010-A-1793

SK/SA/BS/Pp



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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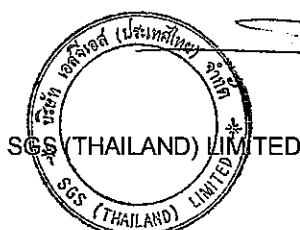
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E
SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Chordata				
Class Larvacea				
Family Oikopleuridae				
<i>Oikopleura</i> sp.	-	-	-	-
<i>Oikopleura albicans</i>	-	-	-	-
<i>Oikopleura dioica</i>	-	-	-	-
<i>Oikopleura fusiformis</i>	-	-	-	-
<i>Oikopleura longicauda</i>	-	-	-	-
<i>Oikopleura parva</i>	-	-	-	-
Family Fritillariidae				
<i>Fritillaria</i> sp.	-	234	-	78
Class Thaliacea				
Order Doliolida				
Family Doliolidae				
<i>Doliolum denticulatum</i>	-	-	-	-
Order Salpida				
Family Salpidae				
<i>Cyclosalpa</i> sp.	-	-	-	-
<i>Salpa</i> sp.	-	-	-	-
Class Pisces				
Fish eggs*	-	-	-	-
Total Zooplankton Type	18	11	18	27
Total Zooplankton Amount	16,809	14,238	18,441	16,496

Remark : * Not identify

Siriporn I
 (Siriporn Imwilaiwan)
 License ID : 1-010-1-1793



(Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 004-13 (page 1 of 9)

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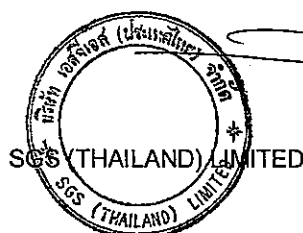
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E
SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa				
Subphylum Plasmodroma				
Class Sarcodina				
Subclass Rhizophoda				
Order Foraminiferida				
<i>Gallitellia</i> sp.	-	-	-	-
<i>Globorotalia</i> sp.	-	-	-	-
Foraminiferans*	-	-	-	-
Subclass Actinopoda				
<i>Acanthometron pellucidum</i>	-	-	-	-
<i>Lithomelissa monoceras</i>	-	-	-	-
radiolarians*	-	177	6,819	2,332
Class Acntherea				
Order Chaunacanthida				
<i>Stauracon pallidus</i>	-	-	-	-
Subphylum Ciliophora				
Class Ciliata				
<i>Eppilocyloides</i> sp.	-	-	-	-
<i>Vorticella oceanica</i>	-	-	-	-
Order Tintinida				
Family Codonellidae				
<i>Leprotintinnus nordquisti</i>	-	-	-	-
<i>Tintinnopsis</i> sp.1	-	-	-	-
<i>Tintinnopsis gracilis</i>	-	-	-	-

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 1-010-A-1793



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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Class Ciliata				
Order Tintinida				
Family Codonellopsidae				
<i>Codonellopsis morchella</i>	774	-	-	258
<i>Codonellopsis oftenfeldi</i>	-	-	-	-
Family Rhabdonellidae				
<i>Protorhabdonella</i> sp.1	-	-	-	-
<i>Protorhabdonella</i> sp.2	-	-	-	-
<i>Protorhabdonella simplex</i>	1,548	-	-	516
<i>Rhabdonella</i> sp.1	-	-	-	-
<i>Rhabdonella</i> sp.2	-	-	1,239	413
<i>Rhabdonella</i> sp.3	-	-	-	-
<i>Rhabdonella</i> sp.4	-	-	-	-
<i>Rhabdonella</i> sp.5	-	-	-	-
<i>Rhabdonella conica</i>	966	1,236	-	734
<i>Rhabdonella cuspidata</i>	-	-	-	-
<i>Rhabdonella poculum</i>	387	-	1,239	542
Family Tintinidae				
<i>Steenstrupiella</i> sp.	-	-	-	-
<i>Amphorelloopsis</i> sp.	-	-	-	-
<i>Amphorelloopsis acuta</i>	1,353	2,298	-	1,217
<i>Dadayiella cuspis</i>	-	-	-	-
<i>Eutintinnus</i> sp.1	-	-	-	-
<i>Eutintinnus</i> sp.2	-	-	-	-
<i>Eutintinnus</i> sp.3	-	-	-	-

Remark : * Not identify

Siriporn L
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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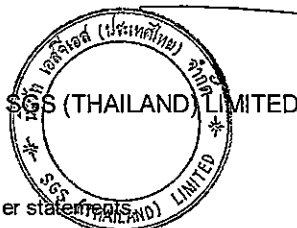
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E
SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Subphylum Ciliophora				
Class Ciliata				
Order Tintinida				
Family Tintinidae				
<i>Eutintinnus maculatus</i>	192	177	1,239	536
<i>Eutintinnus perminutus</i>	-	-	2,481	827
<i>Salpingella</i> sp.	-	-	2,481	827
Phylum Cnidaria				
Class Hydrozoa				
Hydromedusae*	-	-	621	207
Order Anthomedusa				
Anthomedusae*	-	-	-	-
Order Leptomedusa				
Family Eutimidae				
<i>Eutima</i> sp.	192	-	-	64
Order Siphonophora				
Family Diphyidae				
<i>Lensia</i> sp.	-	-	-	-
Siphonophora*	-	-	-	-
Phylum Ctenophora				
Class Tentaculata				
Order Cydippida				
Cydippid larvae*	-	-	-	-

Remark : * Not identify

Siriporn L.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-13 (page 4 of 9)

Issued date : February 27, 2009

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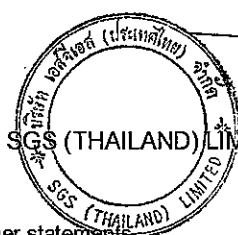
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E
SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Rotifera				
Class Monogononta				
Order Ploima				
Family Sagittidae				
<i>Keratella cochlearis</i>	1,161	-	-	387
Family Synchaetidae				
<i>Synchaeta</i> sp.	-	-	-	-
Phylum Chaetognatha				
Class Sagittoidea				
Family Sagittidae				
<i>Sagitta</i> spp.	-	-	-	-
Phylum Annelida				
Class Polychaeta				
<i>Nereis pelagica</i>	-	-	-	-
Polychaete larvae*	-	-	3,720	1,240
Family Tomopteridae				
<i>Tomopteris</i> sp.	-	-	-	-
Phylum Arthropoda				
Class Crustacea				
Subclass Branchiopoda				
Order Diplostraca				
<i>Pseudoevadne tergestina</i>	-	-	-	-
Subclass Ostracoda				
Order Myodocopa				
Ostracods*	-	-	621	207

Remark : * Not identify

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E
SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Crustacea				
Subclass Ostracoda				
Order Myodocopa				
Family Conchoecia				
<i>Euconchoecia</i> sp.	-	-	-	-
<i>Conchoecia</i> sp.	-	-	-	-
Family Cypridinidae				
<i>Cypridina</i> sp.	-	-	-	-
<i>Philomedes</i> sp.	-	-	-	-
Subclass Copepoda				
Copepod nauplii*	6,186	5,655	18,600	10,147
Order Calanoida				
<i>Canthocalanus pauper</i>	-	-	-	-
<i>Subeucalanus subcrassus</i>	-	-	-	-
<i>Undinula vulgaris</i>	-	-	-	-
Calanoid copepodid*	2,706	4,416	1,860	2,994
Calanoid copepods*	-	-	4,341	1,447
Family Pseudocalanidae				
<i>Clausocalanus furcatus</i>	-	-	-	-
Family Paracalanidae				
<i>Paracalanus aculeatus</i>	-	-	-	-
<i>Acrocalanus gibber</i>	-	-	1,239	413
<i>Acrocalanus gracilis</i>	-	-	-	-
Family Temoridae				
<i>Temora discaudata</i>	-	-	-	-

Remark : * Not identify

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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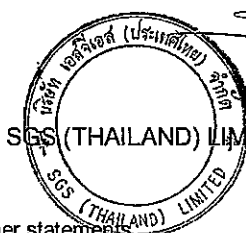
Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E
SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Calanoida				
Family Pontellidae				
<i>Labidocera acuta</i>	-	-	-	-
Family Candaciidae				
<i>Candacia</i> sp.	-	-	-	-
Family Acartiidae				
<i>Acartia erythraea</i>	-	-	-	-
Order Cyclopoida				
<i>Farranula</i> sp.1	-	-	-	-
<i>Farranula</i> sp.2	-	-	-	-
<i>Farranula concinna</i>	-	-	-	-
<i>Farranula gibbula</i>	579	2,298	1,239	1,372
Cyclopoid copepodid*	579	1,236	-	605
Family Oithonidae				
<i>Oithona</i> sp.	-	-	-	-
Family Oncaeidae				
<i>Oncaea</i> sp.	-	-	621	207
<i>Oncaea conifera</i>	-	-	-	-
<i>Oncaea venusta</i>	-	-	-	-
Family Corycaeiidae				
<i>Corycaeus</i> sp.1	-	-	-	-
<i>Corycaeus</i> sp.2	-	-	-	-
<i>Corycaeus agilis</i>	-	-	-	-

Remark : * Not identify

Siriporn ?
 (Siriporn Imwilaiwan)
 License ID : 7-010-P-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E
SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Cyclopoida				
Family Corycaeiidae				
<i>Corycaeus asiaticus</i>	774	1,413	-	729
<i>Corycaeus speciosus</i>	-	-	-	-
Family Sapphirinidae				
<i>Sapphirina</i> sp.1	-	-	-	-
<i>Sapphirina</i> sp.2	-	-	-	-
Order Harpacticoida				
Harpacticoid copepodid*	-	-	-	-
Family Macrosetellidae				
<i>Macrosetella gracilis</i>	-	-	-	-
<i>Microsetella norvegica</i>	5,607	2,298	7,440	5,115
Family Clytemnestidae				
<i>Clytemnestra scutellata</i>	-	-	-	-
Family Tachiidae				
<i>Euterpina acutifrons</i>	-	-	-	-
Subclass Cirripedia				
Cirripede nauplius*	-	-	-	-
Cypris larvae*	-	-	-	-
Subclass Malacostraca				
Order Amphipoda				
Amphipods*	-	-	-	-

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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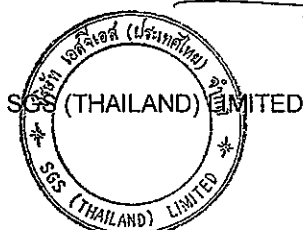
Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E
SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Malacostraca				
Order Decapoda				
<i>Lucifer</i> sp.	-	-	-	-
Brachyuran larvae*	-	-	-	-
Pagurid larvae*	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Gastropod larvae*	-	177	-	59
Order Thecosomata				
Family Limacinidae				
<i>Limacina inflata</i>	-	-	-	-
Family Cavoliniidae				
<i>Creseis</i> sp.	-	-	-	-
<i>Diacria quadridentata</i>	-	-	-	-
<i>Diacria trispinosa</i>	-	-	-	-
<i>Carinaria</i> sp.	-	-	-	-
Class Pelecypoda (Bivalia)				
Pelecypod larvae*	-	-	-	-
Phylum Echinodermata				
Class Ophiuroidea				
Ophiopluteus larvae*	-	-	-	-

Remark : * Not identify

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Analysis Report

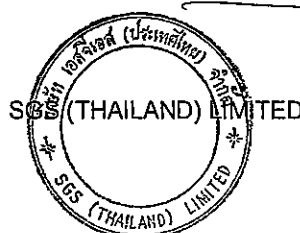
SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E
SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Chordata				
Class Larvacea				
Family Oikopleuridae				
<i>Oikopleura</i> sp.	1,353	354	-	569
<i>Oikopleura albicans</i>	-	-	-	-
<i>Oikopleura dioica</i>	-	-	-	-
<i>Oikopleura fusiformis</i>	-	-	-	-
<i>Oikopleura longicauda</i>	-	-	-	-
<i>Oikopleura parva</i>	-	-	-	-
Family Fritillariidae				
<i>Fritillaria</i> sp.	579	-	-	193
Class Thaliacea				
Order Doliolida				
Family Doliolidae				
<i>Doliolum denticulatum</i>	-	-	-	-
Order Salpida				
Family Salpidae				
<i>Cyclosalpa</i> sp.	-	-	-	-
<i>Salpa</i> sp.	-	-	-	-
Class Pisces				
Fish eggs*	-	-	-	-
Total Zooplankton Type	16	12	16	27
Total Zooplankton Amount	24,936	21,735	55,800	34,157

Remark : * Not identify

Siriporn 1.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

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(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 004-14 (page 1 of 9)

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-7
COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.33" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa				
Subphylum Plasmodroma				
Class Sarcodina				
Subclass Rhizophoda				
Order Foraminiferida				
<i>Gallitellia</i> sp.	-	-	-	-
<i>Globorotalia</i> sp.	-	-	-	-
Foraminiferans*	-	-	-	-
Subclass Actinopoda				
<i>Acanthometron pellucidum</i>	-	-	-	-
<i>Lithomelissa monoceras</i>	-	-	-	-
radiolarians*	321	180	-	167
Class Acntherea				
Order Chaunacanthida				
<i>Staurocon pallidus</i>	-	-	-	-
Subphylum Ciliophora				
Class Ciliata				
<i>Epilpocylloides</i> sp.	-	-	-	-
<i>Vorticella oceanica</i>	-	-	-	-
Order Tintinida				
Family Codonellidae				
<i>Leprotintinnus nordquisti</i>	-	-	-	-
<i>Tintinnopsis</i> sp.1	-	-	-	-
<i>Tintinnopsis gracilis</i>	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

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Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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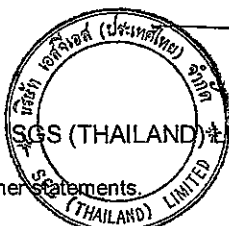
Analysis Report

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SAMPLING LOCATION : Concession Block G6/48, North Dara-7
COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.33" E
SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Class Ciliata				
Order Tintinida				
Family Codonellopsidae				
<i>Codonellopsis morchella</i>	-	540	-	180
<i>Codonellopsis oftenfeldi</i>	-	-	-	-
Family Rhabdonellidae				
<i>Protorhabdonella</i> sp.1	-	-	-	-
<i>Protorhabdonella</i> sp.2	-	-	-	-
<i>Protorhabdonella simplex</i>	-	360	-	120
<i>Rhabdonella</i> sp.1	-	-	-	-
<i>Rhabdonella</i> sp.2	-	-	-	-
<i>Rhabdonella</i> sp.3	-	-	-	-
<i>Rhabdonella</i> sp.4	-	-	-	-
<i>Rhabdonella</i> sp.5	-	-	-	-
<i>Rhabdonella conica</i>	1,119	1,080	-	733
<i>Rhabdonella cuspidata</i>	-	-	-	-
<i>Rhabdonella poculum</i>	159	360	2,310	943
Family Tintinidae				
<i>Steenstrupiella</i> sp.	-	-	-	-
<i>Amphorellopsis</i> sp.	-	-	-	-
<i>Amphorellopsis acuta</i>	-	720	-	240
<i>Dadayiella cuspis</i>	-	180	-	60
<i>Eutintinnus</i> sp.1	-	-	-	-
<i>Eutintinnus</i> sp.2	-	-	-	-
<i>Eutintinnus</i> sp.3	-	-	-	-

Remark : * Not identify

Siriporn 1.
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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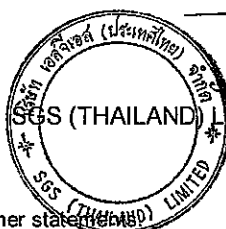
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-7
COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.33" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Subphylum Ciliophora				
Class Ciliata				
Order Tintinida				
Family Tintinidae				
<i>Eutintinnus maculatus</i>	-	-	-	-
<i>Eutintinnus perminutus</i>	-	-	-	-
<i>Salpingella</i> sp.	-	-	-	-
Phylum Cnidaria				
Class Hydrozoa				
Hydromedusae*	-	-	-	-
Order Anthomedusa				
Anthomedusae*	-	-	-	-
Order Leptomedusa				
Family Eutimididae				
<i>Eutima</i> sp.	-	-	-	-
Order Siphonophora				
Family Diphyidae				
<i>Lensia</i> sp.	-	-	-	-
Siphonophora*	-	-	-	-
Phylum Ctenophora				
Class Tentaculata				
Order Cydippida				
Cydippid larvae*	-	-	-	-

Remark : * Not identify

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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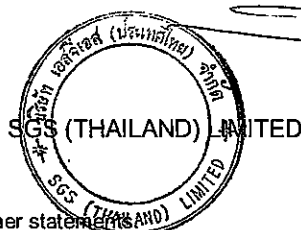
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 SAMPLING LOCATION : Concession Block G6/48, North Dara-7
 COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.33" E
 SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Rotifera				
Class Monogononta				
Order Ploima				
Family Sagittidae				
<i>Keratella cochlearis</i>	-	-	420	140
Family Synchaetidae				
<i>Synchaeta</i> sp.	-	-	-	-
Phylum Chaetognatha				
Class Sagittoidea				
Family Sagittidae				
<i>Sagitta</i> spp.	-	180	-	60
Phylum Annelida				
Class Polychaeta				
<i>Nereis pelagica</i>	-	-	-	-
Polychaete larvae*	-	180	-	60
Family Tomopteridae				
<i>Tomopteris</i> sp.	-	-	-	-
Phylum Arthropoda				
Class Crustacea				
Subclass Branchiopoda				
Order Diplostraca				
<i>Pseudoevadne tergestina</i>	-	180	-	60
Subclass Ostracoda				
Order Myodocopa				
Ostracods*	-	-	-	-

Remark : * Not identify

Siriporn L
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 004-14 (page 5 of 9)

Issued date : February 27, 2009

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ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
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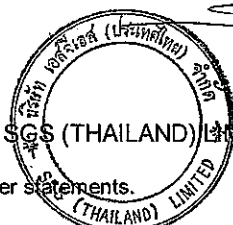
Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, North Dara-7
COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.33" E
SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Crustacea				
Subclass Ostracoda				
Order Myodocopa				
Family Conchoecia				
<i>Euconchoecia</i> sp.	-	-	-	-
<i>Conchoecia</i> sp.	-	-	-	-
Family Cypridinidae				
<i>Cypridina</i> sp.	-	-	-	-
<i>Philomedes</i> sp.	-	-	-	-
Subclass Copepoda				
Copepod nauplii*	3,999	5,220	2,310	3,843
Order Calanoida				
<i>Canthocalanus pauper</i>	-	-	-	-
<i>Subeucalanus subcrassus</i>	-	-	-	-
<i>Undinula vulgaris</i>	-	-	-	-
Calanoid copepodid*	-	900	840	580
Calanoid copepods*	-	-	-	-
Family Pseudocalanidae				
<i>Clausocalanus furcatus</i>	-	-	-	-
Family Paracalanidae				
<i>Paracalanus aculeatus</i>	-	-	-	-
<i>Acrocalanus gibber</i>	-	-	-	-
<i>Acrocalanus gracilis</i>	-	-	-	-
Family Temoridae				
<i>Temora discaudata</i>	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 7-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Calanoida				
Family Pontellidae				
<i>Labidocera acuta</i>	-	-	-	-
Family Candaciidae				
<i>Candacia</i> sp.	-	-	-	-
Family Acartiidae				
<i>Acartia erythraea</i>	-	-	-	-
Order Cyclopoida				
<i>Farranula</i> sp.1	-	-	-	-
<i>Farranula</i> sp.2	-	900	-	300
<i>Farranula concinna</i>	-	-	-	-
<i>Farranula gibbula</i>	-	-	-	-
Cyclopoid copepodid*	-	540	840	460
Family Oithonidae				
<i>Oithona</i> sp.	-	-	-	-
Family Oncaeeidae				
<i>Oncaea</i> sp.	-	-	-	-
<i>Oncaea conifera</i>	-	-	-	-
<i>Oncaea venusta</i>	-	-	-	-
Family Corycaeeidae				
<i>Corycaeus</i> sp.1	-	-	-	-
<i>Corycaeus</i> sp.2	-	-	-	-
<i>Corycaeus agilis</i>	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 1-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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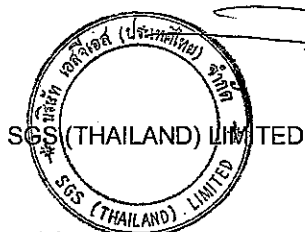
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SAMPLING LOCATION : Concession Block G6/48, North Dara-7
COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.33" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Cyclopoida				
Family Corycaeidae				
<i>Corycaeus asiaticus</i>	-	180	-	60
<i>Corycaeus speciosus</i>	-	-	-	-
Family Sapphirinidae				
<i>Sapphirina</i> sp.1	-	-	-	-
<i>Sapphirina</i> sp.2	-	-	-	-
Order Harpacticoida				
Harpacticoid copepodid*	-	-	-	-
Family Macrosetellidae				
<i>Macrosetella gracilis</i>	-	-	-	-
<i>Microsetella norvegica</i>	321	1,980	1,470	1,257
Family Clytemnestridae				
<i>Clytemnestra scutellata</i>	-	-	-	-
Family Tachiidae				
<i>Euterpina acutifrons</i>	-	-	-	-
Subclass Cirripedia				
Cirripede nauplius*	-	-	-	-
Cypris larvae*	-	-	-	-
Subclass Malacostraca				
Order Amphipoda				
Amphipods*	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



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Analysis Report

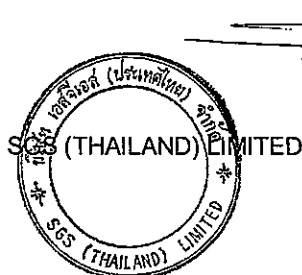
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SAMPLING DATE : February 9, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Malacostraca				
Order Decapoda				
<i>Lucifer</i> sp.	-	-	-	-
Brachyuran larvae*	-	-	-	-
Pagurid larvae*	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Gastropod larvae*	321	-	-	107
Order Thecosomata				
Family Limaciniidae				
<i>Limacina inflata</i>	-	-	-	-
Family Cavoliniidae				
<i>Creseis</i> sp.	-	-	-	-
<i>Diacria quadridentata</i>	-	-	-	-
<i>Diacria trispinosa</i>	-	-	-	-
<i>Carinaria</i> sp.	-	-	-	-
Class Pelecypoda (Bivalia)				
Pelecypod larvae*	-	-	-	-
Phylum Echinodermata				
Class Ophiuroidea				
Ophiopluteus larvae*	-	-	-	-

Remark : * Not identify

Siriporn L.
 (Siriporn Imwilaiwan)
 License ID : 1-010-A-1793

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(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Analysis Report

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SAMPLING LOCATION : Concession Block G6/48, North Dara-7
COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.33" E
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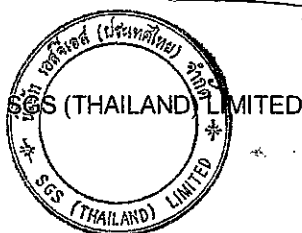
Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Chordata				
Class Larvacea				
Family Oikopleuridae				
<i>Oikopleura</i> sp.	-	-	-	-
<i>Oikopleura albicans</i>	-	-	-	-
<i>Oikopleura dioica</i>	-	-	-	-
<i>Oikopleura fusiformis</i>	-	-	-	-
<i>Oikopleura longicauda</i>	-	-	-	-
<i>Oikopleura parva</i>	-	-	-	-
Family Fritillariidae				
<i>Fritillaria</i> sp.	-	180	-	60
Class Thaliacea				
Order Doliolida				
Family Doliolidae				
<i>Doliolum denticulatum</i>	-	-	-	-
Order Salpida				
Family Salpidae				
<i>Cyclosalpa</i> sp.	-	-	-	-
<i>Salpa</i> sp.	-	-	-	-
Class Pisces				
Fish eggs*	-	-	-	-
Total Zooplankton Type	6	17	6	19
Total Zooplankton Amount	6,240	13,860	8,190	9,430

Remark : * Not identify


 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793


 (Sompong Kiatiporn)
 Environmental Manager

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Analysis Report

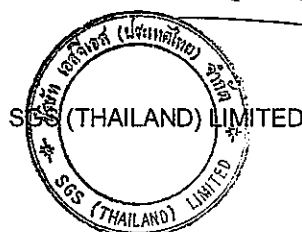
SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 3
COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 04' 57.78" E

SAMPLING DATE : February 10, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa				
Subphylum Plasmodroma				
Class Sarcodina				
Subclass Rhizophoda				
Order Foraminiferida				
<i>Gallitellia</i> sp.	-	-	-	-
<i>Globorotalia</i> sp.	-	-	-	-
Foraminiferans*	-	-	-	-
Subclass Actinopoda				
<i>Acanthometron pellucidum</i>	-	-	-	-
<i>Lithomelissa monoceras</i>	-	-	-	-
radiolarians*	1,098	6,819	234	2,717
Class Acntherea				
Order Chaunacanthida				
<i>Staurocon pallidus</i>	-	-	-	-
Subphylum Ciliophora				
Class Ciliata				
<i>Epilpocytoides</i> sp.	-	-	699	233
<i>Vorticella oceanica</i>	5,640	-	-	1,880
Order Tintinida				
Family Codonellidae				
<i>Leprotintinnus nordquisti</i>	-	-	-	-
<i>Tintinnopsis</i> sp.1	-	-	-	-
<i>Tintinnopsis gracilis</i>	-	-	-	-

Remark : * Not identify

Siriporn ?
 (Siriporn Imwilaiwan)
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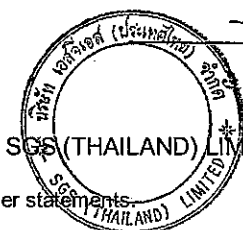
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COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 04' 57.78" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Class Ciliata				
Order Tintinida				
Family Codonellopsidae				
<i>Codonellopsis morchella</i>	156	-	-	52
<i>Codonellopsis oftenfeldi</i>	-	-	-	-
Family Rhabdonellidae				
<i>Protorhabdonella</i> sp.1	-	-	-	-
<i>Protorhabdonella</i> sp.2	-	-	-	-
<i>Protorhabdonella simplex</i>	2,664	3,099	2,799	2,854
<i>Rhabdonella</i> sp.1	1,410	-	1,167	859
<i>Rhabdonella</i> sp.2	1,098	-	-	366
<i>Rhabdonella</i> sp.3	-	-	-	-
<i>Rhabdonella</i> sp.4	-	-	-	-
<i>Rhabdonella</i> sp.5	-	-	234	78
<i>Rhabdonella conica</i>	471	-	-	157
<i>Rhabdonella cuspidata</i>	-	-	-	-
<i>Rhabdonella poculum</i>	-	-	-	-
Family Tintinidae				
<i>Steenstrupiella</i> sp.	-	-	234	78
<i>Amphorelloopsis</i> sp.	-	-	-	-
<i>Amphorelloopsis acuta</i>	156	-	1,401	519
<i>Dadayiella cuspis</i>	-	-	-	-
<i>Eutintinnus</i> sp.1	-	-	-	-
<i>Eutintinnus</i> sp.2	-	-	-	-
<i>Eutintinnus</i> sp.3	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

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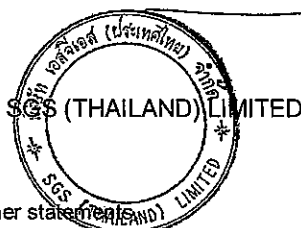
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COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 04' 57.78" E

SAMPLING DATE : February 10, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Subphylum Ciliophora				
Class Ciliata				
Order Tintinida				
Family Tintinidae				
<i>Eutintinnus maculatus</i>	156	-	468	208
<i>Eutintinnus perminutus</i>	1,410	3,099	1,866	2,125
<i>Salpingella</i> sp.	-	-	-	-
Phylum Cnidaria				
Class Hydrozoa				
Hydromedusae*	-	1,239	-	413
Order Anthomedusa				
Anthomedusae*	-	-	-	-
Order Leptomedusa				
Family Eutimididae				
<i>Eutima</i> sp.	-	-	-	-
Order Siphonophora				
Family Diphyidae				
<i>Lensia</i> sp.	-	-	-	-
Siphonophora*	-	621	-	207
Phylum Ctenophora				
Class Tentaculata				
Order Cydippida				
Cydippid larvae*	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
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COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 04' 57.78" E


Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Rotifera				
Class Monogononta				
Order Ploima				
Family Sagittidae				
<i>Keratella cochlearis</i>	-	-	-	-
Family Synchaetidae				
<i>Synchaeta</i> sp.	-	-	-	-
Phylum Chaetognatha				
Class Sagittioidea				
Family Sagittidae				
<i>Sagitta</i> spp.	-	-	-	-
Phylum Annelida				
Class Polychaeta				
<i>Nereis pelagica</i>	-	-	-	-
Polychaete larvae*	-	1,860	234	698
Family Tomopteridae				
<i>Tomopteris</i> sp.	-	-	-	-
Phylum Arthropoda				
Class Crustacea				
Subclass Branchiopoda				
Order Diplostraca				
<i>Pseudoevadne tergestina</i>	-	-	-	-
Subclass Ostracoda				
Order Myodocopa				
Ostracods*	-	-	-	-

Remark : * Not identify


 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

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Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Crustacea				
Subclass Ostracoda				
Order Myodocopa				
Family Conchoecia				
<i>Euconchoecia</i> sp.	-	-	-	-
<i>Conchoecia</i> sp.	-	-	-	-
Family Cypridinidae				
<i>Cypridina</i> sp.	-	-	-	-
<i>Philomedes</i> sp.	-	-	-	-
Subclass Copepoda				
Copepod nauplii*	11,595	47,121	12,132	23,616
Order Calanoida				
<i>Canthocalanus pauper</i>	-	-	-	-
<i>Subeucalanus subcrassus</i>	-	-	-	-
<i>Undinula vulgaris</i>	-	-	-	-
Calanoid copepodid*	1,254	-	1,167	807
Calanoid copepods*	-	321	-	107
Family Pseudocalanidae				
<i>Clausocalanus furcatus</i>	-	-	-	-
Family Paracalanidae				
<i>Paracalanus aculeatus</i>	-	-	-	-
<i>Acrocalanus gibber</i>	-	1,239	234	491
<i>Acrocalanus gracilis</i>	-	-	-	-
Family Temoridae				
<i>Temora discaudata</i>	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
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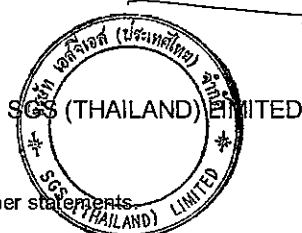
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Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Calanoida				
Family Pontellidae				
<i>Labidocera acuta</i>	-	621	-	207
Family Candaciidae				
<i>Candacia</i> sp.	-	-	-	-
Family Acartiidae				
<i>Acartia erythraea</i>	-	-	-	-
Order Cyclopoida				
<i>Farranula</i> sp.1	-	-	-	-
<i>Farranula</i> sp.2	-	-	-	-
<i>Farranula concinna</i>	-	-	-	-
<i>Farranula gibbula</i>	783	1,860	-	881
Cyclopoid copepodid*	156	-	1,167	441
Family Oithonidae				
<i>Oithona</i> sp.	-	-	-	-
Family Oncaeiidae				
<i>Oncaea</i> sp.	-	-	-	-
<i>Oncaea conifera</i>	-	-	-	-
<i>Oncaea venusta</i>	-	-	-	-
Family Corycaeiidae				
<i>Corycaeus</i> sp.1	-	3,099	-	1,033
<i>Corycaeus</i> sp.2	-	-	-	-
<i>Corycaeus agilis</i>	156	-	234	130

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 004-15 (page 7 of 9)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 3
COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 04' 57.78" E

SAMPLING DATE : February 10, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Cyclopoida				
Family Corycaeidae				
<i>Corycaeus asiaticus</i>	-	-	-	-
<i>Corycaeus speciosus</i>	-	-	-	-
Family Sapphirinidae				
<i>Sapphirina</i> sp.1	-	-	-	-
<i>Sapphirina</i> sp.2	-	-	-	-
Order Harpacticoida				
Harpacticoid copepodid*	-	-	-	-
Family Macrosetellidae				
<i>Macrosetella gracilis</i>	-	-	-	-
<i>Macrosetella norvegica</i>	156	621	468	415
Family Clytemnestridae				
<i>Clytemnestra scutellata</i>	-	-	-	-
Family Tachiidae				
<i>Euterpina acutifrons</i>	-	-	-	-
Subclass Cirripedia				
Cirripede nauplius*	-	2,481	-	827
Cypris larvae*	-	-	-	-
Subclass Malacostraca				
Order Amphipoda				
Amphipods*	-	-	-	-

Remark : * Not identify

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



Sompong Kiatiporn
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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 3
COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 04' 57.78" E
SAMPLING DATE : February 10, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Malacostraca				
Order Decapoda				
<i>Lucifer</i> sp.	-	-	-	-
Brachyuran larvae*	-	-	-	-
Pagurid larvae*	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Gastropod larvae*	156	1,860	-	672
Order Thecosomata				
Family Limacinidae				
<i>Limacina inflata</i>	-	-	-	-
Family Cavoliniidae				
<i>Creseis</i> sp.	-	1,239	-	413
<i>Diacria quadridentata</i>	-	-	-	-
<i>Diacria trispinosa</i>	-	-	-	-
<i>Carinaria</i> sp.	-	-	-	-
Class Pelecypoda (Bivalia)				
Pelecypod larvae*	156	-	-	52
Phylum Echinodermata				
Class Ophiuroidea				
Ophiopluteus larvae*	-	-	-	-

Remark : * Not identify

Siriporn Imwilaiwan
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Sompong Kiatiporn
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 Environmental Manager

SGS (THAILAND) LIMITED

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Analysis Report

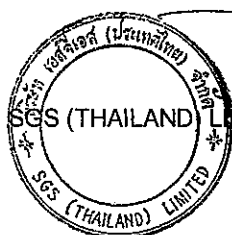
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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Control 3
COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 04' 57.78" E
SAMPLING DATE : February 10, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Chordata				
Class Larvacea				
Family Oikopleuridae				
<i>Oikopleura</i> sp.	627	-	-	209
<i>Oikopleura albicans</i>	-	-	-	-
<i>Oikopleura dioica</i>	-	-	-	-
<i>Oikopleura fusiformis</i>	-	-	-	-
<i>Oikopleura longicauda</i>	-	-	-	-
<i>Oikopleura parva</i>	-	-	-	-
Family Fritillariidae				
<i>Fritillaria</i> sp.	-	-	234	78
Class Thaliacea				
Order Doliolida				
Family Doliolidae				
<i>Doliolum denticulatum</i>	-	-	-	-
Order Salpida				
Family Salpidae				
<i>Cyclosalpa</i> sp.	-	-	-	-
<i>Salpa</i> sp.	-	-	-	-
Class Pisces				
Fish eggs*	-	-	-	-
Total Zooplankton Type	19	16	17	32
Total Zooplankton Amount	29,298	77,199	24,972	43,823

Remark : * Not identify

Siriporn Imwilaiwan
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Report No. : 2009-00202 / 004-1 (page 1 of 9)

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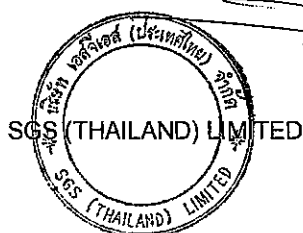
Analysis Report

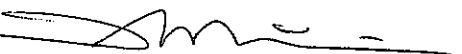
SAMPLE DESIGNATED AS : Zooplankton Analysis
 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
 COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E
 SAMPLING DATE : March 30, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa				
Subphylum Plasmodroma				
Class Sarcodina				
Subclass Rhizophoda				
Order Foraminiferida				
<i>Gallitellia</i> sp.	-	-	-	-
<i>Globorotalia</i> sp.	-	-	-	-
Foraminiferans*	-	-	-	-
Subclass Actinopoda				
<i>Acanthometron pellucidum</i>	16	-	18	11
<i>Lithomelissa monoceras</i>	31	-	-	10
<i>radiolarians</i> *	-	-	-	-
Class Acntherea				
Order Chaunacanthida				
<i>Stauracon pallidus</i>	94	202	53	116
Subphylum Ciliophora				
Class Ciliata				
<i>Epiplocyloides</i> sp.	-	-	-	-
<i>Vorticella oceanica</i>	-	-	-	-
Order Tintinida				
Family Codonellidae				
<i>Leprotintinnus nordquisti</i>	16	-	-	5
<i>Tintinnopsis</i> sp.1	-	-	-	-
<i>Tintinnopsis gracilis</i>	-	-	-	-

Remark : * Not identify


 (Siriporn Imwilaiwan)
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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis **SAMPLING DATE :** March 30, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Class Ciliata				
Order Tintinida				
Family Codonellopsidae				
<i>Codonellopsis morchella</i>	-	227	315	181
<i>Codonellopsis oftenfeldi</i>	-	-	-	-
Family Rhabdonellidae				
<i>Protorhabdonella</i> sp.1	-	-	-	-
<i>Protorhabdonella</i> sp.2	-	-	-	-
<i>Protorhabdonella simplex</i>	-	-	-	-
<i>Rhabdonella</i> sp.1	-	-	-	-
<i>Rhabdonella</i> sp.2	-	-	-	-
<i>Rhabdonella</i> sp.3	-	-	-	-
<i>Rhabdonella</i> sp.4	-	-	-	-
<i>Rhabdonella</i> sp.5	-	-	-	-
<i>Rhabdonella conica</i>	-	-	-	-
<i>Rhabdonella cuspidata</i>	-	-	18	6
<i>Rhabdonella poculum</i>	-	-	-	-
Family Tintinidae				
<i>Steenstrupiella</i> sp.	-	-	-	-
<i>Amphorelloopsis</i> sp.	-	-	-	-
<i>Amphorelloopsis acuta</i>	-	-	-	-
<i>Dadayiella cuspis</i>	-	-	-	-
<i>Eutintinnus</i> sp.1	-	-	-	-
<i>Eutintinnus</i> sp.2	-	-	-	-
<i>Eutintinnus</i> sp.3	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 1-010-A-1793



(Signature)
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 Environmental Manager

SK/SA/BS/Pp

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Analysis Report

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SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Protozoa (Cont'd)				
Subphylum Ciliophora				
Class Ciliata				
Order Tintinida				
Family Tintinidae				
<i>Eutintinnus maculatus</i>	-	-	-	-
<i>Eutintinnus perminutus</i>	-	-	-	-
<i>Salpingella</i> sp.	-	-	-	-
Phylum Cnidaria				
Class Hydrozoa				
Hydromedusae*	-	-	-	-
Order Anthomedusa				
Anthomedusae*	-	-	-	-
Order Leptomedusa				
Family Eutimididae				
<i>Eutima</i> sp.	-	-	-	-
Order Siphonophora				
Family Diphyidae				
<i>Lensia</i> sp.	16	-	53	23
Siphonophora*	-	-	-	-
Phylum Ctenophora				
Class Tentaculata				
Order Cydippida				
Cydippid larvae*	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793

(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SGS (THAILAND) LIMITED

SK/SA/BS/Pp

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Report No. : 2009-00202 / 004-1 (page 4 of 9)

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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
 SAMPLING DEVICES : Plankton Net
 SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
 COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E
 SAMPLING DATE : March 30, 2009

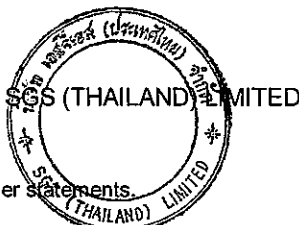
Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Rotifera				
Class Monogononta				
Order Ploima				
Family Sagittidae				
<i>Keratella cochlearis</i>	-	-	-	-
Family Synchaetidae				
<i>Synchaeta</i> sp.	-	-	-	-
Phylum Chaetognatha				
Class Sagittoidea				
Family Sagittidae				
<i>Sagitta</i> spp.	563	227	-	263
Phylum Annelida				
Class Polychaeta				
<i>Nereis pelagica</i>	16	-	18	11
Polychaete larvae*	-	-	-	-
Family Tomopteridae				
<i>Tomopteris</i> sp.	-	-	18	6
Phylum Arthropoda				
Class Crustacea				
Subclass Branchiopoda				
Order Diplostraca				
<i>Pseudoevadne tergestina</i>	-	-	-	-
Subclass Ostracoda				
Order Myodocopa				
Ostracods*	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

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 Environmental Manager

SK/SA/BS/Pp



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Analysis Report

SAMPLE DESIGNATED AS : Zooplankton Analysis
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E
SAMPLING DATE : March 30, 2009

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Crustacea				
Subclass Ostracoda				
Order Myodocopa				
Family Conchoecia				
<i>Euconchoecia</i> sp.	-	-	-	-
<i>Conchoecia</i> sp.	109	152	35	99
Family Cypridinidae				
<i>Cypridina</i> sp.	-	-	-	-
<i>Philomedes</i> sp.	219	429	53	234
Subclass Copepoda				
Copepod nauplii*	8,126	13,137	8,062	9,775
Order Calanoida				
<i>Canthocalanus pauper</i>	-	-	-	-
<i>Subeucalanus subcrassus</i>	-	-	-	-
<i>Undinula vulgaris</i>	-	-	-	-
Calanoid copepodid*	1,547	2,501	5,205	3,084
Calanoid copepods*	-	-	-	-
Family Pseudocalanidae				
<i>Clausocalanus furcatus</i>	-	-	-	-
Family Paracalanidae				
<i>Paracalanus aculeatus</i>	-	-	-	-
<i>Acrocalanus gibber</i>	-	-	-	-
<i>Acrocalanus gracilis</i>	-	-	-	-
Family Temoridae				
<i>Temora discaudata</i>	-	-	-	-

Remark : * Not identify

Siriporn Imwilaiwan
(Siriporn Imwilaiwan)
License ID : 0-010-A-1793



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Environmental Manager

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COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E

Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Calanoida				
Family Pontellidae				
<i>Labidocera acuta</i>	-	-	-	-
Family Candaciidae				
<i>Candacia</i> sp.	-	-	-	-
Family Acartiidae				
<i>Acartia erythraea</i>	-	-	-	-
Order Cyclopoida				
<i>Farranula</i> sp.1	-	-	-	-
<i>Farranula</i> sp.2	-	-	-	-
<i>Farranula concinna</i>	-	-	-	-
<i>Farranula gibbula</i>	-	-	-	-
Cyclopoid copepodid*	438	606	421	488
Family Oithonidae				
<i>Oithona</i> sp.	-	-	-	-
Family Oncaeiidae				
<i>Oncaea</i> sp.	-	-	-	-
<i>Oncaea conifera</i>	-	-	-	-
<i>Oncaea venusta</i>	-	-	-	-
Family Corycaeiidae				
<i>Corycaeus</i> sp.1	-	-	-	-
<i>Corycaeus</i> sp.2	-	-	-	-
<i>Corycaeus agilis</i>	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

SGS (THAILAND) LIMITED

(Signature)
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Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Copepoda				
Order Cyclopoida				
Family Corycaeidae				
<i>Corycaeus asiaticus</i>	-	-	-	-
<i>Corycaeus speciosus</i>	-	-	-	-
Family Sapphirinidae				
<i>Sapphirina</i> sp.1	-	-	-	-
<i>Sapphirina</i> sp.2	-	-	-	-
Order Harpacticoida				
Harpacticoid copepodid*	31	126	53	70
Family Macrosetellidae				
<i>Macrosetella gracilis</i>	-	-	-	-
<i>Microsetella norvegica</i>	-	-	-	-
Family Clytemnestidae				
<i>Clytemnestra scutellata</i>	-	-	-	-
Family Tachiidae				
<i>Euterpina acutifrons</i>	-	-	-	-
Subclass Cirripedia				
Cirripede nauplius*	-	-	-	-
Cypris larvae*	47	25	-	24
Subclass Malacostraca				
Order Amphipoda				
Amphipods*	-	-	-	-

Remark : * Not identify

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SGS (THAILAND) LIMITED



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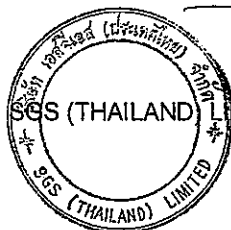
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Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Subclass Malacostraca				
Order Decapoda				
<i>Lucifer</i> sp.	16	-	18	11
Brachyuran larvae*	-	-	18	6
Pagurid larvae*	-	25	-	8
Phylum Mollusca				
Class Gastropoda				
Gastropod larvae*	-	-	-	-
Order Thecosomata				
Family Limacinidae				
<i>Limacina inflata</i>	47	25	53	42
Family Cavoliniidae				
<i>Creseis</i> sp.	-	-	18	6
<i>Diacria quadridentata</i>	234	606	456	432
<i>Diacria trispinosa</i>	31	25	53	36
<i>Carinaria</i> sp.	-	-	18	6
Class Pelecypoda (Bivalia)				
Pelecypod larvae*	-	51	18	23
Phylum Echinodermata				
Class Ophiuroidea				
Ophiopluteus larvae*	-	-	-	-

Remark : * Not identify

Siriporn I
 (Siriporn Imwilaiwan)
 License ID : 7-010-A-1793

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(Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00202 / 004-1 (page 9 of 9)

Issued date : April 22, 2009

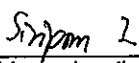
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Analysis Report

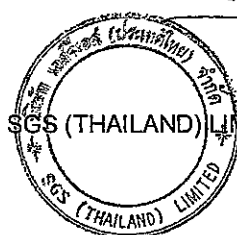
SAMPLE DESIGNATED AS : Zooplankton Analysis **SAMPLING DATE :** March 30, 2009
SAMPLING DEVICES : Plankton Net
SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E

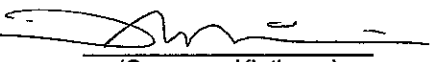
Detail	Zooplankton (Ind/m ³)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Chordata				
Class Larvacea				
Family Oikopleuridae				
<i>Oikopleura</i> sp.	-	-	-	-
<i>Oikopleura albicans</i>	-	-	18	6
<i>Oikopleura dioica</i>	141	25	18	61
<i>Oikopleura fusiformis</i>	78	253	140	157
<i>Oikopleura longicauda</i>	31	51	-	27
<i>Oikopleura parva</i>	16	-	-	5
Family Fritillariidae				
<i>Fritillaria</i> sp.	-	-	-	-
Class Thaliacea				
Order Doliolida				
Family Doliolidae				
<i>Doliolum denticulatum</i>	16	-	18	11
Order Salpida				
Family Salpidae				
<i>Cyclosalpa</i> sp.	63	76	53	64
<i>Salpa</i> sp.	-	-	18	6
Class Pisces				
Fish eggs*	-	-	-	-
Total Zooplankton Type	24	19	27	34
Total Zooplankton Amount	11,942	18,769	15,239	15,313

Remark : * Not identify


 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

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 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-1 (page 1 of 8)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E
SAMPLING DATE : February 7, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Sarcodina (Protozoa)				
Class Foraminifera				
Order Foraminiferida				
Unidentified Foraminifera	-	-	-	-
Phylum Sipuncula				
Class Sipunculidea				
Order Sipunculiformes				
Family Sipunculidae				
Unidentified Sipunculidae	-	-	20	7
Phylum Nematoda				
Class Adenophorea				
Order Areolaimida				
Family Araeolaimidae				
Unidentified Araeolaimidae	-	20	-	7
Phylum Annelida				
Subclass Errantia				
Order Aciculata				
Family Goniadidae				
Unidentified Goniadidae	-	-	-	-
Family Nereididae				
Nereis sp.	-	-	-	-
Unidentified Nereididae	-	-	-	-
Family Paralacydoniidae				
Paralacydonia sp.	-	-	20	7
Order Eunicida				
Family Arabellidae				
Unidentified Arabellidae	-	20	-	7

Siriporn I.
 (Siriporn Imwilaiwan)
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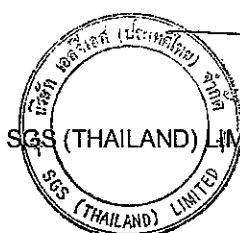
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CONTACT : Khun Morakot Suvarnapruksa
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Errantia				
Order Eunicida				
Family Eunicidae				
<i>Eunice</i> sp.	-	-	-	-
Family Onuphidae				
Unidentified Onuphidae	-	-	-	-
Order Phyllodocida				
Family Glyceridae				
<i>Glycera</i> sp.	-	-	-	-
Family Nephtyidae				
<i>Nephtys</i> sp.	-	20	-	7
Family Phyllodocidae				
<i>Lopadorhynchus</i> sp.	-	-	-	-
Family Pilargiidae				
Unidentified Pilargiidae	-	-	-	-
Family Polynoidae				
Unidentified Polynoidae	-	-	-	-
Family Syllidae				
Unidentified Syllidae	-	-	20	7
Subclass Sedentaria				
Order Canalipalpata				
Family Pectinariidae				
Unidentified Pectinariidae	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
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Report No. : 2009-00051 / 005-1 (page 3 of 8)

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Canalipalpata				
suborder Spionida				
Family Cirratulidae				
Unidentified Cirratulidae	-	-	-	-
Family Poecilochaetidae				
<i>Poecilochaetus</i> sp.	-	-	-	-
Family Spionidae				
Unidentified Spionidae	-	-	-	-
Order Capitellida				
Family Arenicolidae				
Unidentified Arenicolidae	-	-	-	-
Family Capitellidae				
<i>Capitella capitata</i>	-	-	-	-
Unidentified Capitellidae	-	-	-	-
Order Flabelligerida				
Family Flabelligeridae				
Unidentified Flabelligeridae	-	-	-	-
Order Opheliida				
Family Maldanidae				
Unidentified Maldanidae	-	-	-	-
Family Opheliidae				
Unidentified Opheliidae	-	20	-	7
Order Orbiniida				
Family Orbiniidae				
Unidentified Orbiniidae	-	20	40	20

Siriporn L
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Report No. : 2009-00051 / 005-1 (page 4 of 8)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Sabellida				
Family Dinophilidae				
Unidentified Dinophilidae	-	-	20	7
Order Sternaspida				
Family Sternaspidae				
Unidentified Sternaspidae	-	-	20	7
Order Terebellida				
Family Ampharetidae				
Unidentified Ampharetidae	-	-	-	-
Family Terebellidae				
<i>Terebellides</i> sp.	-	20	-	7
Unidentified Terebellidae	-	-	-	-
Phylum Arthropoda				
Class Malacostraca				
Order Stomatopoda				
Family Squillidae				
<i>Erugosquilla woodmasoni</i>	-	-	-	-
<i>Oratosquilla interrupta</i>	-	-	-	-
Unidentified Squillidae	-	-	-	-
Order Decapoda				
Infraorder Brachyura				
Family Dromiidae				
Unidentified Dromiidae	-	-	-	-
Family Goneplacidae				
Unidentified Goneplacidae	-	20	-	7

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



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 Environmental Manager

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Report No. : 2009-00051 / 005-1 (page 5 of 8)

Issued date : February 27, 2009

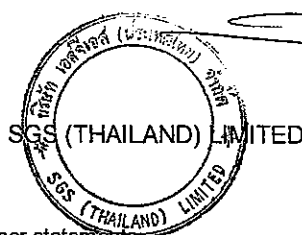
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Brachyura				
Family Leucosiidae				
<i>Leucosia</i> sp.	-	-	-	-
Family Portunidae				
<i>Charybdis</i> sp.	-	-	-	-
Family Xanthidae				
<i>Pilumnus</i> sp.	-	-	-	-
Unidentified crab	-	-	-	-
Infraorder Caridea				
Family Alpheidae				
<i>Alpheus</i> sp.	-	-	-	-
Family Porcellanidae				
<i>Pachycheles</i> sp.	-	-	-	-
Infraorder Penaeidae				
Family Crangonidae				
Unidentified Crangonidae	-	-	-	-
Family Penaeidae				
<i>Penaeus</i> sp.	-	-	-	-
Unidentified Penaeidae	-	-	-	-
<i>Metapenaeus</i> sp.	-	-	-	-
Family Sergestidae				
Unidentified Sergestidae	-	-	-	-

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
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 Environmental Manager

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Report No. : 2009-00051 / 005-1 (page 6 of 8)

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Mysidaceae				
Family Myidae				
Unidentified Myidae	-	-	-	-
Order Mysida				
Family Mysidae				
Unidentified Mysidae	-	-	-	-
Order Cumacea				
Family Bodotridae				
Unidentified Bodotridae	-	-	-	-
Family Diastylidae				
Unidentified Diastylidae	-	-	20	7
Family Gynodiastylidae				
Unidentified Gynodiastylidae	-	-	-	-
Order Amphipoda				
Family Ampeliscidae				
Unidentified Ampeliscidae	20	-	-	7
Family Amphithoidae				
Unidentified Amphithoidae	-	-	-	-
Family Gammaridae				
Unidentified Gammaridae	-	-	-	-
Family Hyalidae				
Unidentified Hyalidae	-	-	-	-
Family Liljeborgiidea				
Unidentified Liljeborgiidea	-	-	-	-

Siriporn
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-1 (page 7 of 8)

Issued date : February 27, 2009

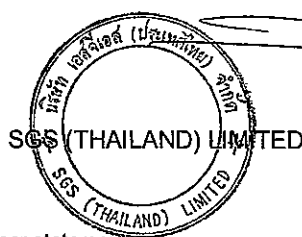
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Amphipoda				
Family Oedicerotidae				
Unidentified Oedicerotidae	-	-	60	20
Family Vibiliidae				
Vibilia sp.	-	-	-	-
Order Isopoda				
Suborder Valvifera				
Unidentified Valvifera	-	-	-	-
Order Tanaidacea				
Suborder Tanaidomorpha				
Family Tanaidae				
Unidentified Tanaidae	-	-	-	-
Family Leptocheliidae				
Heterotanaïs sp.	20	-	-	7
Suborder Apseudomorpha				
Family Sphyrapidae				
Unidentified Sphyrapidae	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Family Cancellariidae				
Unidentified Cancellariidae	-	-	-	-
Family Haminoeidae				
Atys sp.	-	-	-	-

Siriporn I.
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 License ID : 7-010-A-1793



Sompong Kiatipom
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Report No. : 2009-00051 / 005-1 (page 8 of 8)

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-1
COORDINATION (WGS84) : 9° 19' 3.39" N, 101° 12' 18.20" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Mollusca (Cont'd)				
Class Bivalvia				
Order Veneroida				
Family Veneridae				
<i>Tapes</i> sp.	-	-	-	-
Class Scaphopoda				
Family Dentaliidae				
Unidentified Dentaliidae	-	-	-	-
Phylum Echinodermata				
Class Echinoidae				
Unidentified sea urchin	-	-	-	-
Order Ophiurida				
Family Amphiuridae				
<i>Amphioplus</i> sp.	-	-	20	7
Unidentified Amphiuridae	-	-	-	-
Phylum Chordata				
Subphylum Vertebrata				
Class Actinopterygii				
Family Gobiidae				
Unidentified Gobiidae	-	-	-	-
Family Sciaenidae				
Unidentified Sciaenidae	-	-	-	-
Family Bregmacerotidae				
Unidentified Bregmacerotidae	20	-	20	13
Total Benthos Type	3	7	10	18
Total Benthos Amount	60	140	260	158

Siriporn I.
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Report No. : 2009-00051 / 005-2 (page 1 of 8)

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
 SAMPLING DEVICES : Smith and McIntyre Grab Sampler
 SAMPLING LOCATION : Concession Block G6/48, North Dara-2
 COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E
 SAMPLING DATE : February 7, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Sarcodina (Protozoa)				
Class Foraminifera				
Order Foraminiferida				
Unidentified Foraminifera	-	-	-	-
Phylum Sipuncula				
Class Sipunculidea				
Order Sipunculiformes				
Family Sipunculidae				
Unidentified Sipunculidae	-	20	-	7
Phylum Nematoda				
Class Adenophorea				
Order Areolaimida				
Family Araeolaimidae				
Unidentified Araeolaimidae	-	-	-	-
Phylum Annelida				
Subclass Errantia				
Order Aciculata				
Family Goniadidae				
Unidentified Goniadidae	-	-	-	-
Family Nereididae				
<i>Nereis</i> sp.	-	-	-	-
Unidentified Nereididae	-	-	-	-
Family Paralacydoniidae				
<i>Paralacydonia</i> sp.	-	20	-	7
Order Eunicida				
Family Arabellidae				
Unidentified Arabellidae	-	-	-	-

Siriporn I.
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 License ID : 2-010-A-1793



Sompong Kiatiporn
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Report No. : 2009-00051 / 005-2 (page 2 of 8)

Issued date : February 27, 2009

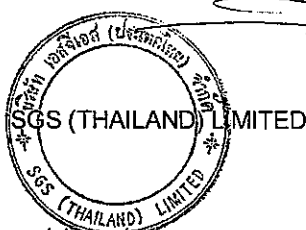
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-2
COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Errantia				
Order Eunicida				
Family Eunicidae				
<i>Eunice</i> sp.	-	20	-	7
Family Onuphidae				
Unidentified Onuphidae	-	-	-	-
Order Phyllodocida				
Family Glyceridae				
<i>Glycera</i> sp.	-	-	-	-
Family Nephtyidae				
<i>Nephtys</i> sp.	-	-	-	-
Family Phyllodocidae				
<i>Lopadorhynchus</i> sp.	-	20	-	7
Family Pilargiidae				
Unidentified Pilargiidae	-	-	-	-
Family Polynoidae				
Unidentified Polynoidae	-	-	-	-
Family Syllidae				
Unidentified Syllidae	-	-	-	-
Subclass Sedentaria				
Order Canalipalpata				
Family Pectinariidae				
Unidentified Pectinariidae	-	-	-	-

Siriporn 2
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(Signature)
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Report No. : 2009-00051 / 005-2 (page 3 of 8)

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-2
COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Canalipalpata				
suborder Spionida				
Family Cirratulidae				
Unidentified Cirratulidae	-	-	-	-
Family Poecilochaetidae				
<i>Poecilochaetus</i> sp.	-	-	-	-
Family Spionidae				
Unidentified Spionidae	-	-	-	-
Order Capitellida				
Family Arenicolidae				
Unidentified Arenicolidae	20	-	-	7
Family Capitellidae				
<i>Capitella capitata</i>	-	-	-	-
Unidentified Capitellidae	-	-	-	-
Order Flabelligerida				
Family Flabelligeridae				
Unidentified Flabelligeridae	-	-	-	-
Order Opheliida				
Family Maldanidae				
Unidentified Maldanidae	-	20	-	7
Family Opheliidae				
Unidentified Opheliidae	-	-	-	-
Order Orbiniida				
Family Orbiniidae				
Unidentified Orbiniidae	-	-	-	-

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 1-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/PP

This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 005-2 (page 4 of 8)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-2
COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Sabellida				
Family Dinophilidae				
Unidentified Dinophilidae	-	-	-	-
Order Sternaspida				
Family Sternaspidae				
Unidentified Sternaspidae	-	-	-	-
Order Terebellida				
Family Ampharetidae				
Unidentified Ampharetidae	-	-	-	-
Family Terebellidae				
<i>Terebellides</i> sp.	-	-	-	-
Unidentified Terebellidae	-	-	-	-
Phylum Arthropoda				
Class Malacostraca				
Order Stomatopoda				
Family Squillidae				
<i>Erugosquilla woodmasoni</i>	-	-	-	-
<i>Oratosquilla interrupta</i>	-	-	-	-
Unidentified Squillidae	-	-	-	-
Order Decapoda				
Infraorder Brachyura				
Family Dromiidae				
Unidentified Dromiidae	-	-	-	-
Family Goneplacidae				
Unidentified Goneplacidae	-	20	-	7

Siriporn L
 (Siriporn Imwilaivan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-2 (page 5 of 8)

Issued date : February 27, 2009

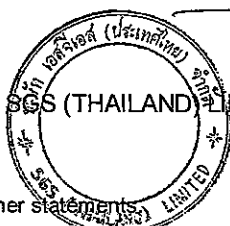
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Analysis Report

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SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-2
COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Brachyura				
Family Leucosiidae				
<i>Leucosia</i> sp.	-	-	-	-
Family Portunidae				
<i>Charybdis</i> sp.	-	40	-	13
Family Xanthidae				
<i>Plumnus</i> sp.	-	-	-	-
Unidentified crab	-	-	-	-
Infraorder Caridea				
Family Alpheidae				
<i>Alpheus</i> sp.	20	-	-	7
Family Porcellanidae				
<i>Pachycheles</i> sp.	-	-	-	-
Infraorder Penaeidae				
Family Crangonidae				
Unidentified Crangonidae	-	-	-	-
Family Penaeidae				
<i>Penaeus</i> sp.	-	20	-	7
Unidentified Penaeidae	-	-	-	-
<i>Metapenaeus</i> sp.	-	20	-	7
Family Sergestidae				
Unidentified Sergestidae	-	-	-	-

Siriporn 1.
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



Sompong
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Analysis Report

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 SAMPLING DEVICES : Smith and McIntyre Grab Sampler
 SAMPLING LOCATION : Concession Block G6/48, North Dara-2
 COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Mysidaceae				
Family Myidae				
Unidentified Myidae	-	-	-	-
Order Mysida				
Family Mysidae				
Unidentified Mysidae	-	-	-	-
Order Cumacea				
Family Bodotridae				
Unidentified Bodotridae	-	-	-	-
Family Diastylidae				
Unidentified Diastylidae	20	-	-	7
Family Gynodiastylidae				
Unidentified Gynodiastylidae	-	-	-	-
Order Amphipoda				
Family Ampeliscidae				
Unidentified Ampeliscidae	-	-	20	7
Family Amphithoidae				
Unidentified Amphithoidae	-	-	-	-
Family Gammaridae				
Unidentified Gammaridae	-	-	-	-
Family Hyalidae				
Unidentified Hyalidae	-	-	-	-
Family Liljeborgiidea				
Unidentified Liljeborgiidea	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SGS (THAILAND) LIMITED

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Report No. : 2009-00051 / 005-2 (page 7 of 8)

Issued date : February 27, 2009

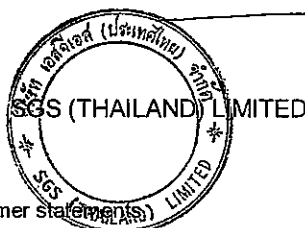
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Analysis Report

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SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-2
COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Amphipoda				
Family Oedicerotidae				
Unidentified Oedicerotidae	-	20	-	7
Family Vibiliidae				
Vibilia sp.	-	20	7	9
Order Isopoda				
Suborder Valvifera				
Unidentified Valvifera	-	-	-	-
Order Tanaidacea				
Suborder Tanaidomorpha				
Family Tanaidae				
Unidentified Tanaidae	20	-	20	13
Family Leptocheliidae				
Heterotanaïs sp.	-	-	-	-
Suborder Apseudomorpha				
Family Sphyrapidae				
Unidentified Sphyrapidae	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Family Cancellariidae				
Unidentified Cancellariidae	-	-	-	-
Family Haminoeidae				
Atys sp.	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-2 (page 8 of 8)

Issued date : February 27, 2009

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Analysis Report

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SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-2
COORDINATION (WGS84) : 9° 16' 26.85" N, 101° 11' 30.05" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Mollusca (Cont'd)				
Class Bivalvia				
Order Veneroida				
Family Veneridae				
<i>Tapes</i> sp.	-	-	-	-
Class Scaphopoda				
Family Dentaliidae				
Unidentified Dentaliidae	-	-	-	-
Phylum Echinodermata				
Class Echinoidae				
Unidentified sea urchin	-	-	-	-
Order Ophiurida				
Family Amphiuridae				
<i>Amphiopus</i> sp.	20	-	-	7
Unidentified Amphiuridae	-	-	-	-
Phylum Chordata				
Subphylum Vertebrata				
Class Actinopterygii				
Family Gobiidae				
Unidentified Gobiidae	-	-	-	-
Family Gobiidae				
Unidentified Sciaenidae	-	-	40	13
Family Bregmacerotidae				
Unidentified Bregmacerotidae	-	-	20	7
Total Benthos Type	5	11	5	19
Total Benthos Amount	100	240	107	153

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-3 (page 1 of 8)

Issued date : February 27, 2009

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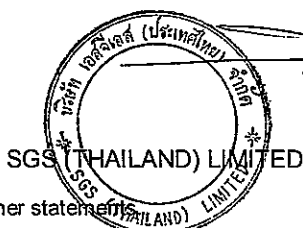
Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-3
COORDINATION (WGS84) : 9° 15' 17.75" N, 101° 10' 54.90" E

SAMPLING DATE : February 7, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Sarcodina (Protozoa)				
Class Foraminifera				
Order Foraminiferida				
Unidentified Foraminifera	-	-	-	-
Phylum Sipuncula				
Class Sipunculidea				
Family Sipunculidae				
Order Sipunculiformes				
Unidentified Sipunculidae	20	-	-	7
Phylum Nematoda				
Class Adenophorea				
Order Areolaimida				
Family Araeolaimidae				
Unidentified Araeolaimidae	-	-	-	-
Phylum Annelida				
Subclass Errantia				
Order Aciculata				
Family Goniadidae				
Unidentified Goniadidae	-	-	-	-
Family Nereididae				
Nereis sp.	-	-	-	-
Unidentified Nereididae	-	-	-	-
Family Paralacydoniidae				
Paralacydonia sp.	-	-	-	-
Order Eunicida				
Family Arabellidae				
Unidentified Arabellidae	-	20	-	7

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-3 (page 2 of 8)

Issued date : February 27, 2009

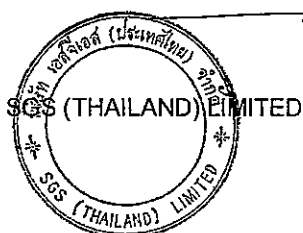
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-3
COORDINATION (WGS84) : 9° 15' 17.75" N, 101° 10' 54.90" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Errantia				
Order Eunicida				
Family Eunicidae				
<i>Eunice</i> sp.	-	-	-	-
Family Onuphidae				
Unidentified Onuphidae	-	-	-	-
Order Phyllodocida				
Family Glyceridae				
<i>Glycera</i> sp.	-	-	-	-
Family Nephtyidae				
<i>Nephtys</i> sp.	40	-	20	20
Family Phyllodocidae				
<i>Lopadorhynchus</i> sp.	-	-	-	-
Family Pilargiidae				
Unidentified Pilargiidae	-	-	-	-
Family Polynoidae				
Unidentified Polynoidae	-	-	-	-
Family Syllidae				
Unidentified Syllidae	-	-	-	-
Subclass Sedentaria				
Order Canalipalpata				
Family Pectinariidae				
Unidentified Pectinariidae	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-3 (page 3 of 8)
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Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Canalipalpata				
suborder Spionida				
Family Cirratulidae				
Unidentified Cirratulidae	-	-	-	-
Family Poecilochaetidae				
<i>Poecilochaetus</i> sp.	-	20	-	7
Family Spionidae				
Unidentified Spionidae	-	-	-	-
Order Capitellida				
Family Arenicolidae				
Unidentified Arenicolidae	-	-	-	-
Family Capitellidae				
<i>Capitella capitata</i>	-	-	-	-
Unidentified Capitellidae	-	-	-	-
Order Flabelligerida				
Family Flabelligeridae				
Unidentified Flabelligeridae	-	-	-	-
Order Opheliida				
Family Maldanidae				
Unidentified Maldanidae	-	-	-	-
Family Opheliidae				
Unidentified Opheliidae	-	-	-	-
Order Orbiniida				
Family Orbiniidae				
Unidentified Orbiniidae	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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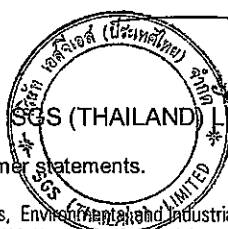
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Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Sabellida				
Family Dinophilidae				
Unidentified Dinophilidae	-	-	-	-
Order Sternaspida				
Family Sternaspidae				
Unidentified Sternaspidae	20	20	20	20
Order Terebellida				
Family Ampharetidae				
Unidentified Ampharetidae	-	-	-	-
Family Terebellidae				
<i>Terebellides</i> sp.	-	-	-	-
Unidentified Terebellidae	-	-	-	-
Phylum Arthropoda				
Class Malacostraca				
Order Stomatopoda				
Family Squillidae				
<i>Erugosquilla woodmasoni</i>	-	-	-	-
<i>Oratosquilla interrupta</i>	-	-	-	-
Unidentified Squillidae	-	-	-	-
Order Decapoda				
Infraorder Brachyura				
Family Dromiidae				
Unidentified Dromiidae	-	-	-	-
Family Goneplacidae				
Unidentified Goneplacidae	20	-	-	7

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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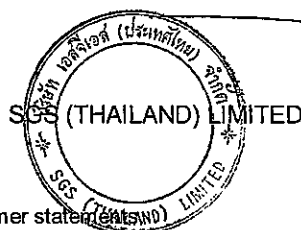
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SAMPLING DATE : February 7, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Brachyura				
Family Leucosiidae				
<i>Leucosia</i> sp.	-	-	-	-
Family Portunidae				
<i>Charybdis</i> sp.	-	-	-	-
Family Xanthidae				
<i>Pilumnus</i> sp.	-	-	-	-
Unidentified crab	-	-	-	-
Infraorder Caridea				
Family Alpheidae				
<i>Alpheus</i> sp.	-	-	-	-
Family Porcellanidae				
<i>Pachycheles</i> sp.	20	-	-	7
Infraorder Penaeidae				
Family Crangonidae				
Unidentified Crangonidae	-	-	-	-
Family Penaeidae				
<i>Penaeus</i> sp.	-	-	-	-
Unidentified Penaeidae	-	-	-	-
<i>Metapenaeus</i> sp.	-	-	-	-
Family Sergestidae				
Unidentified Sergestidae	-	-	-	-

Siriporn 2.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatipom)
 Environmental Manager

SK/SA/BS/Pp

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SAMPLING DATE : February 7, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Mysidaceae				
Family Myidae				
Unidentified Myidae	-	-	-	-
Order Mysida				
Family Mysidae				
Unidentified Mysidae	-	-	-	-
Order Cumacea				
Family Bodotridae				
Unidentified Bodotridae	-	-	-	-
Family Diastylidae				
Unidentified Diastylidae	-	-	-	-
Family Gynodiastylidae				
Unidentified Gynodiastylidae	-	-	-	-
Order Amphipoda				
Family Ampeliscidae				
Unidentified Ampeliscidae	40	-	-	13
Family Amphithoidae				
Unidentified Amphithoidae	-	-	-	-
Family Gammaridae				
Unidentified Gammaridae	-	-	-	-
Family Hyalidae				
Unidentified Hyalidae	-	-	-	-
Family Liljeborgiidea				
Unidentified Liljeborgiidea	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 1-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-3 (page 7 of 8)

Issued date : February 27, 2009

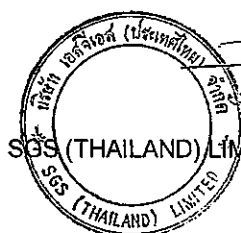
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SAMPLING DATE : February 7, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Amphipoda				
Family Oedicerotidae				
Unidentified Oedicerotidae	20	-	20	13
Family Vibiliidae				
Vibilia sp.	-	-	-	-
Order Isopoda				
Suborder Valvifera				
Unidentified Valvifera	-	-	-	-
Order Tanaidacea				
Suborder Tanaidomorpha				
Family Tanaidae				
Unidentified Tanaidae	-	-	-	-
Family Leptocheliidae				
Heterotanis sp.	20	-	-	7
Suborder Apseudomorpha				
Family Sphyrapidae				
Unidentified Sphyrapidae	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Family Cancellariidae				
Unidentified Cancellariidae	-	-	-	-
Family Haminoeidae				
Atys sp.	-	-	-	-

Siriporn I
 (Siriporn Imwilaiwan)
 License ID : 2-010-P-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-3 (page 8 of 8)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-3
COORDINATION (WGS84) : 9° 15' 17.75" N, 101° 10' 54.90" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Mollusca (Cont'd)				
Class Bivalvia				
Order Veneroida				
Family Veneridae				
<i>Tapes</i> sp.	40	-	-	13
Class Scaphopoda				
Family Dentaliidae				
Unidentified Dentaliidae	-	-	-	-
Phylum Echinodermata				
Class Echinoidae				
Unidentified sea urchin	-	-	-	-
Order Ophiurida				
Family Amphiuridae				
<i>Amphioplus</i> sp.	20	-	-	7
Unidentified Amphiuridae	-	-	-	-
Phylum Chordata				
Subphylum Vertebrata				
Class Actinopterygii				
Family Gobiidae				
Unidentified Gobiidae	-	20	-	7
Family Sciaenidae				
Unidentified Sciaenidae	-	-	-	-
Family Bregmacerotidae				
Unidentified Bregmacerotidae	-	-	-	-
Total Benthos Type	10	4	3	13
Total Benthos Amount	260	80	60	135

Siriporn I.
 (Siriporn Imwilaiwan)
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Report No. : 2009-00051 / 005-4 (page 1 of 8)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, West Dara-5
COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Sarcodina (Protozoa)				
Class Foraminifera				
Order Foraminifera				
Unidentified Foraminifera	-	-	-	-
Phylum Sipuncula				
Class Sipunculidea				
Order Sipunculiformes				
Family Sipunculidae				
Unidentified Sipunculidae	-	20	20	13
Phylum Nematoda				
Class Adenophorea				
Order Areolaimida				
Family Araeolaimidae				
Unidentified Araeolaimidae	20	-	-	7
Phylum Annelida				
Subclass Errantia				
Order Aciculata				
Family Goniadidae				
Unidentified Goniadidae	-	20	-	7
Family Nereididae				
Nereis sp.	-	-	-	-
Unidentified Nereididae	-	-	-	-
Family Paralacydoniidae				
Paralacydonia sp.	-	-	20	7
Order Eunicida				
Family Arabellidae				
Unidentified Arabellidae	-	-	-	-

Siriporn L.
 (Siriporn Imwilaiwan)
 License ID : 7-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-4 (page 2 of 8)

Issued date : February 27, 2009

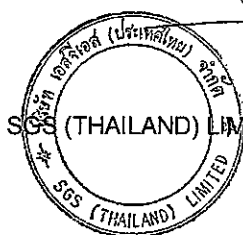
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CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, West Dara-5
COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Errantia				
Order Eunicida				
Family Eunicidae				
<i>Eunice</i> sp.	-	-	20	7
Family Onuphidae				
Unidentified Onuphidae	-	-	-	-
Order Phyllodocida				
Family Glyceridae				
<i>Glycera</i> sp.	-	-	-	-
Family Nephtyidae				
<i>Nephtys</i> sp.	-	-	20	7
Family Phyllodocidae				
<i>Lopadorhynehus</i> sp.	-	-	-	-
Family Pilargiidae				
Unidentified Pilargiidae	-	20	-	7
Family Polynoidae				
Unidentified Polynoidae	-	-	-	-
Family Syllidae				
Unidentified Syllidae	-	-	-	-
Subclass Sedentaria				
Order Canalipalpata				
Family Pectinariidae				
Unidentified Pectinariidae	-	-	-	-

Siriporn L.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-4 (page 3 of 8)

Issued date : February 27, 2009

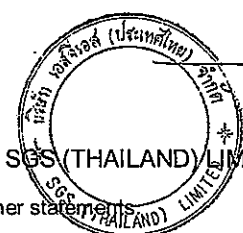
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, West Dara-5
COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E
SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Canalipalpata				
suborder Spionida				
Family Cirratulidae				
Unidentified Cirratulidae	-	-	-	-
Family Poecilochaetidae				
<i>Poecilochaetus</i> sp.	-	-	-	-
Family Spionidae				
Unidentified Spionidae	-	-	-	-
Order Capitellida				
Family Arenicolidae				
Unidentified Arenicolidae	-	-	-	-
Family Capitellidae				
<i>Capitella capitata</i>	-	-	-	-
Unidentified Capitellidae	-	-	-	-
Order Flabelligerida				
Family Flabelligeridae				
Unidentified Flabelligeridae	-	-	-	-
Order Opheliida				
Family Maldanidae				
Unidentified Maldanidae	-	-	-	-
Family Opheliidae				
Unidentified Opheliidae	-	-	-	-
Order Orbiniida				
Family Orbiniidae				
Unidentified Orbiniidae	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



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Report No. : 2009-00051 / 005-4 (page 4 of 8)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, West Dara-5
COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Sabellida				
Family Dinophilidae				
Unidentified Dinophilidae	-	-	-	-
Order Sternaspida				
Family Sternaspidae				
Unidentified Sternaspidae	-	-	20	7
Order Terebellida				
Family Ampharetidae				
Unidentified Ampharetidae	-	-	-	-
Family Terebellidae				
Terebellides sp.	-	-	-	-
Unidentified Terebellidae	-	-	-	-
Phylum Arthropoda				
Class Malacostraca				
Order Stomatopoda				
Family Squillidae				
Erugosquilla woodmasoni	-	-	20	7
Oratosquilla interrupta	-	-	-	-
Unidentified Squillidae	-	-	-	-
Order Decapoda				
Infraorder Brachyura				
Family Dromiidae				
Unidentified Dromiidae	-	-	-	-
Family Goneplacidae				
Unidentified Goneplacidae	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
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Report No. : 2009-00051 / 005-4 (page 5 of 8)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, West Dara-5
COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E
SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Brachyura				
Family Leucosiidae				
<i>Leucosia</i> sp.	-	-	-	-
Family Portunidae				
<i>Charybdis</i> sp.	-	-	20	7
Family Xanthidae				
<i>Pilumnus</i> sp.	-	-	-	-
Unidentified crab	-	-	-	-
Infraorder Caridea				
Family Alpheidae				
<i>Alpheus</i> sp.	-	-	-	-
Family Porcellanidae				
<i>Pachycheles</i> sp.	-	-	-	-
Infraorder Penaeidae				
Family Crangonidae				
Unidentified Crangonidae	-	-	20	7
Family Penaeidae				
<i>Penaeus</i> sp.	-	-	-	-
Unidentified Penaeidae	-	-	-	-
<i>Metapenaeus</i> sp.	-	-	20	7
Family Sergestidae				
Unidentified Sergestidae	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



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 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-4 (page 6 of 8)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, West Dara-5
COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Mysidaceae				
Family Myidae				
Unidentified Myidae	-	-	-	-
Order Mysida				
Family Mysidae				
Unidentified Mysidae	-	-	-	-
Order Cumacea				
Family Bodotridae				
Unidentified Bodotridae	-	-	-	-
Family Diastylidae				
Unidentified Diastylidae	-	-	-	-
Family Gynodiastylidae				
Unidentified Gynodiastylidae	-	-	-	-
Order Amphipoda				
Family Ampeliscidae				
Unidentified Ampeliscidae	20	-	20	13
Family Amphithoidae				
Unidentified Amphithoidae	-	-	-	-
Family Gammaridae				
Unidentified Gammaridae	-	-	-	-
Family Hyalidae				
Unidentified Hyalidae	-	-	-	-
Family Liljeborgiidea				
Unidentified Liljeborgiidea	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
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 Environmental Manager

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Report No. : 2009-00051 / 005-4 (page 7 of 8)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, West Dara-5
COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E

SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Amphipoda				
Family Oedicerotidae				
Unidentified Oedicerotidae	-	-	20	7
Family Vibiliidae				
Vibilia sp.	-	-	-	-
Order Isopoda				
Suborder Valvifera				
Unidentified Valvifera	-	-	-	-
Order Tanaidacea				
Suborder Tanaidomorpha				
Family Tanaidae				
Unidentified Tanaidae	20	-	20	13
Family Leptocheliidae				
Heterotanaid sp.	20	-	20	13
Suborder Apseudomorpha				
Family Sphyrapidae				
Unidentified Sphyrapidae	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Family Cancellariidae				
Unidentified Cancellariidae	-	-	-	-
Family Haminoeidae				
Atys sp.	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



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 Environmental Manager

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Report No. : 2009-00051 / 005-4 (page 8 of 8)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, West Dara-5
COORDINATION (WGS84) : 9° 10' 37.77" N, 101° 11' 18.07" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Mollusca (Cont'd)				
Class Bivalvia				
Order Veneroida				
Family Veneridae				
<i>Tapes</i> sp.	-	-	20	7
Class Scaphopoda				
Family Dentaliidae				
Unidentified Dentaliidae	-	-	-	-
Phylum Echinodermata				
Class Echinoidae				
Unidentified sea urchin	-	-	-	-
Order Ophiurida				
Family Amphiuridae				
<i>Amphioplus</i> sp.	20	-	-	7
Unidentified Amphiuridae	-	-	-	-
Phylum Chordata				
Subphylum Vertebrata				
Class Actinopterygii				
Family Gobiidae				
Unidentified Gobiidae	-	-	20	7
Family Sciaenidae				
Unidentified Sciaenidae	-	-	-	-
Family Bregmacerotidae				
Unidentified Bregmacerotidae	-	-	-	-
Total Benthos Type	5	3	15	19
Total Benthos Amount	100	60	300	157

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-5 (page 1 of 8)

Issued date : February 27, 2009

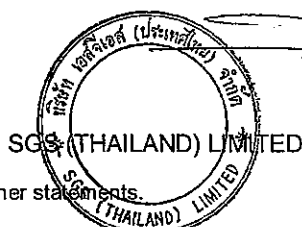
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, West Dara-6
COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E
SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Sarcodina (Protozoa)				
Class Foraminifera				
Order Foraminiferida				
Unidentified Foraminifera	-	-	-	-
Phylum Sipuncula				
Class Sipunculidea				
Order Sipunculiformes				
Family Sipunculidae				
Unidentified Sipunculidae	-	-	-	-
Phylum Nematoda				
Class Adenophorea				
Order Areolaimida				
Family Araeolaimidae				
Unidentified Araeolaimidae	-	-	-	-
Phylum Annelida				
Subclass Errantia				
Order Aciculata				
Family Goniadidae				
Unidentified Goniadidae	-	-	-	-
Family Nereididae				
Nereis sp.	-	-	-	-
Unidentified Nereididae	-	-	-	-
Family Paralacydoniidae				
Paralacydonia sp.	-	-	-	-
Order Eunicida				
Family Arabellidae				
Unidentified Arabellidae	-	-	-	-

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-5 (page 2 of 8)

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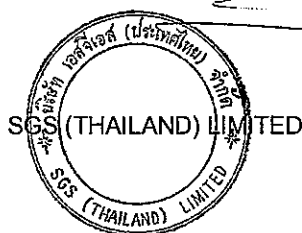
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CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis SAMPLING DATE : February 6, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, West Dara-6
COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Errantia				
Order Eunicida				
Family Eunicidae				
<i>Eunice</i> sp.	-	-	-	-
Family Onuphidae				
Unidentified Onuphidae	-	-	-	-
Order Phyllodocida				
Family Glyceridae				
<i>Glycera</i> sp.	-	-	-	-
Family Nephtyidae				
<i>Nephtys</i> sp.	-	20	40	20
Family Phyllodocidae				
<i>Lopadorhynchus</i> sp.	-	-	-	-
Family Pilargiidae				
Unidentified Pilargiidae	-	-	-	-
Family Polynoidae				
Unidentified Polynoidae	-	-	-	-
Family Syllidae				
Unidentified Syllidae	-	-	-	-
Subclass Sedentaria				
Order Canalipalpata				
Family Pectinariidae				
Unidentified Pectinariidae	-	-	-	-

Siriporn L
(Siriporn Imwilaiwan)
License ID : 2-010-A-1793



Sompong Kiatiporn
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Environmental Manager

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Report No. : 2009-00051 / 005-5 (page 3 of 8)

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, West Dara-6
COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Canalipalata				
suborder Spionida				
Family Cirratulidae				
Unidentified Cirratulidae	-	-	-	-
Family Poecilochaetidae				
<i>Poecilochaetus</i> sp.	-	-	-	-
Family Spionidae				
Unidentified Spionidae	-	-	-	-
Order Capitellida				
Family Arenicolidae				
Unidentified Arenicolidae	-	-	-	-
Family Capitellidae				
<i>Capitella capitata</i>	-	-	-	-
Unidentified Capitellidae	-	-	-	-
Order Flabelligerida				
Family Flabelligeridae				
Unidentified Flabelligeridae	-	-	-	-
Order Opheliida				
Family Maldanidae				
Unidentified Maldanidae	-	-	-	-
Family Opheliidae				
Unidentified Opheliidae	-	-	-	-
Order Orbiniida				
Family Orbiniidae				
Unidentified Orbiniidae	-	20	20	13

Siriporn 2
 (Siriporn Imwilaiwan)
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(Signature)
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 Environmental Manager

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Report No. : 2009-00051 / 005-5 (page 4 of 8)

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, West Dara-6
COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Sabellida				
Family Dinophilidae				
Unidentified Dinophilidae	-	20	-	7
Order Sternaspida				
Family Sternaspidae				
Unidentified Sternaspidae	-	-	-	-
Order Terebellida				
Family Ampharetidae				
Unidentified Ampharetidae	-	-	-	-
Family Terebellidae				
Terebellides sp.	-	-	-	-
Unidentified Terebellidae	-	-	-	-
Phylum Arthropoda				
Class Malacostraca				
Order Stomatopoda				
Family Squillidae				
Erugosquilla woodmasoni	-	-	-	-
Oratosquilla interrupta	-	-	-	-
Unidentified Squillidae	-	-	-	-
Order Decapoda				
Infraorder Brachyura				
Family Dromiidae				
Unidentified Dromiidae	20	20	-	13
Family Goneplacidae				
Unidentified Goneplacidae	-	-	-	-

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-5 (page 5 of 8)

Issued date : February 27, 2009

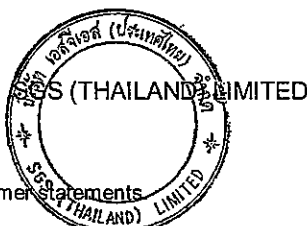
CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, West Dara-6
COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Brachyura				
Family Leucosiidae				
<i>Leucosia</i> sp.	-	-	-	-
Family Portunidae				
<i>Charybdis</i> sp.	-	-	-	-
Family Xanthidae				
<i>Pilumnus</i> sp.	-	-	-	-
Unidentified crab	-	-	-	-
Infraorder Caridea				
Family Alpheidae				
<i>Alpheus</i> sp.	-	-	-	-
Family Porcellanidae				
<i>Pachycheles</i> sp.	-	-	-	-
Infraorder Penaeidae				
Family Crangonidae				
Unidentified Crangonidae	-	-	-	-
Family Penaeidae				
<i>Penaeus</i> sp.	-	-	-	-
Unidentified Penaeidae	-	-	-	-
<i>Metapenaeus</i> sp.	-	-	-	-
Family Sergestidae				
Unidentified Sergestidae	-	-	-	-

Siriporn I
 (Siriporn Imwilaiwan)
 License ID : 7-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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Analysis Report

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SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, West Dara-6
COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Mysidaceae				
Family Myidae				
Unidentified Myidae	-	-	-	-
Order Mysida				
Family Mysidae				
Unidentified Mysidae	-	40	40	27
Order Cumacea				
Family Bodotridae				
Unidentified Bodotridae	-	-	-	-
Family Diastylidae				
Unidentified Diastylidae	-	40	60	33
Family Gynodiastylidae				
Unidentified Gynodiastylidae	-	-	-	-
Order Amphipoda				
Family Ampeliscidae				
Unidentified Ampeliscidae	20	20	-	13
Family Amphithoidae				
Unidentified Amphithoidae	-	-	-	-
Family Gammaridae				
Unidentified Gammaridae	-	-	-	-
Family Hyalidae				
Unidentified Hyalidae	-	-	-	-
Family Liljeborgiidea				
Unidentified Liljeborgiidea	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/PP

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Analysis Report

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SAMPLING LOCATION : Concession Block G6/48, West Dara-6
COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E

SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Amphipoda				
Family Oedicerotidae				
Unidentified Oedicerotidae	-	-	-	-
Family Vibiliidae				
Vibilia sp.	-	-	-	-
Order Isopoda				
Suborder Valvifera				
Unidentified Valvifera	-	-	-	-
Order Tanaidacea				
Suborder Tanaidomorpha				
Family Tanaidae				
Unidentified Tanaidae	-	-	-	-
Family Leptocheliidae				
Heterotanis sp.	-	-	-	-
Suborder Apseudomorpha				
Family Sphyrapidae				
Unidentified Sphyrapidae	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Family Cancellariidae				
Unidentified Cancellariidae	-	-	-	-
Family Haminoeidae				
Atys sp.	-	-	-	-

Siriporn 1
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



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 Environmental Manager

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SAMPLING LOCATION : Concession Block G6/48, West Dara-6
COORDINATION (WGS84) : 9° 9' 21.82" N, 101° 11' 41.51" E
SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Mollusca (Cont'd)				
Class Bivalvia				
Order Veneroida				
Family Veneridae				
<i>Tapes</i> sp.	20	-	-	7
Class Scaphopoda				
Family Dentaliidae				
Unidentified Dentaliidae	-	-	-	-
Phylum Echinodermata				
Class Echinoidae				
Unidentified sea urchin	-	-	-	-
Order Ophiurida				
Family Amphiuridae				
<i>Amphioplus</i> sp.	20	20	-	13
Unidentified Amphiuridae	-	-	-	-
Phylum Chordata				
Subphylum Vertebrata				
Class Actinopterygii				
Family Gobiidae				
Unidentified Gobiidae	-	-	-	-
Family Gobiidae				
Unidentified Sciaenidae	-	-	20	7
Family Bregmacerotidae				
Unidentified Bregmacerotidae	-	-	-	-
Total Benthos Type	4	8	5	10
Total Benthos Amount	80	200	180	153

Siriporn Imwilaiwan
(Siriporn Imwilaiwan)
License ID : 2-010-A-1793



Sompong Kiatiporn
(Sompong Kiatiporn)
Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-6 (page 1 of 8)

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E

SAMPLING DATE : February 7, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Sarcodina (Protozoa)				
Class Foraminifora				
Order Foraminiferida				
Unidentified Foraminifera	-	-	-	-
Phylum Sipuncula				
Class Sipunculidea				
Order Sipunculiformes				
Family Sipunculidae				
Unidentified Sipunculidae	-	-	-	-
Phylum Nematoda				
Class Adenophorea				
Order Areolaimida				
Family Araeolaimidae				
Unidentified Araeolaimidae	-	-	-	-
Phylum Annelida				
Subclass Errantia				
Order Aciculata				
Family Goniadidae				
Unidentified Goniadidae	-	-	-	-
Family Nereididae				
Unidentified Nereididae	-	-	-	-
Nereis sp.	-	-	-	-
Family Paralacydoniidae				
Paralacydonia sp.	-	-	-	-
Order Eunicida				
Family Arabellidae				
Unidentified Arabellidae	-	-	-	-

Siriporn I.

(Siriporn Imwilaiwan)

License ID : 7-010-9-1793



SGS (THAILAND) LIMITED

(Signature)
(Sompong Kiatiporn)

Environmental Manager

SK/SA/BS/Pp

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Errantia				
Order Eunicida				
Family Eunicidae				
<i>Eunice</i> sp.	-	-	20	7
Family Onuphidae				
Unidentified Onuphidae	-	-	-	-
Order Phyllodocida				
Family Glyceridae				
<i>Glycera</i> sp.	-	-	-	-
Family Nephtyidae				
<i>Nephtys</i> sp.	20	-	-	7
Family Phyllodocidae				
<i>Lopadorhynchus</i> sp.	-	-	-	-
Family Pilargiidae				
Unidentified Pilargiidae	-	-	-	-
Family Polynoidae				
Unidentified Polynoidae	-	-	-	-
Family Syllidae				
Unidentified Syllidae	-	-	-	-
Subclass Sedentaria				
Order Canalipalpata				
Family Pectinariidae				
Unidentified Pectinariidae	-	-	-	-


 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793


 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp



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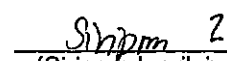
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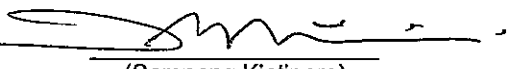
Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Canalipalpata				
suborder Spionida				
Family Cirratulidae				
Unidentified Cirratulidae	-	-	-	-
Family Poecilochaetidae				
<i>Poecilochaetus</i> sp.	-	-	-	-
Family Spionidae				
Unidentified Spionidae	-	-	-	-
Order Capitellida				
Family Arenicolidae				
Unidentified Arenicolidae	-	-	-	-
Family Capitellidae				
<i>Capitella capitata</i>	-	-	-	-
Unidentified Capitellidae	-	-	-	-
Order Flabelligerida				
Family Flabelligeridae				
Unidentified Flabelligeridae	-	-	-	-
Order Opheliida				
Family Maldanidae				
Unidentified Maldanidae	-	40	-	13
Family Opheliidae				
Unidentified Opheliidae	-	-	20	7
Order Orbiniida				
Family Orbiniidae				
Unidentified Orbiniidae	-	-	20	7


 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793




 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-6 (page 4 of 8)

Issued date : February 27, 2009

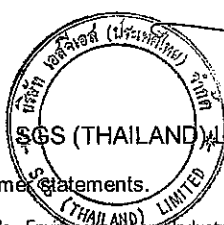
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 7, 2009
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SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Sabellida				
Family Dinophilidae				
Unidentified Dinophilidae	-	-	-	-
Order Sternaspida				
Family Sternaspidae				
Unidentified Sternaspidae	-	-	20	7
Order Terebellida				
Family Ampharetidae				
Unidentified Ampharetidae	-	-	-	-
Family Terebellidae				
Terebellides sp.	20	-	-	7
Unidentified Terebellidae	-	-	-	-
Phylum Arthropoda				
Class Malacostraca				
Order Stomatopoda				
Family Squillidae				
Erugosquilla woodmasoni	-	-	-	-
Oratosquilla interrupta	-	-	-	-
Unidentified Squillidae	-	-	-	-
Order Decapoda				
Infraorder Brachyura				
Family Dromiidae				
Unidentified Dromiidae	-	-	-	-
Family Goneplacidae				
Unidentified Goneplacidae	-	-	-	-

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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Analysis Report

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SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E

SAMPLING DATE : February 7, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Brachyura				
Family Leucosiidae				
<i>Leucosia</i> sp.	-	-	-	-
Family Portunidae				
<i>Charybdis</i> sp.	20	-	-	7
Family Xanthidae				
<i>Pilumnus</i> sp.	-	-	-	-
Unidentified crab	-	-	-	-
Infraorder Caridea				
Family Alpheidae				
<i>Alpheus</i> sp.	-	-	-	-
Family Porcellanidae				
<i>Pachycheles</i> sp.	-	-	-	-
Infraorder Penaeidae				
Family Crangonidae				
Unidentified Crangonidae	-	-	-	-
Family Penaeidae				
<i>Penaeus</i> sp.	20	-	-	7
Unidentified Penaeidae	-	-	-	-
<i>Metapenaeus</i> sp.	20	-	-	7
Family Sergestidae				
Unidentified Sergestidae	-	-	-	-

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 1-010-ค-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Mysidaceae				
Family Myidae				
Unidentified Myidae	-	-	-	-
Order Mysida				
Family Mysidae				
Unidentified Mysidae	20	20	20	20
Order Cumacea				
Family Bodotridae				
Unidentified Bodotridae	-	-	-	-
Family Diastylidae				
Unidentified Diastylidae	-	120	20	47
Family Gynodiastylidae				
Unidentified Gynodiastylidae	-	-	-	-
Order Amphipoda				
Family Ampeliscidae				
Unidentified Ampeliscidae	-	-	-	-
Family Amphithoidae				
Unidentified Amphithoidae	-	-	-	-
Family Gammaridae				
Unidentified Gammaridae	-	-	-	-
Family Hyalidae				
Unidentified Hyalidae	-	-	-	-
Family Liljeborgiidea				
Unidentified Liljeborgiidea	-	-	-	-

Siriporn 2.
 (Siriporn Imwailaiwan)
 License ID : 2-010-A-1793



(Signature)
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 Environmental Manager

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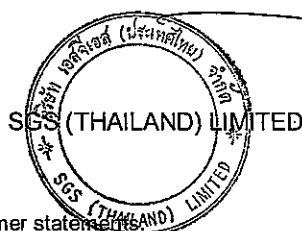
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SAMPLING LOCATION : Concession Block G6/48, Rossukon-1
COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E
SAMPLING DATE : February 7, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Amphipoda				
Family Oedicerotidae				
Unidentified Oedicerotidae	-	40	-	13
Family Vibiliidae				
Vibilia sp.	-	-	-	-
Order Isopoda				
Suborder Valvifera				
Unidentified Valvifera	-	-	-	-
Order Tanaidacea				
Suborder Tanaidomorpha				
Family Tanaidae				
Unidentified Tanaidae	20	-	-	7
Family Leptocheliidae				
Heterotanaid sp.	20	-	-	7
Suborder Apseudomorpha				
Family Sphyrapidae				
Unidentified Sphyrapidae	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Family Cancellariidae				
Unidentified Cancellariidae	-	-	-	-
Family Haminoeidae				
Atys sp.	-	-	-	-

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-ก-1793



(Sompong Kiatiporn)
 (Sompong Kiatiporn)
 Environmental Manager

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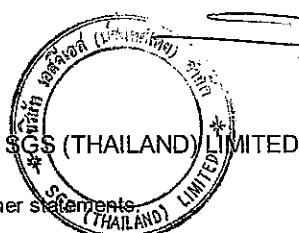
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COORDINATION (WGS84) : 9° 27' 16.91" N, 101° 5' 55.09" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Mollusca (Cont'd)				
Class Bivalvia				
Order Veneroida				
Family Veneridae				
<i>Tapes</i> sp.	-	-	-	-
Class Scaphopoda				
Family Dentaliidae				
Unidentified Dentaliidae	-	-	-	-
Phylum Echinodermata				
Class Echinoidea				
Unidentified sea urchin	-	-	-	-
Order Ophiurida				
Family Amphiuridae				
<i>Amphioplus</i> sp.	-	40	40	27
Unidentified Amphiuridae	-	-	-	-
Phylum Chordata				
Subphylum Vertebrata				
Class Actinopterygii				
Family Gobiidae				
Unidentified Gobiidae	-	-	-	-
Family Gobiidae				
Unidentified Sciaenidae	-	-	20	7
Family Bregmacerotidae				
Unidentified Bregmacerotidae	-	-	-	-
Total Benthos Type	8	5	8	17
Total Benthos Amount	160	260	180	204

Siriporn L.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-7 (page 1 of 8)

Issued date : February 27, 2009

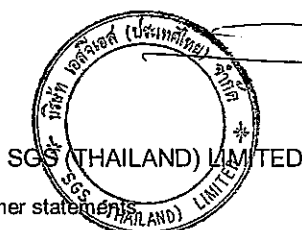
CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Krut-2
COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E
SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Sarcodina (Protozoa)				
Class Foraminifera				
Order Foraminiferida				
Unidentified Foraminifera	-	-	-	-
Phylum Sipuncula				
Class Sipunculidea				
Order Sipunculiformes				
Family Sipunculidae				
Unidentified Sipunculidae	-	-	-	-
Phylum Nematoda				
Class Adenophorea				
Order Areolaimida				
Family Araeolaimidae				
Unidentified Araeolaimidae	-	-	-	-
Phylum Annelida				
Subclass Errantia				
Order Aciculata				
Family Goniadidae				
Unidentified Goniadidae	-	-	-	-
Family Nereididae				
Nereis sp.	-	-	-	-
Unidentified Nereididae	-	-	-	-
Family Paracalydoniidae				
Paracalydonia sp.	-	-	-	-
Order Eunicida				
Family Arabellidae				
Unidentified Arabellidae	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-7 (page 2 of 8)

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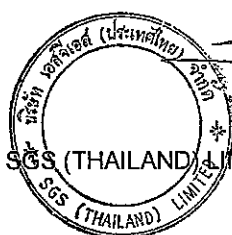
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Krut-2
COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E
SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Errantia				
Order Eunicida				
Family Eunicidae				
<i>Eunice</i> sp.	20	20	-	13
Family Onuphidae				
Unidentified Onuphidae	-	-	-	-
Order Phyllodocida				
Family Glyceridae				
<i>Glycera</i> sp.	-	-	-	-
Family Nephtyidae				
<i>Nephtys</i> sp.	-	-	-	-
Family Phyllodocidae				
<i>Lopadorhynchus</i> sp.	-	-	-	-
Family Pilargiidae				
Unidentified Pilargiidae	-	-	-	-
Family Polynoidae				
Unidentified Polynoidae	-	-	-	-
Family Syllidae				
Unidentified Syllidae	-	-	-	-
Subclass Sedentaria				
Order Canalipalpata				
Family Pectinariidae				
Unidentified Pectinariidae	-	-	-	-

Siriporn 1.
(Siriporn Imwilaiwan)
License ID : 2-010-A-1793



(Sompong Kiatiporn)
Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-7 (page 3 of 8)

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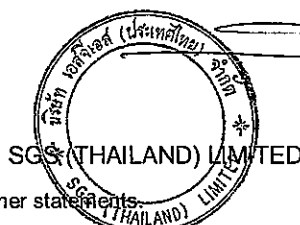
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Analysis Report

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SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Krut-2
COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E
SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Canalipalpata				
suborder Spionida				
Family Cirratulidae				
Unidentified Cirratulidae	-	-	-	-
Family Poecilochaetidae				
<i>Poecilochaetus</i> sp.	20	-	-	7
Family Spionidae				
Unidentified Spionidae	-	-	-	-
Order Capitellida				
Family Arenicolidae				
Unidentified Arenicolidae	-	-	-	-
Family Capitellidae				
<i>Capitella capitata</i>	-	-	-	-
Unidentified Capitellidae	-	-	-	-
Order Flabelligerida				
Family Flabelligeridae				
Unidentified Flabelligeridae	-	-	-	-
Order Opheliida				
Family Maldanidae				
Unidentified Maldanidae	20	-	-	7
Family Opheliidae				
Unidentified Opheliidae	-	-	-	-
Order Orbiniida				
Family Orbiniidae				
Unidentified Orbiniidae	20	20	20	20

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-7 (page 4 of 8)

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Krut-2
COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Sabellida				
Family Dinophilidae				
Unidentified Dinophilidae	-	-	-	-
Order Sternaspida				
Family Sternaspidae				
Unidentified Sternaspidae	-	-	20	7
Order Terebellida				
Family Ampharetidae				
Unidentified Ampharetidae	-	-	20	7
Family Terebellidae				
<i>Terebellides</i> sp.	-	-	-	-
Unidentified Terebellidae	-	-	-	-
Phylum Arthropoda				
Class Malacostraca				
Order Stomatopoda				
Family Squillidae				
<i>Erugosquilla woodmasoni</i>	-	-	-	-
<i>Oratosquilla interrupta</i>	-	-	-	-
Unidentified Squillidae	-	-	-	-
Order Decapoda				
Infraorder Brachyura				
Family Dromiidae				
Unidentified Dromiidae	-	-	-	-
Family Goneplacidae				
Unidentified Goneplacidae	-	-	-	-

Siriporn 1.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-7 (page 5 of 8)

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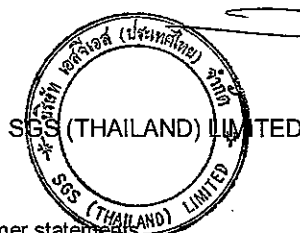
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Krut-2
COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E
SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Brachyura				
Family Leucosiidae				
<i>Leucosia</i> sp.	-	-	-	-
Family Portunidae				
<i>Charybdis</i> sp.	-	-	20	7
Family Xanthidae				
<i>Pilumnus</i> sp.	-	-	-	-
Unidentified crab	-	-	-	-
Infraorder Caridea				
Family Alpheidae				
<i>Alpheus</i> sp.	-	-	-	-
Family Porcellanidae				
<i>Pachycheles</i> sp.	-	-	20	7
Infraorder Penaeidae				
Family Crangonidae				
Unidentified Crangonidae	-	-	-	-
Family Penaeidae				
<i>Penaeus</i> sp.	-	-	-	-
Unidentified Penaeidae	-	-	-	-
<i>Metapenaeus</i> sp.	-	-	-	-
Family Sergestidae				
Unidentified Sergestidae	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-7 (page 6 of 8)

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Krut-2
COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E

SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Mysidaceae				
Family Myidae				
Unidentified Myidae	-	-	-	-
Order Mysida				
Family Mysidae				
Unidentified Mysidae	-	-	-	-
Order Cumacea				
Family Bodotridae				
Unidentified Bodotridae	-	-	-	-
Family Diastylidae				
Unidentified Diastylidae	-	-	-	-
Family Gynodiastylidae				
Unidentified Gynodiastylidae	-	-	-	-
Order Amphipoda				
Family Ampeliscidae				
Unidentified Ampeliscidae	-	-	-	-
Family Amphithoidae				
Unidentified Amphithoidae	-	-	-	-
Family Gammaridae				
Unidentified Gammaridae	-	-	-	-
Family Hyalidae				
Unidentified Hyalidae	-	-	-	-
Family Liljeborgiidea				
Unidentified Liljeborgiidea	-	-	-	-

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-7 (page 7 of 8)

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 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE** : February 6, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Krut-2
COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Amphipoda				
Family Oedicerotidae				
Unidentified Oedicerotidae	-	40	-	13
Family Vibiliidae				
Vibilia sp.	-	40	-	13
Order Isopoda				
Suborder Valvifera				
Unidentified Valvifera	-	-	-	-
Order Tanaidacea				
Suborder Tanaidomorpha				
Family Tanaidae				
Unidentified Tanaidae	-	20	-	7
Family Leptocheliidae				
Heterotanaeis sp.	-	-	-	-
Suborder Apseudomorpha				
Family Sphyrapidae				
Unidentified Sphyrapidae	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Family Cancellariidae				
Unidentified Cancellariidae	-	-	-	-
Family Haminoeidae				
Atys sp.	-	-	-	-

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 0-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-7 (page 8 of 8)

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Krut-2
COORDINATION (WGS84) : 9° 3' 53.79" N, 101° 9' 57.70" E
SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Mollusca (Cont'd)				
Class Bivalvia				
Order Veneroida				
Family Veneridae				
<i>Tapes</i> sp.	-	-	-	-
Class Scaphopoda				
Family Dentaliidae				
Unidentified Dentaliidae	-	-	-	-
Phylum Echinodermata				
Class Echinoidea				
Unidentified sea urchin	-	-	-	-
Order Ophiurida				
Family Amphiuridae				
<i>Amphioplus</i> sp.	-	20	-	7
Unidentified Amphiuridae	-	-	-	-
Phylum Chordata				
Subphylum Vertebrata				
Class Actinopterygii				
Family Gobiidae				
Unidentified Gobiidae	-	20	-	7
Family Sciaenidae				
Unidentified Sciaenidae	-	-	-	-
Family Bregmacerotidae				
Unidentified Bregmacerotidae	-	-	-	-
Total Benthos Type	4	7	5	13
Total Benthos Amount	80	180	100	122

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-8 (page 1 of 8)

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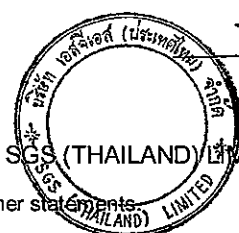
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E
SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Sarcodina (Protozoa)				
Class Foraminifora				
Order Foraminifera				
Unidentified Foraminifera	-	-	-	-
Phylum Sipuncula				
Class Sipunculidea				
Order Sipunculiformes				
Family Sipunculidae				
Unidentified Sipunculidae	-	-	-	-
Phylum Nematoda				
Class Adenophorea				
Order Areolaimida				
Family Araeolaimidae				
Unidentified Araeolaimidae	-	-	-	-
Phylum Annelida				
Subclass Errantia				
Order Aciculata				
Family Goniadidae				
Unidentified Goniadidae	-	-	-	-
Family Nereididae				
Nereis sp.	-	-	-	-
Unidentified Nereididae	-	-	-	-
Family Paralacydoniidae				
Paralacydonia sp.	-	-	-	-
Order Eunicida				
Family Arabellidae				
Unidentified Arabellidae	20	-	-	7

Siriporn 2
 (Siriporn Imwilaivan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-8 (page 2 of 8)

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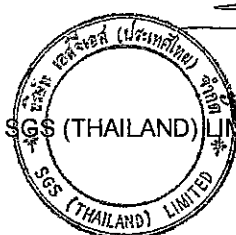
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Errantia				
Order Eunicida				
Family Eunicidae				
<i>Eunice</i> sp.	-	-	-	-
Family Onuphidae				
Unidentified Onuphidae	-	-	-	-
Order Phyllodocida				
Family Glyceridae				
<i>Glycera</i> sp.	-	-	-	-
Family Nephtyidae				
<i>Nephtys</i> sp.	40	-	-	13
Family Phyllodocidae				
<i>Lopadorhynchus</i> sp.	-	-	-	-
Family Pilargiidae				
Unidentified Pilargiidae	-	-	-	-
Family Polynoidae				
Unidentified Polynoidae	-	-	-	-
Family Syllidae				
Unidentified Syllidae	-	-	-	-
Subclass Sedentaria				
Order Canalipalpata				
Family Pectinariidae				
Unidentified Pectinariidae	-	-	-	-

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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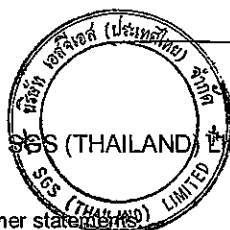
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SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E
SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Canalipalpata				
suborder Spionida				
Family Cirratulidae				
Unidentified Cirratulidae	-	-	-	-
Family Poecilochaetidae				
<i>Poecilochaetus</i> sp.	-	-	-	-
Family Spionidae				
Unidentified Spionidae	-	-	-	-
Order Capitellida				
Family Arenicolidae				
Unidentified Arenicolidae	40	-	-	13
Family Capitellidae				
<i>Capitella capitata</i>	-	-	-	-
Unidentified Capitellidae	-	-	-	-
Order Flabelligerida				
Family Flabelligeridae				
Unidentified Flabelligeridae	-	-	-	-
Order Opheliida				
Family Maldanidae				
Unidentified Maldanidae	20	-	-	7
Family Opheliidae				
Unidentified Opheliidae	-	-	40	13
Order Orbiniida				
Family Orbiniidae				
Unidentified Orbiniidae	-	-	-	-

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 6, 2009
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SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Sabellida				
Family Dinophilidae				
Unidentified Dinophilidae	-	-	-	-
Order Sternaspida				
Family Sternaspidae				
Unidentified Sternaspidae	-	-	-	-
Order Terebellida				
Family Ampharetidae				
Unidentified Ampharetidae	-	-	-	-
Family Terebellidae				
<i>Terebellides</i> sp.	-	-	-	-
Unidentified Terebellidae	-	-	-	-
Phylum Arthropoda				
Class Malacostraca				
Order Stomatopoda				
Family Squillidae				
<i>Erugosquilla woodmasoni</i>	-	-	-	-
<i>Oratosquilla interrupta</i>	-	20	-	7
Unidentified Squillidae	-	-	-	-
Order Decapoda				
Infraorder Brachyura				
Family Dromiidae				
Unidentified Dromiidae	-	-	-	-
Family Goneplacidae				
Unidentified Goneplacidae	20	-	-	7

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 2-010-P-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-8 (page 5 of 8)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E

SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Brachyura				
Family Leucosiidae				
<i>Leucosia</i> sp.	-	-	-	-
Family Portunidae				
<i>Charybdis</i> sp.	-	-	-	-
Family Xanthidae				
<i>Pilumnus</i> sp.	-	-	-	-
Unidentified crab	-	-	-	-
Infraorder Caridea				
Family Alpheidae				
<i>Alpheus</i> sp.	-	-	40	13
Family Porcellanidae				
<i>Pachycheles</i> sp.	-	-	-	-
Infraorder Penaeidae				
Family Crangonidae				
Unidentified Crangonidae	-	-	-	-
Family Penaeidae				
<i>Penaeus</i> sp.	-	-	-	-
Unidentified Penaeidae	-	-	-	-
<i>Metapenaeus</i> sp.	-	-	20	7
Family Sergestidae				
Unidentified Sergestidae	-	-	-	-

Siriporn L.
 (Siriporn Imwilaiwan)
 License ID : ๓-010-๓-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-8 (page 6 of 8)

Issued date : February 27, 2009

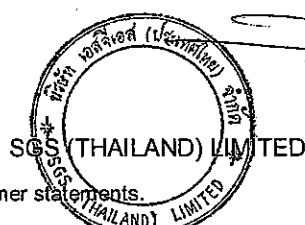
CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Mysidaceae				
Family Myidae				
Unidentified Myidae	-	-	-	-
Order Mysida				
Family Mysidae				
Unidentified Mysidae	40	-	-	13
Order Cumacea				
Family Bodotridae				
Unidentified Bodotridae	-	-	-	-
Family Diastylidae				
Unidentified Diastylidae	20	-	-	7
Family Gynodiastylidae				
Unidentified Gynodiastylidae	-	-	-	-
Order Amphipoda				
Family Ampeliscidae				
Unidentified Ampeliscidae	-	40	-	13
Family Amphithoidae				
Unidentified Amphithoidae	-	-	-	-
Family Gammaridae				
Unidentified Gammaridae	-	-	-	-
Family Hyalidae				
Unidentified Hyalidae	-	-	-	-
Family Liljeborgiidea				
Unidentified Liljeborgiidea	-	-	-	-

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-8 (page 7 of 8)

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Analysis Report

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SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Amphipoda				
Family Oedicerotidae				
Unidentified Oedicerotidae	-	20	-	7
Family Vibiliidae				
Vibilia sp.	-	-	-	-
Order Isopoda				
Suborder Valvifera				
Unidentified Valvifera	-	20	-	7
Order Tanaidacea				
Suborder Tanaidomorpha				
Family Tanaidae				
Unidentified Tanaidae	-	20	20	13
Family Leptocheliidae				
Heterotanaïs sp.	-	-	-	-
Suborder Apseudomorpha				
Family Sphyrapidae				
Unidentified Sphyrapidae	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Family Cancellariidae				
Unidentified Cancellariidae	-	-	-	-
Family Haminoeidae				
Atys sp.	-	-	-	-

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 0-010-A-1793

(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SGS (THAILAND) LIMITED

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Report No. : 2009-00051 / 005-8 (page 8 of 8)

Issued date : February 27, 2009

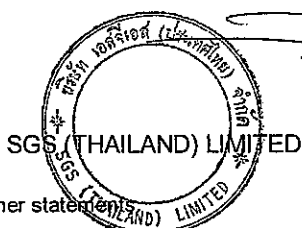
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 6, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Sarapee-1
COORDINATION (WGS84) : 9° 1' 12.08" N, 101° 4' 16.31" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Mollusca (Cont'd)				
Class Bivalvia				
Order Veneroida				
Family Veneridae				
<i>Tapes</i> sp.	-	-	20	7
Class Scaphopoda				
Family Dentaliidae				
Unidentified Dentaliidae	-	-	-	-
Phylum Echinodermata				
Class Echinoidae				
Unidentified sea urchin	-	-	-	-
Order Ophiurida				
Family Amphiuridae				
<i>Amphioplus</i> sp.	-	-	40	13
Unidentified Amphiuridae	-	-	-	-
Phylum Chordata				
Subphylum Vertebrata				
Class Actinopterygii				
Family Gobiidae				
Unidentified Gobiidae	-	-	-	-
Family Sciaenidae				
Unidentified Sciaenidae	-	-	-	-
Family Bregmacerotidae				
Unidentified Bregmacerotidae	-	-	-	-
Total Benthos Type	7	5	6	17
Total Benthos Amount	200	120	180	167

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 9-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-9 (page 1 of 8)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Control 1
COORDINATION (WGS84) : 9° 07' 19.92" N, 101° 05' 58.26" E
SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Sarcodina (Protozoa)				
Class Foraminifora				
Order Foraminiferida				
Unidentified Foraminifera	-	-	-	-
Phylum Sipuncula				
Class Sipunculidea				
Order Sipunculiformes				
Family Sipunculidae				
Unidentified Sipunculidae	-	-	-	-
Phylum Nematoda				
Class Adenophorea				
Order Areolaimida				
Family Araeolaimidae				
Unidentified Araeolaimidae	-	-	-	-
Phylum Annelida				
Subclass Errantia				
Order Aciculata				
Family Goniadidae				
Unidentified Goniadidae	-	-	-	-
Family Nereididae				
Nereis sp.	-	-	-	-
Unidentified Nereididae	-	-	-	-
Family Paralacydoniidae				
Paralacydonia sp.	-	-	-	-
Order Eunicida				
Family Arabellidae				
Unidentified Arabellidae	-	-	-	-

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-9 (page 2 of 8)

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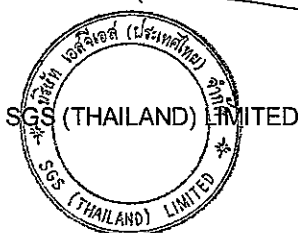
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SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Control 1
COORDINATION (WGS84) : 9° 07' 19.92" N, 101° 05' 58.26" E

SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Errantia				
Order Eunicida				
Family Eunicidae				
<i>Eunice</i> sp.	-	20	-	7
Family Onuphidae				
Unidentified Onuphidae	-	-	-	-
Order Phyllodocida				
Family Glyceridae				
<i>Glycera</i> sp.	-	20	-	7
Family Nephtyidae				
<i>Nephtys</i> sp.	20	20	20	20
Family Phyllodocidae				
<i>Lopadorhynchus</i> sp.	-	20	-	7
Family Pilargiidae				
Unidentified Pilargiidae	-	-	-	-
Family Polynoidae				
Unidentified Polynoidae	-	-	20	7
Family Syllidae				
Unidentified Syllidae	-	-	-	-
Subclass Sedentaria				
Order Canalipalpata				
Family Pectinariidae				
Unidentified Pectinariidae	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-9 (page 3 of 8)

Issued date : February 27, 2009

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Analysis Report

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SAMPLING LOCATION : Concession Block G6/48, Control 1
COORDINATION (WGS84) : 9° 07' 19.92" N, 101° 05' 58.26" E
SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Canalipalpata				
suborder Spionida				
Family Cirratulidae				
Unidentified Cirratulidae	-	-	-	-
Family Poecilochaetidae				
<i>Poecilochaetus</i> sp.	-	-	-	-
Family Spionidae				
Unidentified Spionidae	-	-	-	-
Order Capitellida				
Family Arenicolidae				
Unidentified Arenicolidae	-	20	-	7
Family Capitellidae				
<i>Capitella capitata</i>	-	-	-	-
Unidentified Capitellidae	-	-	-	-
Order Flabelligerida				
Family Flabelligeridae				
Unidentified Flabelligeridae	-	-	-	-
Order Opheliida				
Family Maldanidae				
Unidentified Maldanidae	-	-	-	-
Family Opheliidae				
Unidentified Opheliidae	-	20	-	7
Order Orbiniida				
Family Orbiniidae				
Unidentified Orbiniidae	-	-	-	-

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 1-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp
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Report No. : 2009-00051 / 005-9 (page 4 of 8)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Control 1
COORDINATION (WGS84) : 9° 07' 19.92" N, 101° 05' 58.26" E

SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Sabellida				
Family Dinophilidae				
Unidentified Dinophilidae	40	-	-	13
Order Sternaspida				
Family Sternaspidae				
Unidentified Sternaspidae	40	-	-	13
Order Terebellida				
Family Ampharetidae				
Unidentified Ampharetidae	-	-	-	-
Family Terebellidae				
<i>Terebellides</i> sp.	20	-	-	7
Unidentified Terebellidae	-	-	-	-
Phylum Arthropoda				
Class Malacostraca				
Order Stomatopoda				
Family Squillidae				
<i>Erugosquilla woodmasoni</i>	-	-	-	-
<i>Oratosquilla interrupta</i>	-	-	-	-
Unidentified Squillidae	-	-	-	-
Order Decapoda				
Infraorder Brachyura				
Family Dromiidae				
Unidentified Dromiidae	-	-	-	-
Family Goneplacidae				
Unidentified Goneplacidae	-	-	-	-

Siriporn L
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-9 (page 5 of 8)

Issued date : February 27, 2009

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Analysis Report

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SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Brachyura				
Family Leucosiidae				
<i>Leucosia</i> sp.	-	-	-	-
Family Portunidae				
<i>Charybdis</i> sp.	-	20	20	13
Family Xanthidae				
<i>Pilumnus</i> sp.	-	-	-	-
Unidentified crab	-	-	-	-
Infraorder Caridea				
Family Alpheidae				
<i>Alpheus</i> sp.	-	-	-	-
Family Porcellanidae				
<i>Pachycheles</i> sp.	-	-	20	7
Infraorder Penaeidae				
Family Crangonidae				
Unidentified Crangonidae	-	-	-	-
Family Penaeidae				
<i>Penaeus</i> sp.	-	-	-	-
Unidentified Penaeidae	-	-	-	-
<i>Metapenaeus</i> sp.	-	20	20	13
Family Sergestidae				
Unidentified Sergestidae	-	-	-	-

Siriporn L
 (Siriporn Imwilaiwan)
 License ID : 9-010-ค-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-9 (page 6 of 8)

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COORDINATION (WGS84) : 9° 07' 19.92" N, 101° 05' 58.26" E

SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Mysidaceae				
Family Myidae				
Unidentified Myidae	-	-	-	-
Order Mysida				
Family Mysidae				
Unidentified Mysidae	-	-	-	-
Order Cumacea				
Family Bodotridae				
Unidentified Bodotridae	-	-	-	-
Family Diastylidae				
Unidentified Diastylidae	-	-	-	-
Family Gynodiastylidae				
Unidentified Gynodiastylidae	-	-	-	-
Order Amphipoda				
Family Ampeliscidae				
Unidentified Ampeliscidae	-	-	-	-
Family Amphithoidae				
Unidentified Amphithoidae	-	-	-	-
Family Gammaridae				
Unidentified Gammaridae	-	-	-	-
Family Hyalidae				
Unidentified Hyalidae	-	-	-	-
Family Liljeborgiidea				
Unidentified Liljeborgiidea	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-9 (page 7 of 8)

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Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Amphipoda				
Family Oedicerotidae				
Unidentified Oedicerotidae	-	-	-	-
Family Vibiliidae				
<i>Vibilia</i> sp.	-	-	-	-
Order Isopoda				
Suborder Valvifera				
Unidentified Valvifera	-	-	-	-
Order Tanaidacea				
Suborder Tanaidomorpha				
Family Tanaidae				
Unidentified Tanaidae	-	20	-	7
Family Leptocheliidae				
<i>Heterotanaeis</i> sp.	-	-	-	-
Suborder Apseudomorpha				
Family Sphyrapidae				
Unidentified Sphyrapidae	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Family Cancellariidae				
Unidentified Cancellariidae	-	-	-	-
Family Haminoeidae				
<i>Atys</i> sp.	-	-	-	-

Siriporn L
 (Siriporn Imwilaiwan)
 License ID : ๖-010-๓-1793



(Signature)
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 Environmental Manager

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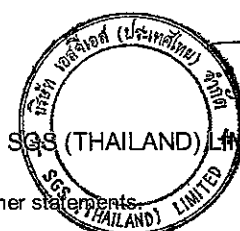
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SAMPLING DATE : February 6, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Mollusca (Cont'd)				
Class Bivalvia				
Order Veneroida				
Family Veneridae				
<i>Tapes</i> sp.	-	-	-	-
Class Scaphopoda				
Family Dentaliidae				
Unidentified Dentaliidae	-	-	-	-
Phylum Echinodermata				
Class Echinoidae				
Unidentified sea urchin	-	-	-	-
Order Ophiurida				
Family Amphiuridae				
<i>Amphioplus</i> sp.	-	-	-	-
Unidentified Amphiuridae	-	-	-	-
Phylum Chordata				
Subphylum Vertebrata				
Class Actinopterygii				
Family Gobiidae				
Unidentified Gobiidae	-	-	-	-
Family Gobiidae				
Unidentified Sciaenidae	-	-	-	-
Family Bregmacerotidae				
Unidentified Bregmacerotidae	-	-	-	-
Total Benthos Type	4	9	5	14
Total Benthos Amount	120	180	100	135

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 0-010-A-1793



(Signature)
 (Sompong Kiatipom)
 Environmental Manager

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Report No. : 2009-00051 / 005-10 (page 1 of 8)

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 7, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Control 2
COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Sarcodina (Protozoa)				
Class Foraminifora				
Order Foraminiferida				
Unidentified Foraminifera	-	-	-	-
Phylum Sipuncula				
Class Sipunculidea				
Order Sipunculiformes				
Family Sipunculidae				
Unidentified Sipunculidae	-	-	-	-
Phylum Nematoda				
Class Adenophorea				
Order Areolaimida				
Family Araeolaimidae				
Unidentified Araeolaimidae	-	-	-	-
Phylum Annelida				
Subclass Errantia				
Order Aciculata				
Family Goniadidae				
Unidentified Goniadidae	-	-	-	-
Family Nereididae				
Nereis sp.	-	-	-	-
Unidentified Nereididae	-	-	-	-
Family Paralacydoniidae				
Paralacydonia sp.	-	-	20	7
Order Eunicida				
Family Arabellidae				
Unidentified Arabellidae	-	40	-	13

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-10 (page 2 of 8)

Issued date : February 27, 2009

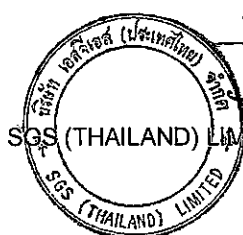
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CONTACT : Khun Morakot Suvarnapruksa
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Analysis Report

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SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Control 2
COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Errantia				
Order Eunicida				
Family Eunicidae				
<i>Eunice</i> sp.	20	-	-	7
Family Onuphidae				
Unidentified Onuphidae	-	-	-	-
Order Phyllodocida				
Family Glyceridae				
<i>Glycera</i> sp.	20	-	-	7
Family Nephtyidae				
<i>Nephtys</i> sp.	-	20	40	20
Family Phyllodocidae				
<i>Lopadorhynchus</i> sp.	-	-	-	-
Family Pilargiidae				
Unidentified Pilargiidae	-	-	20	7
Family Polynoidae				
Unidentified Polynoidae	-	-	-	-
Family Syllidae				
Unidentified Syllidae	-	20	-	7
Subclass Sedentaria				
Order Canallpalpata				
Family Pectinariidae				
Unidentified Pectinariidae	-	-	-	-

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SGS (THAILAND) LIMITED

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SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Control 2
COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E

SAMPLING DATE : February 7, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Canalipalpata				
suborder Spionida				
Family Cirratulidae				
Unidentified Cirratulidae	-	-	-	-
Family Poecilochaetidae				
<i>Poecilochaetus</i> sp.	-	-	-	-
Family Spionidae				
Unidentified Spionidae	-	-	-	-
Order Capitellida				
Family Arenicolidae				
Unidentified Arenicolidae	20	20	20	20
Family Capitellidae				
<i>Capitella capitata</i>	-	-	-	-
Unidentified Capitellidae	-	-	-	-
Order Flabelligerida				
Family Flabelligeridae				
Unidentified Flabelligeridae	-	-	-	-
Order Opheliida				
Family Maldanidae				
Unidentified Maldanidae	-	-	20	7
Family Opheliidae				
Unidentified Opheliidae	-	20	20	13
Order Orbiniida				
Family Orbiniidae				
Unidentified Orbiniidae	-	60	-	20

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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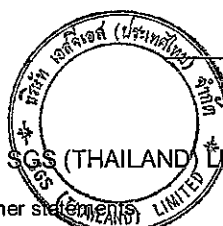
Analysis Report

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SAMPLING LOCATION : Concession Block G6/48, Control 2
COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E

SAMPLING DATE : February 7, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Sabellida				
Family Dinophilidae				
Unidentified Dinophilidae	-	-	-	-
Order Sternaspida				
Family Sternaspidae				
Unidentified Sternaspidae	-	20	-	7
Order Terebellida				
Family Ampharetidae				
Unidentified Ampharetidae	-	-	-	-
Family Terebellidae				
<i>Terebellides</i> sp.	-	-	20	7
Unidentified Terebellidae	-	-	-	-
Phylum Arthropoda				
Class Malacostraca				
Order Stomatopoda				
Family Squillidae				
<i>Erugosquilla woodmasoni</i>	-	-	-	-
<i>Oratosquilla interrupta</i>	-	-	-	-
Unidentified Squillidae	-	-	-	-
Order Decapoda				
Infraorder Brachyura				
Family Dromiidae				
Unidentified Dromiidae	-	-	-	-
Family Goneplacidae				
Unidentified Goneplacidae	20	-	-	7

Siriporn 1
 (Siriporn Imwilaiwan)
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 Environmental Manager

SK/SA/BS/Pp

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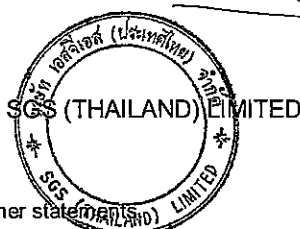
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Analysis Report

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SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Control 2
COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Brachyura				
Family Leucosiidae				
<i>Leucosia</i> sp.	-	-	-	-
Family Portunidae				
<i>Charybdis</i> sp.	-	-	-	-
Family Xanthidae				
<i>Pilumnus</i> sp.	-	-	-	-
Unidentified crab	-	-	-	-
Infraorder Caridea				
Family Alpheidae				
<i>Alpheus</i> sp.	-	-	-	-
Family Porcellanidae				
<i>Pachycheles</i> sp.	-	-	-	-
Infraorder Penaeidae				
Family Crangonidae				
Unidentified Crangonidae	-	-	-	-
Family Penaeidae				
<i>Penaeus</i> sp.	-	-	-	-
Unidentified Penaeidae	-	-	-	-
<i>Metapenaeus</i> sp.	-	-	-	-
Family Sergestidae				
Unidentified Sergestidae	-	-	-	-

Siriporn I
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Control 2
COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E

SAMPLING DATE : February 7, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Mysidaceae				
Family Myidae				
Unidentified Myidae	-	-	-	-
Order Mysida				
Family Mysidae				
Unidentified Mysidae	-	-	-	-
Order Cumacea				
Family Bodotridae				
Unidentified Bodotridae	-	-	-	-
Family Diastylidae				
Unidentified Diastylidae	-	-	-	-
Family Gynodiastylidae				
Unidentified Gynodiastylidae	-	-	-	-
Order Amphipoda				
Family Ampeliscidae				
Unidentified Ampeliscidae	-	-	40	13
Family Amphithoidae				
Unidentified Amphithoidae	-	-	-	-
Family Gammaridae				
Unidentified Gammaridae	-	-	-	-
Family Hyalidae				
Unidentified Hyalidae	-	-	-	-
Family Liljeborgiidea				
Unidentified Liljeborgiidea	-	-	-	-

Siriporn L
 (Siriporn Imwilaiwan)
 License ID : 9-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-10 (page 7 of 8)

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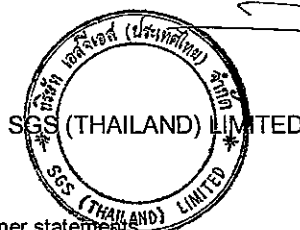
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Analysis Report

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SAMPLING LOCATION : Concession Block G6/48, Control 2
COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E
SAMPLING DATE : February 7, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Amphipoda				
Family Oedicerotidae				
Unidentified Oedicerotidae	-	-	20	7
Family Vibiliidae				
Vibilia sp.	-	-	-	-
Order Isopoda				
Suborder Valvifera				
Unidentified Valvifera	-	-	-	-
Order Tanaidacea				
Suborder Tanaidomorpha				
Family Tanaidae				
Unidentified Tanaidae	-	-	20	7
Family Leptocheliidae				
Heterotanaid sp.	-	-	-	-
Suborder Apseudomorpha				
Family Sphyrapiidae				
Unidentified Sphyrapiidae	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Family Cancellariidae				
Unidentified Cancellariidae	-	-	-	-
Family Haminoeidae				
Atys sp.	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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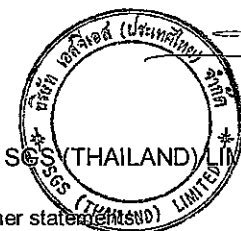
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Analysis Report

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SAMPLING LOCATION : Concession Block G6/48, Control 2
COORDINATION (WGS84) : 9° 26' 00.36" N, 101° 11' 13.86" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Mollusca (Cont'd)				
Class Bivalvia				
Order Veneroida				
Family Veneridae				
<i>Tapes</i> sp.	-	-	-	-
Class Scaphopoda				
Family Dentaliidae				
Unidentified Dentaliidae	-	-	-	-
Phylum Echinodermata				
Class Echinoidae				
Unidentified sea urchin	-	-	-	-
Order Ophiurida				
Family Amphiuridae				
<i>Amphioplus</i> sp.	-	-	20	7
Unidentified Amphiuridae	-	-	-	-
Phylum Chordata				
Subphylum Vertebrata				
Class Actinopterygii				
Family Gobiidae				
Unidentified Gobiidae	-	-	-	-
Family Gobiidae				
Unidentified Sciaenidae	-	-	-	-
Family Bregmacerotidae				
Unidentified Bregmacerotidae	-	-	-	-
Total Benthos Type	4	7	11	18
Total Benthos Amount	80	200	260	183

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-11 (page 1 of 8)

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Sarcodina (Protozoa)				
Class Foraminifera				
Order Foraminiferida				
Unidentified Foraminifera	-	-	-	-
Phylum Sipuncula				
Class Sipunculidea				
Order Sipunculiformes				
Family Sipunculidae				
Unidentified Sipunculidae	-	-	20	7
Phylum Nematoda				
Class Adenophorea				
Order Areolaimida				
Family Araeolaimidae				
Unidentified Araeolaimidae	-	-	-	-
Phylum Annelida				
Subclass Errantia				
Order Aciculata				
Family Goniadidae				
Unidentified Goniadidae	-	-	-	-
Family Nereididae				
Nereis sp.	-	40	-	13
Unidentified Nereididae	-	-	-	-
Family Paralacydoniidae				
Paralacydonia sp.	-	-	-	-
Order Eunicida				
Family Arabellidae				
Unidentified Arabellidae	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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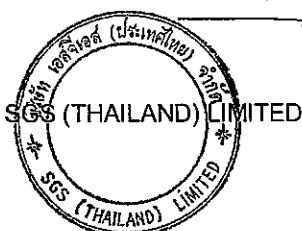
Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
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SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E

SAMPLING DATE : February 9, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Errantia				
Order Eunicida				
Family Eunicidae				
<i>Eunice</i> sp.	-	-	-	-
Family Onuphidae				
Unidentified Onuphidae	-	-	-	-
Order Phyllodocida				
Family Glyceridae				
<i>Glycera</i> sp.	-	-	-	-
Family Nephtyidae				
<i>Nephtys</i> sp.	-	20	-	7
Family Phyllodocidae				
<i>Lopadorhynchus</i> sp.	-	-	-	-
Family Pilargiidae				
Unidentified Pilargiidae	-	-	-	-
Family Polynoidae				
Unidentified Polynoidae	-	-	-	-
Family Syllidae				
Unidentified Syllidae	-	-	-	-
Subclass Sedentaria				
Order Canalipalpata				
Family Pectinariidae				
Unidentified Pectinariidae	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
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 Environmental Manager

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SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E

SAMPLING DATE : February 9, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Canalipalpata				
suborder Spionida				
Family Cirratulidae				
Unidentified Cirratulidae	-	-	-	-
Family Poecilochaetidae				
<i>Poecilochaetus</i> sp.	-	-	-	-
Family Spionidae				
Unidentified Spionidae	-	-	-	-
Order Capitellida				
Family Arenicolidae				
Unidentified Arenicolidae	-	-	-	-
Family Capitellidae				
<i>Capitella capitata</i>	40	-	-	13
Unidentified Capitellidae	-	-	-	-
Order Flabelligerida				
Family Flabelligeridae				
Unidentified Flabelligeridae	-	-	-	-
Order Opheliida				
Family Maldanidae				
Unidentified Maldanidae	-	-	-	-
Family Opheliidae				
Unidentified Opheliidae	-	-	-	-
Order Orbiniida				
Family Orbiniidae				
Unidentified Orbiniidae	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Analysis Report

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SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Sabellida				
Family Dinophilidae				
Unidentified Dinophilidae	-	-	-	-
Order Sternaspida				
Family Sternaspidae				
Unidentified Sternaspidae	-	-	-	-
Order Terebellida				
Family Ampharetidae				
Unidentified Ampharetidae	-	-	-	-
Family Terebellidae				
<i>Terebellides</i> sp.	-	-	-	-
Unidentified Terebellidae	-	-	-	-
Phylum Arthropoda				
Class Malacostraca				
Order Stomatopoda				
Family Squillidae				
<i>Erugosquilla woodmasoni</i>	-	-	-	-
<i>Oratosquilla interrupta</i>	-	-	-	-
Unidentified Squillidae	-	20	-	7
Order Decapoda				
Infraorder Brachyura				
Family Dromiidae				
Unidentified Dromiidae	-	-	-	-
Family Goneplacidae				
Unidentified Goneplacidae	-	-	-	-

Siriporn L.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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SAMPLING LOCATION : Concession Block G6/48, North Dara-4
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SAMPLING DATE : February 9, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Brachyura				
Family Leucosiidae				
<i>Leucosia</i> sp.	-	-	-	-
Family Portunidae				
<i>Charybdis</i> sp.	-	20	20	13
Family Xanthidae				
<i>Pilumnus</i> sp.	-	-	20	7
Unidentified crab	20	-	-	7
Infraorder Caridea				
Family Alpheidae				
<i>Alpheus</i> sp.	-	-	-	-
Family Porcellanidae				
<i>Pachycheles</i> sp.	-	-	-	-
Infraorder Penaeidae				
Family Crangonidae				
Unidentified Crangonidae	-	-	-	-
Family Penaeidae				
<i>Penaeus</i> sp.	-	-	-	-
Unidentified Penaeidae	-	-	-	-
<i>Metapenaeus</i> sp.	-	-	-	-
Family Sergestidae				
Unidentified Sergestidae	-	-	-	-

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SGS (THAILAND) LIMITED

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-11 (page 6 of 8)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Mysidaceae				
Family Myidae				
Unidentified Myidae	-	-	-	-
Order Mysida				
Family Mysidae				
Unidentified Mysidae	-	-	20	7
Order Cumacea				
Family Bodotridae				
Unidentified Bodotridae	-	-	-	-
Family Diastylidae				
Unidentified Diastylidae	-	-	-	-
Family Gynodiastylidae				
Unidentified Gynodiastylidae	-	-	-	-
Order Amphipoda				
Family Ampeliscidae				
Unidentified Ampeliscidae	-	-	-	-
Family Amphithoidae				
Unidentified Amphithoidae	-	-	-	-
Family Gammaridae				
Unidentified Gammaridae	-	20	20	13
Family Hyalidae				
Unidentified Hyalidae	-	20	-	7
Family Liljeborgiidea				
Unidentified Liljeborgiidea	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/PP

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Report No. : 2009-00051 / 005-11 (page 7 of 8)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E

SAMPLING DATE : February 9, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Amphipoda				
Family Oedicerotidae				
Unidentified Oedicerotidae	-	-	-	-
Family Vibiliidae				
Vibilia sp.	-	-	-	-
Order Isopoda				
Suborder Valvifera				
Unidentified Valvifera	-	-	-	-
Order Tanaidacea				
Suborder Tanaidomorpha				
Family Tanaidae				
Unidentified Tanaidae	-	-	-	-
Family Leptocheliidae				
Heterotanaeis sp.	-	-	-	-
Suborder Apseudomorpha				
Family Sphyrapidae				
Unidentified Sphyrapidae	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Family Cancellariidae				
Unidentified Cancellariidae	-	-	-	-
Family Haminoeidae				
Atys sp.	-	-	-	-

ศิริพร ใจ.
 (Siriporn Imwilaiwan)
 License ID : ๓-010-๓-1793

(Signature)
 (Sompong Kiatiporn)
 Environmental Manager



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Report No. : 2009-00051 / 005-11 (page 8 of 8)

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-4
COORDINATION (WGS84) : 9° 15' 11.11" N, 101° 10' 56.73" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Mollusca (Cont'd)				
Class Bivalvia				
Order Veneroida				
Family Veneridae				
<i>Tapes</i> sp.	-	-	-	-
Class Scaphopoda				
Family Dentaliidae				
Unidentified Dentaliidae	-	-	-	-
Phylum Echinodermata				
Class Echinoidae				
Unidentified sea urchin	-	-	-	-
Order Ophiurida				
Family Amphiuridae				
<i>Amphioplus</i> sp.	-	-	-	-
Unidentified Amphiuridae	-	20	-	7
Phylum Chordata				
Subphylum Vertebrata				
Class Actinopterygii				
Family Gobiidae				
Unidentified Gobiidae	-	-	-	-
Family Gobiidae				
Unidentified Sciaenidae	-	-	-	-
Family Bregmacerotidae				
Unidentified Bregmacerotidae	-	-	-	-
Total Benthos Type	2	7	5	12
Total Benthos Amount	60	160	100	108

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-2-1793



(Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-12 (page 1 of 8)

Issued date : February 27, 2009

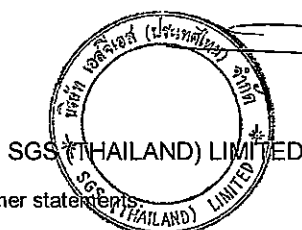
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CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E
SAMPLING DATE : February 9, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Sarcodina (Protozoa)				
Class Foraminifera				
Order Foraminiferida				
Unidentified Foraminifera	-	-	-	-
Phylum Sipuncula				
Class Sipunculidea				
Order Sipunculiformes				
Family Sipunculidae				
Unidentified Sipunculidae	-	-	-	-
Phylum Nematoda				
Class Adenophorea				
Order Areolaimida				
Family Araeolaimidae				
Unidentified Araeolaimidae	-	-	-	-
Phylum Annelida				
Subclass Errantia				
Order Aciculata				
Family Goniadidae				
Unidentified Goniadidae	-	-	-	-
Family Nereididae				
<i>Nereis</i> sp.	20	-	-	7
Unidentified Nereididae	-	-	-	-
Family Paralacydoniidae				
<i>Paralacydonia</i> sp.	-	-	-	-
Order Eunicida				
Family Arabellidae				
Unidentified Arabellidae	-	-	-	-

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-12 (page 2 of 8)

Issued date : February 27, 2009

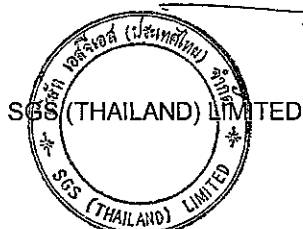
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CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Errantia				
Order Eunicida				
Family Eunicidae				
<i>Eunice</i> sp.	-	-	-	-
Family Onuphidae				
Unidentified Onuphidae	-	-	-	-
Order Phyllodocida				
Family Glyceridae				
<i>Glycera</i> sp.	-	-	-	-
Family Nephtyidae				
<i>Nephtys</i> sp.	-	-	-	-
Family Phyllodocidae				
<i>Lopadorhynchus</i> sp.	-	-	-	-
Family Pilargiidae				
Unidentified Pilargiidae	-	-	-	-
Family Polynoidae				
Unidentified Polynoidae	-	-	-	-
Family Syllidae				
Unidentified Syllidae	-	20	-	7
Subclass Sedentaria				
Order Canalipalpata				
Family Pectinariidae				
Unidentified Pectinariidae	-	-	-	-

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 3-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-12 (page 3 of 8)

Issued date : February 27, 2009

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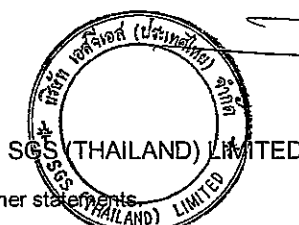
Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E

SAMPLING DATE : February 9, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Canalipalpata				
suborder Spionida				
Family Cirratulidae				
Unidentified Cirratulidae	-	-	-	-
Family Poecilochaetidae				
<i>Poecilochaetus</i> sp.	-	-	-	-
Family Spionidae				
Unidentified Spionidae	-	-	-	-
Order Capitellida				
Family Arenicolidae				
Unidentified Arenicolidae	-	-	-	-
Family Capitellidae				
<i>Capitella capitata</i>	-	40	40	27
Unidentified Capitellidae	-	20	-	7
Order Flabelligerida				
Family Flabelligeridae				
Unidentified Flabelligeridae	-	-	-	-
Order Opheliida				
Family Maldanidae				
Unidentified Maldanidae	-	20	-	7
Family Opheliidae				
Unidentified Opheliidae	-	-	-	-
Order Orbiniida				
Family Orbiniidae				
Unidentified Orbiniidae	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-12 (page 4 of 8)

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Sabellida				
Family Dinophilidae				
Unidentified Dinophilidae	-	-	-	-
Order Sternaspida				
Family Sternaspidae				
Unidentified Sternaspidae	20	-	-	7
Order Terebellida				
Family Ampharetidae				
Unidentified Ampharetidae	-	-	-	-
Family Terebellidae				
<i>Terebellides</i> sp.	-	-	-	-
Unidentified Terebellidae	-	-	-	-
Phylum Arthropoda				
Class Malacostraca				
Order Stomatopoda				
Family Squillidae				
<i>Erugosquilla woodmasoni</i>	-	-	-	-
<i>Oratosquilla interrupta</i>	-	-	-	-
Unidentified Squillidae	-	-	-	-
Order Decapoda				
Infraorder Brachyura				
Family Dromiidae				
Unidentified Dromiidae	-	-	-	-
Family Goneplacidae				
Unidentified Goneplacidae	-	-	-	-

Siriporn L
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-12 (page 5 of 8)

Issued date : February 27, 2009

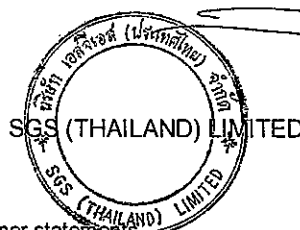
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CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Brachyura				
Family Leucosiidae				
<i>Leucosia</i> sp.	-	-	-	-
Family Portunidae				
<i>Charybdis</i> sp.	20	-	-	7
Family Xanthidae				
<i>Pilumnus</i> sp.	-	-	-	-
Unidentified crab	-	-	-	-
Infraorder Caridea				
Family Alpheidae				
<i>Alpheus</i> sp.	-	-	-	-
Family Porcellanidae				
<i>Pachycheles</i> sp.	-	-	-	-
Infraorder Penaeidae				
Family Crangonidae				
Unidentified Crangonidae	-	-	-	-
Family Penaeidae				
<i>Penaeus</i> sp.	-	-	-	-
Unidentified Penaeidae	-	-	-	-
<i>Metapenaeus</i> sp.	-	-	-	-
Family Sergestidae				
Unidentified Sergestidae	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 0-010-0-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-12 (page 6 of 8)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Mysidaceae				
Family Myidae				
Unidentified Myidae	-	-	-	-
Order Mysida				
Family Mysidae				
Unidentified Mysidae	-	-	-	-
Order Cumacea				
Family Bodotridae				
Unidentified Bodotridae	-	-	-	-
Family Diastylidae				
Unidentified Diastylidae	20	-	-	7
Family Gynodiastylidae				
Unidentified Gynodiastylidae	-	-	-	-
Order Amphipoda				
Family Ampeliscidae				
Unidentified Ampeliscidae	-	-	-	-
Family Amphithoidae				
Unidentified Amphithoidae	-	-	-	-
Family Gammaridae				
Unidentified Gammaridae	20	40	40	33
Family Hyalidae				
Unidentified Hyalidae	-	-	-	-
Family Liljeborgiidea				
Unidentified Liljeborgiidea	-	-	-	-

Siriporn L.
 (Siriporn Imwilaiwan)
 License ID : 9-010-9-1793



(Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-12 (page 7 of 8)

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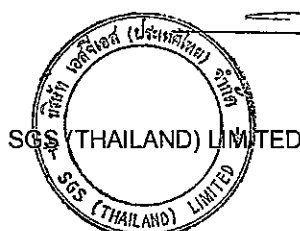
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CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E
SAMPLING DATE : February 9, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Amphipoda				
Family Oedicerotidae				
Unidentified Oedicerotidae	-	-	-	-
Family Vibiliidae				
Vibilia sp.	-	-	-	-
Order Isopoda				
Suborder Valvifera				
Unidentified Valvifera	-	-	-	-
Order Tanaidacea				
Suborder Tanaidomorpha				
Family Tanaidae				
Unidentified Tanaidae	-	-	-	-
Family Leptocheliidae				
Heterotanaid sp.	-	-	-	-
Suborder Apseudomorpha				
Family Sphyrapidae				
Unidentified Sphyrapidae	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Family Cancellariidae				
Unidentified Cancellariidae	-	-	-	-
Family Haminoeidae				
Atys sp.	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-12 (page 8 of 8)

Issued date : February 27, 2009

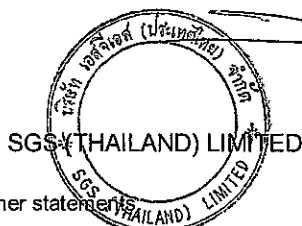
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CONTACT : Khun Morakot Suvarnapruksa
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 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-5
COORDINATION (WGS84) : 9° 16' 21.65" N, 101° 12' 0.71" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Mollusca (Cont'd)				
Class Bivalvia				
Order Veneroida				
Family Veneridae				
<i>Tapes</i> sp.	-	-	-	-
Class Scaphopoda				
Family Dentaliidae				
Unidentified Dentaliidae	-	-	-	-
Phylum Echinodermata				
Class Echinoidea				
Unidentified sea urchin	-	-	-	-
Order Ophiurida				
Family Amphiuridae				
<i>Amphioplus</i> sp.	-	-	-	-
Unidentified Amphiuridae	-	-	-	-
Phylum Chordata				
Subphylum Vertebrata				
Class Actinopterygii				
Family Gobiidae				
Unidentified Gobiidae	-	-	-	-
Family Gobiidae				
Unidentified Sciaenidae	-	-	-	-
Family Bregmacerotidae				
Unidentified Bregmacerotidae	-	-	-	-
Total Benthos Type	5	5	2	9
Total Benthos Amount	100	140	80	109

Siriporn L
 (Siriporn Imwilaiwan)
 License ID : 9-010-A-1793



[Signature]
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-13 (page 1 of 8)

Issued date : February 27, 2009

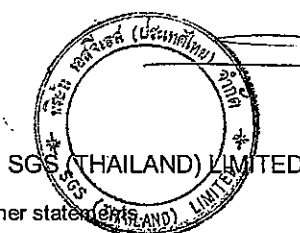
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CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Sarcodina (Protozoa)				
Class Foraminifera				
Order Foraminiferida				
Unidentified Foraminifera	-	-	-	-
Phylum Sipuncula				
Class Sipunculidea				
Order Sipunculiformes				
Family Sipunculidae				
Unidentified Sipunculidae	-	20	-	7
Phylum Nematoda				
Class Adenophorea				
Order Areolaimida				
Family Araeolaimidae				
Unidentified Araeolaimidae	-	-	-	-
Phylum Annelida				
Subclass Errantia				
Order Aciculata				
Family Goniadidae				
Unidentified Goniadidae	-	-	-	-
Family Nereididae				
Nereis sp.	20	-	20	13
Unidentified Nereididae	-	-	-	-
Family Paralacydoniidae				
Paralacydonia sp.	-	-	-	-
Order Eunicida				
Family Arabellidae				
Unidentified Arabellidae	-	-	-	-

Siriporn 1.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-13 (page 2 of 8)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E

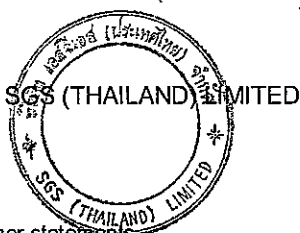
SAMPLING DATE : February 9, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Errantia				
Order Eunicida				
Family Eunicidae				
<i>Eunice</i> sp.	-	-	-	-
Family Onuphidae				
Unidentified Onuphidae	-	-	-	-
Order Phyllodocida				
Family Glyceridae				
<i>Glycera</i> sp.	-	-	-	-
Family Nephtyidae				
<i>Nephtys</i> sp.	-	-	-	-
Family Phyllodocidae				
<i>Lopadorhynchus</i> sp.	-	-	-	-
Family Pilargiidae				
Unidentified Pilargiidae	-	-	-	-
Family Polynoidae				
Unidentified Polynoidae	-	-	-	-
Family Syllidae				
Unidentified Syllidae	-	-	-	-
Subclass Sedentaria				
Order Canalipalpata				
Family Pectinariidae				
Unidentified Pectinariidae	20	-	-	7

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

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 (Sompong Kiatiporn)
 Environmental Manager

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Canalipalpata				
suborder Spionida				
Family Cirratulidae				
Unidentified Cirratulidae	-	-	-	-
Family Poecilochaetidae				
<i>Poecilochaetus</i> sp.	-	-	-	-
Family Spionidae				
Unidentified Spionidae	-	-	-	-
Order Capitellida				
Family Arenicolidae				
Unidentified Arenicolidae	-	-	-	-
Family Capitellidae				
<i>Capitella capitata</i>	20	20	-	13
Unidentified Capitellidae	20	-	-	7
Order Flabelligerida				
Family Flabelligeridae				
Unidentified Flabelligeridae	-	-	-	-
Order Opheliida				
Family Maldanidae				
Unidentified Maldanidae	-	-	-	-
Family Opheliidae				
Unidentified Opheliidae	-	-	-	-
Order Orbiniida				
Family Orbiniidae				
Unidentified Orbiniidae	-	20	-	7

Siriporn L
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



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 (Sompong Kiatiporn)
 Environmental Manager

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Analysis Report

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 SAMPLING DEVICES : Smith and McIntyre Grab Sampler
 SAMPLING LOCATION : Concession Block G6/48, North Dara-6
 COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Sabellida				
Family Dinophilidae				
Unidentified Dinophilidae	-	-	-	-
Order Sternaspida				
Family Sternaspidae				
Unidentified Sternaspidae	20	-	-	7
Order Terebellida				
Family Ampharetidae				
Unidentified Ampharetidae	-	-	-	-
Family Terebellidae				
<i>Terebellides</i> sp.	-	-	-	-
Unidentified Terebellidae	-	-	-	-
Phylum Arthropoda				
Class Malacostraca				
Order Stomatopoda				
Family Squillidae				
<i>Erugosquilla woodmasoni</i>	-	-	-	-
<i>Oratosquilla interrupta</i>	-	-	-	-
Unidentified Squillidae	-	-	-	-
Order Decapoda				
Infraorder Brachyura				
Family Dromiidae				
Unidentified Dromiidae	-	-	-	-
Family Goneplacidae				
Unidentified Goneplacidae	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



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 Environmental Manager

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Analysis Report

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SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Brachyura				
Family Leucosiidae				
<i>Leucosia</i> sp.	20	-	-	7
Family Portunidae				
<i>Charybdis</i> sp.	-	-	-	-
Family Xanthidae				
<i>Pilumnus</i> sp.	-	-	-	-
Unidentified crab	-	-	-	-
Infraorder Caridea				
Family Alpheidae				
<i>Alpheus</i> sp.	-	-	-	-
Family Porcellanidae				
<i>Pachycheles</i> sp.	-	-	-	-
Infraorder Penaeidae				
Family Crangonidae				
Unidentified Crangonidae	-	-	-	-
Family Penaeidae				
<i>Penaeus</i> sp.	-	-	-	-
Unidentified Penaeidae	-	-	-	-
<i>Metapenaeus</i> sp.	-	-	-	-
Family Sergestidae				
Unidentified Sergestidae	-	-	-	-

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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Analysis Report

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SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Mysidaceae				
Family Myidae				
Unidentified Myidae	-	-	-	-
Order Mysida				
Family Mysidae				
Unidentified Mysidae	-	-	-	-
Order Cumacea				
Family Bodotridae				
Unidentified Bodotridae	-	-	-	-
Family Diastylidae				
Unidentified Diastylidae	-	-	20	7
Family Gynodiastylidae				
Unidentified Gynodiastylidae	-	-	20	7
Order Amphipoda				
Family Ampeliscidae				
Unidentified Ampeliscidae	-	-	-	-
Family Amphithoidae				
Unidentified Amphithoidae	-	-	-	-
Family Gammaridae				
Unidentified Gammaridae	20	40	20	27
Family Hyalidae				
Unidentified Hyalidae	-	-	-	-
Family Liljeborgiidea				
Unidentified Liljeborgiidea	-	-	-	-

Sinpon 1.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E

SAMPLING DATE : February 9, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Amphipoda				
Family Oedicerotidae				
Unidentified Oedicerotidae	-	-	-	-
Family Vibiliidae				
Vibilia sp.	-	-	-	-
Order Isopoda				
Suborder Valvifera				
Unidentified Valvifera	-	-	-	-
Order Tanaidacea				
Suborder Tanaidomorpha				
Family Tanaidae				
Unidentified Tanaidae	-	-	-	-
Family Leptocheliidae				
Heterotanaïs sp.	-	-	-	-
Suborder Apseudomorpha				
Family Sphyrapidae				
Unidentified Sphyrapidae	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Family Cancellariidae				
Unidentified Cancellariidae	-	20	-	7
Family Haminoeidae				
Atys sp.	-	-	-	-

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793

SGS (THAILAND) LIMITED

Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-6
COORDINATION (WGS84) : 9° 16' 20.13" N, 101° 12' 20.91" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Mollusca (Cont'd)				
Class Bivalvia				
Order Veneroida				
Family Veneridae				
<i>Tapes</i> sp.	-	-	-	-
Class Scaphopoda				
Family Dentaliidae				
Unidentified Dentaliidae	-	-	-	-
Phylum Echinodermata				
Class Echinoidae				
Unidentified sea urchin	-	-	-	-
Order Ophiurida				
Family Amphiuridae				
<i>Amphioplus</i> sp.	-	-	-	-
Unidentified Amphiuridae	20	40	-	20
Phylum Chordata				
Subphylum Vertebrata				
Class Actinopterygii				
Family Gobiidae				
Unidentified Gobiidae	20	20	20	20
Family Gobiidae				
Unidentified Sciaenidae	-	-	-	-
Family Bregmacerotidae				
Unidentified Bregmacerotidae	-	-	-	-
Total Benthos Type	9	7	5	14
Total Benthos Amount	180	180	100	156

Siriporn I
 (Siriporn Inwilaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-14 (page 1 of 8)

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-7
COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.33" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Sarcodina (Protozoa)				
Class Foraminifera				
Order Foraminiferida				
Unidentified Foraminifera	-	-	40	13
Phylum Sipuncula				
Class Sipunculidea				
Order Sipunculiformes				
Family Sipunculidae				
Unidentified Sipunculidae	-	-	-	-
Phylum Nematoda				
Class Adenophorea				
Order Areolaimida				
Family Araeolaimidae				
Unidentified Araeolaimidae	-	-	-	-
Phylum Annelida				
Subclass Errantia				
Order Aciculata				
Family Goniadidae				
Unidentified Goniadidae	-	-	-	-
Family Nereididae				
Nereis sp.	-	-	-	-
Unidentified Nereididae	-	-	-	-
Family Paralacydoniidae				
Paralacydonia sp.	-	-	-	-
Order Eunicida				
Family Arabellidae				
Unidentified Arabellidae	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 1-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-14 (page 2 of 8)

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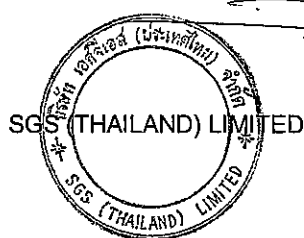
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis SAMPLING DATE : February 9, 2009
 SAMPLING DEVICES : Smith and McIntyre Grab Sampler
 SAMPLING LOCATION : Concession Block G6/48, North Dara-7
 COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.33" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Errantia				
Order Eunicida				
Family Eunicidae				
<i>Eunice</i> sp.	-	-	-	-
Family Onuphidae				
Unidentified Onuphidae	-	-	-	-
Order Phyllodocida				
Family Glyceridae				
<i>Glycera</i> sp.	-	-	-	-
Family Nephtyidae				
<i>Nephtys</i> sp.	-	-	-	-
Family Phyllodocidae				
<i>Lopadorhynchus</i> sp.	-	-	-	-
Family Pilargiidae				
Unidentified Pilargiidae	-	-	-	-
Family Polynoidae				
Unidentified Polynoidae	-	-	-	-
Family Syllidae				
Unidentified Syllidae	-	-	-	-
Subclass Sedentaria				
Order Canalipalata				
Family Pectinariidae				
Unidentified Pectinariidae	-	-	-	-

Siriporn L
 (Siriporn Imwilaian)
 License ID : 2-010-A-1793



Sompong Kiatiporn
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 Environmental Manager

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Analysis Report

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SAMPLING LOCATION : Concession Block G6/48, North Dara-7
COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.33" E

SAMPLING DATE : February 9, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Canalipalpata				
suborder Spionida				
Family Cirratulidae				
Unidentified Cirratulidae	-	-	-	-
Family Poecilochaetidae				
<i>Poecilochaetus</i> sp.	-	-	-	-
Family Spionidae				
Unidentified Spionidae	-	-	-	-
Order Capitellida				
Family Arenicolidae				
Unidentified Arenicolidae	-	-	-	-
Family Capitellidae				
<i>Capitella capitata</i>	-	20	-	7
Unidentified Capitellidae	-	-	-	-
Order Flabelligerida				
Family Flabelligeridae				
Unidentified Flabelligeridae	-	-	-	-
Order Opheliida				
Family Maldanidae				
Unidentified Maldanidae	-	-	-	-
Family Opheliidae				
Unidentified Opheliidae	-	-	-	-
Order Orbiniida				
Family Orbiniidae				
Unidentified Orbiniidae	20	-	-	7

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 7-010-A-1793



Sompong Kiatiporn
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 Environmental Manager

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Analysis Report

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COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.33" E
SAMPLING DATE : February 9, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Sabellida				
Family Dinophilidae				
Unidentified Dinophilidae	-	-	-	-
Order Sternaspida				
Family Sternaspidae				
Unidentified Sternaspidae	-	-	-	-
Order Terebellida				
Family Ampharetidae				
Unidentified Ampharetidae	-	-	-	-
Family Terebellidae				
<i>Terebellides</i> sp.	-	-	-	-
Unidentified Terebellidae	-	-	-	-
Phylum Arthropoda				
Class Malacostraca				
Order Stomatopoda				
Family Squillidae				
<i>Erugosquilla woodmasoni</i>	-	-	-	-
<i>Oratosquilla interrupta</i>	-	-	-	-
Unidentified Squillidae	-	20	-	7
Order Decapoda				
Infraorder Brachyura				
Family Dromiidae				
Unidentified Dromiidae	-	-	-	-
Family Goneplacidae				
Unidentified Goneplacidae	-	-	-	-

Siriporn L
(Siriporn Imwilaiwan)
License ID : 1-010-A-1793



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Environmental Manager

SK/SA/BS/Pp

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Analysis Report

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SAMPLING LOCATION : Concession Block G6/48, North Dara-7
COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.33" E
SAMPLING DATE : February 9, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Brachyura				
Family Leucosiidae				
<i>Leucosia</i> sp.	-	-	-	-
Family Portunidae				
<i>Charybdis</i> sp.	-	-	-	-
Family Xanthidae				
<i>Pilumnus</i> sp.	-	-	-	-
Unidentified crab	-	-	20	7
Infraorder Caridea				
Family Alpheidae				
<i>Alpheus</i> sp.	-	-	-	-
Family Porcellanidae				
<i>Pachycheles</i> sp.	-	-	-	-
Infraorder Penaeidae				
Family Crangonidae				
Unidentified Crangonidae	-	-	-	-
Family Penaeidae				
<i>Penaeus</i> sp.	-	-	-	-
Unidentified Penaeidae	-	-	-	-
<i>Metapenaeus</i> sp.	-	-	-	-
Family Sergestidae				
Unidentified Sergestidae	-	-	-	-

Siriporn Imwaiwan
 (Siriporn Imwaiwan)
 License ID : 2-010-A-1793



Sompong Kiatiporn
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Issued date : February 27, 2009

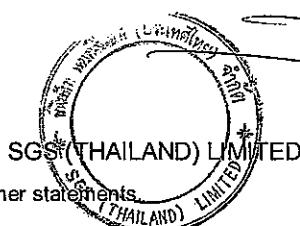
CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 9, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-7
COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.33" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Mysidaceae				
Family Myidae				
Unidentified Myidae	-	-	-	-
Order Mysida				
Family Mysidae				
Unidentified Mysidae	-	-	-	-
Order Cumacea				
Family Bodotridae				
Unidentified Bodotridae	-	-	-	-
Family Diastylidae				
Unidentified Diastylidae	-	-	-	-
Family Gynodiastylidae				
Unidentified Gynodiastylidae	-	-	-	-
Order Amphipoda				
Family Ampeliscidae				
Unidentified Ampeliscidae	-	-	-	-
Family Amphithoidae				
Unidentified Amphithoidae	-	-	-	-
Family Gammaridae				
Unidentified Gammaridae	20	40	-	20
Family Hyalidae				
Unidentified Hyalidae	-	-	-	-
Family Liljeborgiidea				
Unidentified Liljeborgiidea	-	-	-	-

Siriporn I
 (Siriporn Imwilaian)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/PP
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Report No. : 2009-00051 / 005-14 (page 7 of 8)

Issued date : February 27, 2009

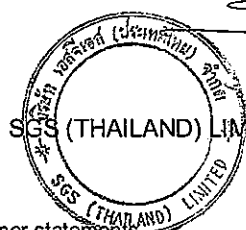
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CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-7
COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.33" E
SAMPLING DATE : February 9, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Amphipoda				
Family Oedicerotidae				
Unidentified Oedicerotidae	-	-	-	-
Family Vibiliidae				
Vibilia sp.	-	-	-	-
Order Isopoda				
Suborder Valvifera				
Unidentified Valvifera	-	-	-	-
Order Tanaidacea				
Suborder Tanaidomorpha				
Family Tanaidae				
Unidentified Tanaidae	-	-	-	-
Family Leptocheliidae				
Heterotanis sp.	-	-	-	-
Suborder Apseudomorpha				
Family Sphyrapidae				
Unidentified Sphyrapidae	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Family Cancellariidae				
Unidentified Cancellariidae	-	-	-	-
Family Haminoeidae				
Atys sp.	-	20	-	7

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-14 (page 8 of 8)

Issued date : February 27, 2009

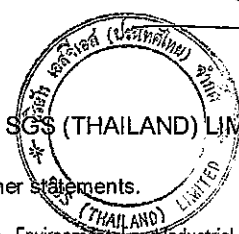
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CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, North Dara-7
COORDINATION (WGS84) : 9° 15' 59.57" N, 101° 11' 59.33" E
SAMPLING DATE : February 9, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Mollusca (Cont'd)				
Class Bivalvia				
Order Veneroida				
Family Veneridae				
<i>Tapes</i> sp.	-	-	-	-
Class Scaphopoda				
Family Dentaliidae				
Unidentified Dentaliidae	-	-	-	-
Phylum Echinodermata				
Class Echinoidae				
Unidentified sea urchin	-	-	-	-
Order Ophiurida				
Family Amphiuridae				
<i>Amphioplus</i> sp.	-	-	-	-
Unidentified Amphiuridae	-	-	-	-
Phylum Chordata				
Subphylum Vertebrata				
Class Actinopterygii				
Family Gobiidae				
Unidentified Gobiidae	-	-	-	-
Family Gobiidae				
Unidentified Sciaenidae	-	-	-	-
Family Bregmacerotidae				
Unidentified Bregmacerotidae	-	-	-	-
Total Benthos Type	2	4	2	7
Total Benthos Amount	40	100	60	68

Siriporn 1.
(Siriporn Imwilaiwan)
License ID : 2-010-A-1793



(Signature)
(Sompong Kiatiporn)
Environmental Manager

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Report No. : 2009-00051 / 005-15 (page 1 of 8)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Control 3
COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 04' 57.78" E
SAMPLING DATE : February 10, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Sarcodina (Protozoa)				
Class Foraminifera				
Order Foraminifera				
Unidentified Foraminifera	-	-	-	-
Phylum Sipuncula				
Class Sipunculidea				
Order Sipunculiformes				
Family Sipunculidae				
Unidentified Sipunculidae	20	-	-	7
Phylum Nematoda				
Class Adenophorea				
Order Areolaimida				
Family Araeolaimidae				
Unidentified Araeolaimidae	-	-	-	-
Phylum Annelida				
Subclass Errantia				
Order Aciculata				
Family Goniadidae				
Unidentified Goniadidae	-	-	-	-
Family Nereididae				
Nereis sp.	20	-	20	13
Unidentified Nereididae	-	-	-	-
Family Paralacydoniidae				
Paralacydonia sp.	-	-	-	-
Order Eunicida				
Family Arabellidae				
Unidentified Arabellidae	-	-	-	-

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-15 (page 2 of 8)

Issued date : February 27, 2009

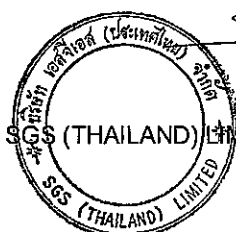
CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Control 3
COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 04' 57.78" E
SAMPLING DATE : February 10, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Errantia				
Order Eunicida				
Family Eunicidae				
<i>Eunice</i> sp.	-	-	-	-
Family Onuphidae				
Unidentified Onuphidae	-	-	-	-
Order Phyllodocida				
Family Glyceridae				
<i>Glycera</i> sp.	-	-	-	-
Family Nephtyidae				
<i>Nephtys</i> sp.	20	-	-	7
Family Phyllodocidae				
<i>Lopadorhynchus</i> sp.	-	-	-	-
Family Pilargiidae				
Unidentified Pilargiidae	-	-	-	-
Family Polynoidae				
Unidentified Polynoidae	-	-	-	-
Family Syllidae				
Unidentified Syllidae	20	-	-	7
Subclass Sedentaria				
Order Canalipalpata				
Family Pectinariidae				
Unidentified Pectinariidae	-	-	-	-

Siriporn I.
(Siriporn Imwilaiwan)
License ID : 2-010-2-1793



(Signature)
(Sompong Kiatiporn)
Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-15 (page 3 of 8)

Issued date : February 27, 2009

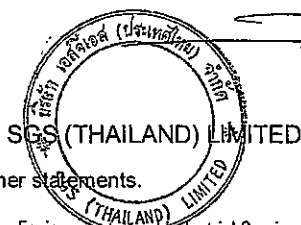
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Control 3
COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 04' 57.78" E
SAMPLING DATE : February 10, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Canalipalpata				
suborder Spionida				
Family Cirratulidae				
Unidentified Cirratulidae	-	-	-	-
Family Poecilochaetidae				
<i>Poecilochaetus</i> sp.	-	-	-	-
Family Spionidae				
Unidentified Spionidae	-	-	-	-
Order Capitellida				
Family Arenicolidae				
Unidentified Arenicolidae	-	-	-	-
Family Capitellidae				
<i>Capitella capitata</i>	20	-	-	7
Unidentified Capitellidae	-	-	-	-
Order Flabelligerida				
Family Flabelligeridae				
Unidentified Flabelligeridae	-	-	-	-
Order Opheliida				
Family Maldanidae				
Unidentified Maldanidae	20	-	-	7
Family Opheliidae				
Unidentified Opheliidae	-	-	-	-
Order Orbiniida				
Family Orbiniidae				
Unidentified Orbiniidae	-	-	-	-

Siriporn L
(Siriporn Imwilaiwan)
License ID : 2-010-A-1793



(Signature)
(Sompong Kiatiporn)
Environmental Manager

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Report No. : 2009-00051 / 005-15 (page 4 of 8)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 10, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Control 3
COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 04' 57.78" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Sabellida				
Family Dinophilidae				
Unidentified Dinophilidae	-	-	-	-
Order Sternaspida				
Family Sternaspidae				
Unidentified Sternaspidae	20	-	-	7
Order Terebellida				
Family Ampharetidae				
Unidentified Ampharetidae	-	-	-	-
Family Terebellidae				
<i>Terebellides</i> sp.	-	-	-	-
Unidentified Terebellidae	-	-	-	-
Phylum Arthropoda				
Class Malacostraca				
Order Stomatopoda				
Family Squillidae				
<i>Erugosquilla woodmasoni</i>	-	-	-	-
<i>Oratosquilla interrupta</i>	-	-	-	-
Unidentified Squillidae	-	-	-	-
Order Decapoda				
Infraorder Brachyura				
Family Dromiidae				
Unidentified Dromiidae	-	-	-	-
Family Goneplacidae				
Unidentified Goneplacidae	-	-	-	-

Siriporn L
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-15 (page 5 of 8)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Control 3
COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 04' 57.78" E
SAMPLING DATE : February 10, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Brachyura				
Family Leucosiidae				
<i>Leucosia</i> sp.	-	-	-	-
Family Portunidae				
<i>Charybdis</i> sp.	-	-	-	-
Family Xanthidae				
<i>Pilumnus</i> sp.	-	-	-	-
Unidentified crab	-	20	-	7
Infraorder Caridea				
Family Alpheidae				
<i>Alpheus</i> sp.	-	-	-	-
Family Porcellanidae				
<i>Pachycheles</i> sp.	-	-	-	-
Infraorder Penaeidae				
Family Crangonidae				
Unidentified Crangonidae	-	-	-	-
Family Penaeidae				
<i>Penaeus</i> sp.	-	-	-	-
Unidentified Penaeidae	-	-	-	-
<i>Metapenaeus</i> sp.	-	-	-	-
Family Sergestidae				
Unidentified Sergestidae	-	-	-	-

Siriporn I.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-15 (page 6 of 8)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 10, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Control 3
COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 04' 57.78" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Mysidaceae				
Family Myidae				
Unidentified Myidae	-	-	-	-
Order Mysida				
Family Mysidae				
Unidentified Mysidae	20	-	-	7
Order Cumacea				
Family Bodotridae				
Unidentified Bodotridae	-	-	-	-
Family Diastylidae				
Unidentified Diastylidae	20	-	-	7
Family Gynodiastylidae				
Unidentified Gynodiastylidae	-	-	-	-
Order Amphipoda				
Family Ampeliscidae				
Unidentified Ampeliscidae	-	-	-	-
Family Amphithoidae				
Unidentified Amphithoidae	-	-	-	-
Family Gammaridae				
Unidentified Gammaridae	60	40	20	40
Family Hyalidae				
Unidentified Hyalidae	-	-	-	-
Family Liljeborgiidea				
Unidentified Liljeborgiidea	-	-	-	-

Siriporn L.
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 005-15 (page 7 of 8)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Control 3
COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 04' 57.78" E
SAMPLING DATE : February 10, 2009

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Amphipoda				
Family Oedicerotidae				
Unidentified Oedicerotidae	-	-	-	-
Family Vibiliidae				
Vibilia sp.	-	-	-	-
Order Isopoda				
Suborder Valvifera				
Unidentified Valvifera	-	-	-	-
Order Tanaidacea				
Suborder Tanaidomorpha				
Family Tanaidae				
Unidentified Tanaidae	20	-	-	7
Family Leptocheliidae				
Heterotanis sp.	-	-	-	-
Suborder Apseudomorpha				
Family Sphyrapidae				
Unidentified Sphyrapidae	-	-	-	-
Phylum Mollusca				
Class Gastropoda				
Family Cancellariidae				
Unidentified Cancellariidae	-	-	-	-
Family Haminoeidae				
Atys sp.	-	-	-	-

Siriporn L
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 005-15 (page 8 of 8)
Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** February 10, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Control 3
COORDINATION (WGS84) : 9° 15' 3.30" N, 101° 04' 57.78" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Mollusca (Cont'd)				
Class Bivalvia				
Order Veneroida				
Family Veneridae				
<i>Tapes</i> sp.	-	-	-	-
Class Scaphopoda				
Family Dentaliidae				
Unidentified Dentaliidae	-	-	-	-
Phylum Echinodermata				
Class Echinoidae				
Unidentified sea urchin	-	-	-	-
Order Ophiurida				
Family Amphiuridae				
<i>Amphioplus</i> sp.	-	-	-	-
Unidentified Amphiuridae	-	-	-	-
Phylum Chordata				
Subphylum Vertebrata				
Class Actinopterygii				
Family Gobiidae				
Unidentified Gobiidae	20	20	-	13
Family Gobiidae				
Unidentified Sciaenidae	-	-	-	-
Family Bregmacerotidae				
Unidentified Bregmacerotidae	-	20	-	7
Total Benthos Type	12	4	3	14
Total Benthos Amount	280	100	80	143


 (Siriporn Imwilaiwan)
 License ID : 7-010-ก-1793




 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00202 / 005-1 (page 1 of 8)

Issued date : April 20, 2009

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 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** March 30, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Sarcodina (Protozoa)				
Class Foraminifora				
Order Foraminifera				
Unidentified Foraminifera	-	40	-	13
Phylum Sipuncula				
Class Sipunculidea				
Order Sipunculiformes				
Family Sipunculidae				
Unidentified Sipunculidae	40	-	-	13
Phylum Nematoda				
Class Adenophorea				
Order Areolaimida				
Family Araeolaimidae				
Unidentified Araeolaimidae	20	-	-	7
Phylum Annelida				
Subclass Errantia				
Order Aciculata				
Family Goniadidae				
Unidentified Goniadidae	-	-	-	-
Family Nereididae				
Nereis sp.				
Unidentified Nereididae	-	20	-	7
Family Paralacydoniidae				
Paralacydonia sp.	-	-	-	-
Order Eunicida				
Family Arabellidae				
Unidentified Arabellidae	-	-	-	-

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 3-010-A-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00202 / 005-1 (page 2 of 8)

Issued date : April 20, 2009

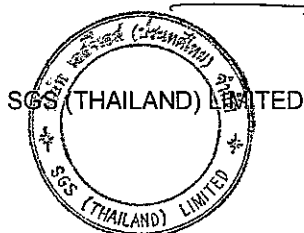
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** March 30, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida				
Subclass Errantia				
Order Eunicida				
Family Eunicidae				
<i>Eunice</i> sp.	-	-	-	-
Family Onuphidae				
Unidentified Onuphidae	-	-	40	13
Order Phyllodocida				
Family Glyceridae				
<i>Glycera</i> sp.	-	-	-	-
Family Nephtyidae				
<i>Nephtys</i> sp.	-	-	-	-
Family Phyllodocidae				
<i>Lopadorhynchus</i> sp.	-	-	-	-
Family Pilargiidae				
Unidentified Pilargiidae	-	-	-	-
Family Polynoidae				
Unidentified Polynoidae	-	-	-	-
Family Syllidae				
Unidentified Syllidae	-	-	-	-
Subclass Sedentaria				
Order Canalipalpata				
Family Pectinariidae				
Unidentified Pectinariidae	-	-	-	-

Siriporn I
 (Siriporn Imwilaiwan)
 License ID : 2-010-A-1793



(Signature)
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 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00202 / 005-1 (page 3 of 8)

Issued date : April 20, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** March 30, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Canalipalpata				
suborder Spionida				
Family Cirratulidae				
Unidentified Cirratulidae	-	-	20	7
Family Poecilochaetidae				
<i>Poecilochaetus</i> sp.	-	-	-	-
Family Spionidae				
Unidentified Spionidae	-	-	40	13
Order Capitellida				
Family Arenicolidae				
Unidentified Arenicolidae	-	-	-	-
Family Capitellidae				
<i>Capitella capitata</i>	-	-	-	-
Unidentified Capitellidae	-	-	-	-
Order Flabelligerida				
Family Flabelligeridae				
Unidentified Flabelligeridae	-	-	20	7
Order Opheliida				
Family Maldanidae				
Unidentified Maldanidae	20	-	-	7
Family Opheliidae				
Unidentified Opheliidae	-	-	-	-
Order Orbiniida				
Family Orbiniidae				
Unidentified Orbiniidae	-	-	-	-

Siriporn L
 (Siriporn Imwilaiwan)
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Report No. : 2009-00202 / 005-1 (page 4 of 8)

Issued date : April 20, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** March 30, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Annelida (Cont'd)				
Subclass Sedentaria				
Order Sabellida				
Family Dinophilidae				
Unidentified Dinophilidae	-	-	-	-
Order Sternaspida				
Family Sternaspidae				
Unidentified Sternaspidae	-	-	-	-
Order Terebellida				
Family Ampharelidae				
Unidentified Ampharelidae	-	-	20	7
Family Terebellidae				
<i>Terebellides</i> sp.				
Unidentified Terebellidae	20	-	40	20
Phylum Arthropoda				
Class Malacostraca				
Order Stomatopoda				
Family Squillidae				
<i>Oratosquilla interrupta</i>	-	-	-	-
<i>Erugosquilla woodmasoni</i>	-	-	-	-
Unidentified Squillidae	-	20	-	7
Order Decapoda				
Infraorder Brachyura				
Family Dromiidae	-	-	-	-
Unidentified Dromiidae				
Family Goneplacidae				
Unidentified Goneplacidae	-	-	-	-

Siriporn Imwilaiwan
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 License ID : 9-010-A-1793



Sompong Kiatiporn
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Report No. : 2009-00202 / 005-1 (page 5 of 8)

Issued date : April 20, 2009

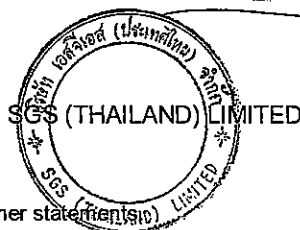
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CONTACT : Khun Morakot Suvarnapruksa
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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** March 30, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Brachyura				
Family Leucosiidae				
<i>Leucosia</i> sp.	-	-	-	-
Family Portunidae				
<i>Charybdis</i> sp.	-	-	-	-
Family Xanthidae				
<i>Pilumnus</i> sp.	-	-	-	-
Unidentified crab	-	-	-	-
Infraorder Caridea				
Family Alpheidae				
<i>Alpheus</i> sp.	-	-	-	-
Family Porcellanidae				
<i>Pachycheles</i> sp.	-	-	-	-
Infraorder Penaeidae				
Family Crangonidae				
Unidentified Crangonidae	-	-	-	-
Family Penaeidae				
<i>Penaeus</i> sp.	-	-	-	-
Unidentified Penaeidae	80	20	40	47
<i>Metapenaeus</i> sp.	-	-	-	-
Family Sergestidae				
Unidentified Sergestidae	20	-	40	20

Siriporn I.
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Report No. : 2009-00202 / 005-1 (page 6 of 8)

Issued date : April 20, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis SAMPLING DATE : March 30, 2009
 SAMPLING DEVICES : Smith and McIntyre Grab Sampler
 SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
 COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Decapoda				
Infraorder Mysidaceae				
Family Myidae				
Unidentified Myidae	20	20	20	20
Order Mysida				
Family Mysidae				
Unidentified Mysidae	-	-	-	-
Order Cumacea				
Family Bodotridae				
Unidentified Bodotridae	-	-	40	13
Family Diastylidae				
Unidentified Diastylidae	-	-	-	-
Family Gynodiastylidae				
Unidentified Gynodiastylidae	-	-	-	-
Order Amphipoda				
Family Ampeliscidae				
Unidentified Ampeliscidae	-	80	-	27
Family Amphithoidae				
Unidentified Amphithoidae	-	-	20	7
Family Gammaridae				
Unidentified Gammaridae	-	80	40	40
Family Hyalidae				
Unidentified Hyalidae	-	-	-	-
Family Liljeborgiidea				
Unidentified Liljeborgiidea	-	-	40	13

Siriporn I
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Report No. : 2009-00202 / 005-1 (page 7 of 8)

Issued date : April 20, 2009

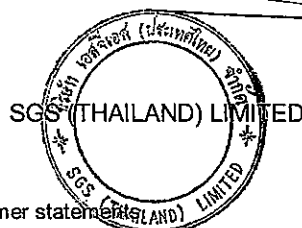
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Analysis Report

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SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Arthropoda (Cont'd)				
Class Malacostraca				
Order Amphipoda				
Family Oedicerotidae				
Unidentified Oedicerotidae	-	-	-	-
Family Vibiliidae				
<i>Vibilia</i> sp.	-	-	-	-
Order Isopoda				
Suborder Valvifera				
Unidentified Valvifera	-	-	-	-
Order Tanaidacea				
Suborder Tanaidomorpha				
Family Tanaidae				
Unidentified Tanaidae	-	-	-	-
Family Leptocheliidae				
<i>Heterotanaïs</i> sp.	-	-	-	-
Suborder Apseudomorpha				
Family Sphyrapidae				
Unidentified Sphyrapidae	20	-	-	7
Phylum Mollusca				
Class Gastropoda				
Family Cancellariidae				
Unidentified Cancellariidae	-	-	-	-
Family Haminoeidae				
<i>Atys</i> sp.	-	-	-	-

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Analysis Report

SAMPLE DESIGNATED AS : Benthos Analysis **SAMPLING DATE :** March 30, 2009
SAMPLING DEVICES : Smith and McIntyre Grab Sampler
SAMPLING LOCATION : Concession Block G6/48, Rossukon-2, Station 1
COORDINATION (WGS84) : 9° 28' 22.399" N, 101° 7' 3.172" E

Detail	Benthos (Ind/m ²)			
	Sample 1	Sample 2	Sample 3	Average
Phylum Mollusca (Cont'd)				
Class Bivalvia				
Order Veneroida				
Family Veneridae				
<i>Tapes</i> sp.	-	-	-	-
Class Scaphopoda				
Family Dentaliidae				
Unidentified Dentaliidae	20	20	-	13
Phylum Echinodermata				
Class Echinoidae				
Unidentified sea urchin	20	20	-	13
Order Echinoida				
Family Amphiuridae				
<i>Amphioplus</i> sp.	-	-	-	-
Unidentified Amphiuridae	-	-	-	-
Phylum Chordata				
Subphylum Vertebrata				
Class Actinopterygii				
Family Gobiidae				
Unidentified Gobiidae	-	-	-	-
Family Sciaenidae				
Unidentified Sciaenidae	-	-	-	-
Family Bregmacerotidae				
Unidentified Bregmacerotidae	-	-	-	-
Total Benthos Type	10	9	13	23
Total Benthos Amount	280	320	420	341

Siriporn I.
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 Environmental Manager

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Report No. : 2009-00051 / 006-1 (page 1 of 4)

Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Bioaccumulation Study
SAMPLING DEVICES : Fish Sampling
SAMPLING LOCATION : Concession Block G6/48
SAMPLE NAME : ปลาทรายแดง (*Nemipterus mesoprion*), Common Name = Mauvelip threadfin bream

SAMPLING DATE : February 1-11, 2009

Parameters	Unit	LOQ	Value					Standard	
			Sample 1	Sample 2	Sample 3	Sample 4	Sample 5		
Length	cm.	-	22.0	25.0	24.0	22.4	22.0	-	-
Weight	g.	-	136.78	180.16	154.41	117.35	140.82	-	-
Lead (Pb)	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.5 ^{1/}	1.0 ^{2/}
Cadmium (Cd)	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.2 ^{1/}	-
Mercury (Hg)	mg/kg	0.07	0.09	0.22	0.15	0.13	0.10	1.0 ^{1/}	0.5 ^{2/}
Total Arsenic (As)	mg/kg	0.01	1.03	3.69	2.35	2.10	1.24	-	-
Inorganic Arsenic*	mg/kg	-	-	-	-	-	-	-	2.0 ^{3/}

Remark : * The literature suggested that the Inorganic Arsenic contained in fish tissue is not more than 10 percents of Total Arsenic.

Sources : ^{1/} LOQ = Limit of Quantitation
Chemical Reference Criteria for Frozen Fishery Products, gathering data by Fish Inspection and Quality Control Division, Department of Fisheries.

Lead (Pb) refer to FDA Guidance Documents Commission Regulation (EC) No. 221/2002, and AQSII, GB184064-2001, GB2733-2005 and GB10132-2005.

Cadmium (Cd) refer to EU Commission, 2001, Commission Regulation (EC) No. 466/2001 Amend No.5 SZ-1, and AQSII, GB184064-2001, GB2733-2005 and GB10132-2005.

Mercury (Hg) refer to EU Commission, 2001, Commission Regulation (EC) No. 466/2001, and AQSII, GB184064-2001, GB2733-2005 and GB10132-2005.

^{2/} Notification of Ministry of Public Health, regarding Food contamination, Vol. 98, B.E. 2529

^{3/} Notification of Ministry of Public Health, regarding Food contamination, Vol. 273, B.E. 2546

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(Siriporn Imwilaiwan)
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Report No. : 2009-00051 / 006-1 (page 2 of 4)

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Analysis Report

SAMPLE DESIGNATED AS : Bioaccumulation Study
SAMPLING DEVICES : Fish Sampling
SAMPLING LOCATION : Concession Block G6/48
SAMPLE NAME : ปลาทรายแดง (*Nemipterus mesoprion*), Common Name = Mauvelip threadfin bream
SAMPLING DATE : February 1-11, 2009

Parameters	Unit	LOQ	Value					Standard	
			Sample 6	Sample 7	Sample 8	Sample 9	Sample 10		
Length	cm.	-	23.0	24.0	24.0	23.4	24.4	-	-
Weight	g.	-	141.23	160.44	141.78	151.76	161.38	-	-
Lead (Pb)	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.5 ^{1/}	1.0 ^{2/}
Cadmium (Cd)	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.2 ^{1/}	-
Mercury (Hg)	mg/kg	0.07	0.12	0.20	0.12	0.10	0.16	1.0 ^{1/}	0.5 ^{2/}
Total Arsenic (As)	mg/kg	0.01	3.61	2.22	1.11	0.77	1.56	-	-
Inorganic Arsenic*	mg/kg	-	-	-	-	-	-	-	2.0 ^{3/}

Remark : * The literature suggested that the Inorganic Arsenic contained in fish tissue is not more than 10 percents of Total Arsenic.

- LOQ = Limit of Quantitation

Sources : ^{1/} Chemical Reference Criteria for Frozen Fishery Products, gathering data by Fish Inspection and Quality Control Division, Department of Fisheries.

Lead (Pb) refer to FDA Guidance Documents Commission Regulation (EC) No. 221/2002, and AQSIQ, GB184064-2001, GB2733-2005 and GB10132-2005.

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Mercury (Hg) refer to EU Commission, 2001, Commission Regulation (EC) No. 466/2001, and AQSIQ, GB184064-2001, GB2733-2005 and GB10132-2005.

^{2/} Notification of Ministry of Public Health, regarding Food contamination, Vol. 98, B.E. 2529

^{3/} Notification of Ministry of Public Health, regarding Food contamination, Vol. 273, B.E. 2546

Siriporn L
 (Siriporn Imwilaiwan)
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SK/SA/BS/Pp



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 (Sompong Kiatiporn)
 Environmental Manager

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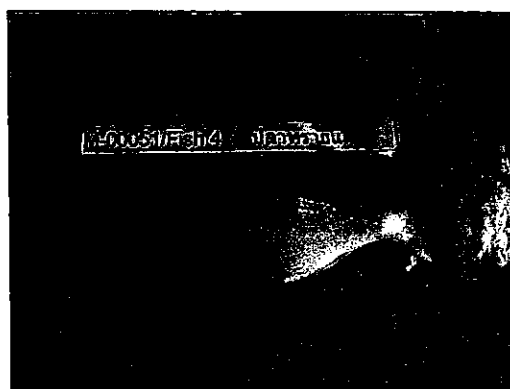
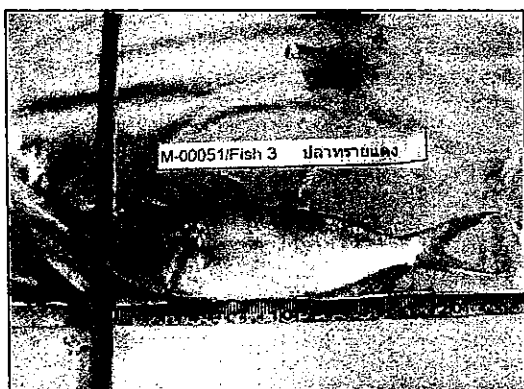
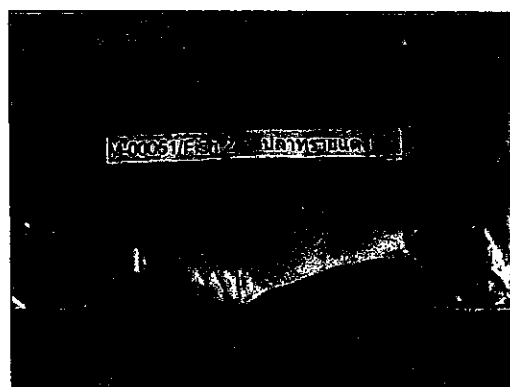
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Issued date : February 27, 2009

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Analysis Report

SAMPLE DESIGNATED AS : Bioaccumulation Study
 SAMPLING DEVICES : Fish Sampling
 SAMPLING LOCATION : Concession Block G6/48
 SAMPLE NAME : ปลาทรายแดง (*Nemipterus mesoprion*), Common Name = Mauvelip threadfin bream



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Report No. : 2009-00051 / 006-1 (page 4 of 4)

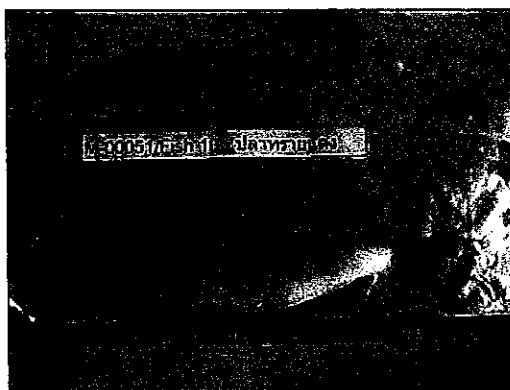
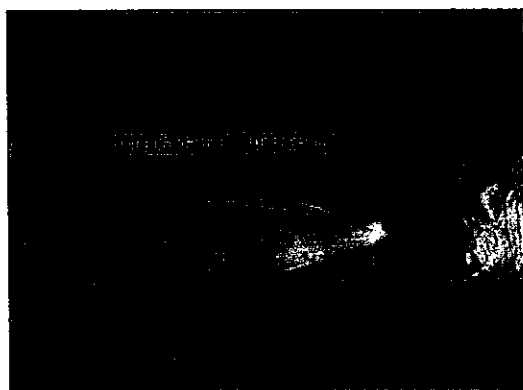
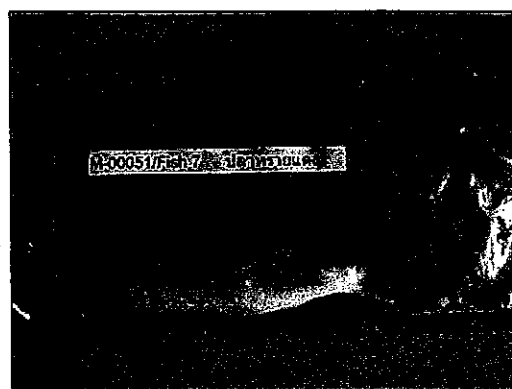
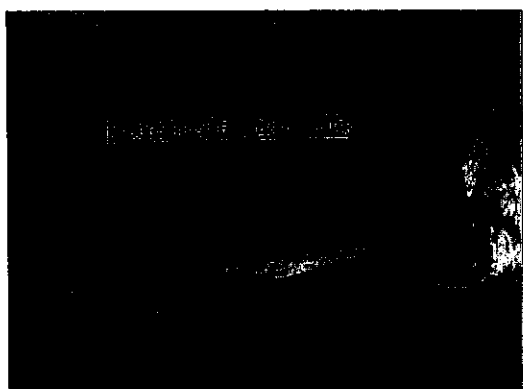
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Analysis Report

SAMPLE DESIGNATED AS : Bioaccumulation Study
SAMPLING DEVICES : Fish Sampling
SAMPLING LOCATION : Concession Block G6/48
SAMPLE NAME : ปลาทรายแดง (*Nemipterus mesoprion*), Common Name = Mauvelip threadfin bream

SAMPLING DATE : February 1-11, 2009



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Report No. : 2009-00051 / 006-2 (page 1 of 4)

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Analysis Report

SAMPLE DESIGNATED AS : Bioaccumulation Study
SAMPLING DEVICES : Fish Sampling
SAMPLING LOCATION : Concession Block G6/48
SAMPLE NAME : ปลาปากค้ม (*Saurida tumbil*), Common Name = Greater lizardfish
SAMPLING DATE : February 1-11, 2009

Parameters	Unit	LOQ	Value					Standard	
			Sample 1	Sample 2	Sample 3	Sample 4	Sample 5		
Length	cm.	-	28.0	25.4	28.0	33.0	21.0	-	-
Weight	g.	-	135.78	71.36	104.52	171.40	60.64	-	-
Lead (Pb)	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.5 ^{1/}	1.0 ^{2/}
Cadmium (Cd)	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.2 ^{1/}	-
Mercury (Hg)	mg/kg	0.07	0.03	0.05	0.04	0.06	0.03	1.0 ^{1/}	0.5 ^{2/}
Total Arsenic (As)	mg/kg	0.01	0.43	0.81	1.19	1.44	2.32	-	-
Inorganic Arsenic*	mg/kg	-	-	-	-	-	-	-	2.0 ^{3/}

Remark : * The literature suggested that the Inorganic Arsenic contained in fish tissue is not more than 10 percents of Total Arsenic.

- LOQ = Limit of Quantitation

Sources : ^{1/} Chemical Reference Criteria for Frozen Fishery Products, gathering data by Fish Inspection and Quality Control Division, Department of Fisheries.

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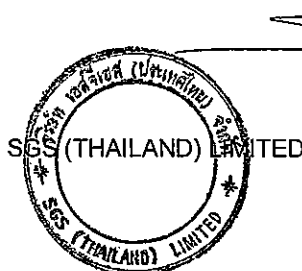
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^{2/} Notification of Ministry of Public Health, regarding Food contamination, Vol. 98, B.E. 2529

^{3/} Notification of Ministry of Public Health, regarding Food contamination, Vol. 273, B.E. 2546

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Report No. : 2009-00051 / 006-2 (page 2 of 4)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Bioaccumulation Study **SAMPLING DATE :** February 1-11, 2009
SAMPLING DEVICES : Fish Sampling
SAMPLING LOCATION : Concession Block G6/48
SAMPLE NAME : ปลาปากคม (*Saurida tumbil*), Common Name = Greater lizardfish

Parameters	Unit	LOQ	Value					Standard	
			Sample 6	Sample 7	Sample 8	Sample 9	Sample 10		
Length	cm.	-	27.0	21.4	25.4	23.8	22.0	-	-
Weight	g.	-	127.43	52.72	78.56	88.49	48.83	-	-
Lead (Pb)	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.5 ^{1/}	1.0 ^{2/}
Cadmium (Cd)	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.2 ^{1/}	-
Mercury (Hg)	mg/kg	0.07	0.08	0.02	0.03	0.02	0.03	1.0 ^{1/}	0.5 ^{2/}
Total Arsenic (As)	mg/kg	0.01	1.86	0.85	1.03	0.77	0.96	-	-
Inorganic Arsenic*	mg/kg	-	-	-	-	-	-	-	2.0 ^{3/}

Remark : * The literature suggested that the Inorganic Arsenic contained in fish tissue is not more than 10 percents of Total Arsenic.

- LOQ = Limit of Quantitation

Sources : ^{1/} Chemical Reference Criteria for Frozen Fishery Products, gathering data by Fish Inspection and Quality Control Division, Department of Fisheries.

Lead (Pb) refer to FDA Guidance Documents Commission Regulation (EC) No. 221/2002, and AQSIS, GB184064-2001, GB2733-2005 and GB10132-2005.

Cadmium (Cd) refer to EU Commission, 2001, Commission Regulation (EC) No. 466/2001 Amend No.5 SZ-1, and AQSIS, GB184064-2001, GB2733-2005 and GB10132-2005.

Mercury (Hg) refer to EU Commission, 2001, Commission Regulation (EC) No. 466/2001, and AQSIS, GB184064-2001, GB2733-2005 and GB10132-2005.

^{2/} Notification of Ministry of Public Health, regarding Food contamination, Vol. 98, B.E. 2529

^{3/} Notification of Ministry of Public Health, regarding Food contamination, Vol. 273, B.E. 2546

Siriporn 2
 (Siriporn Imwilaiwan)
 License ID : ๗-010-ค-1793

SK/SA/BS/Pp



(Signature)
 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 006-2 (page 3 of 4)

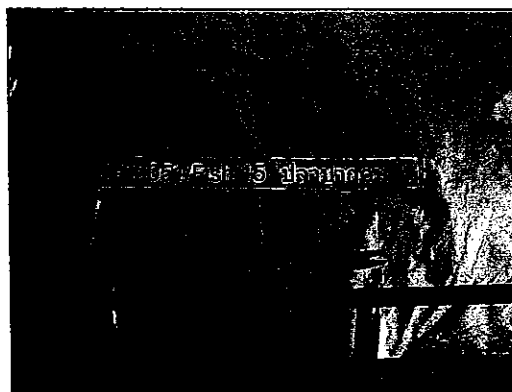
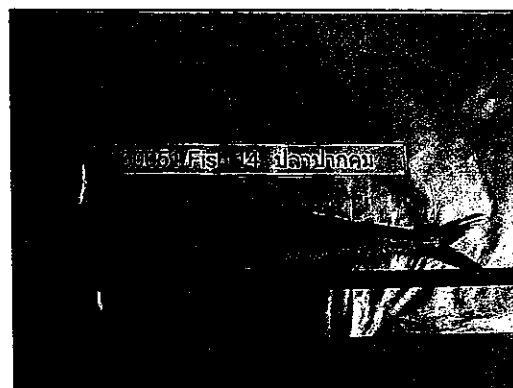
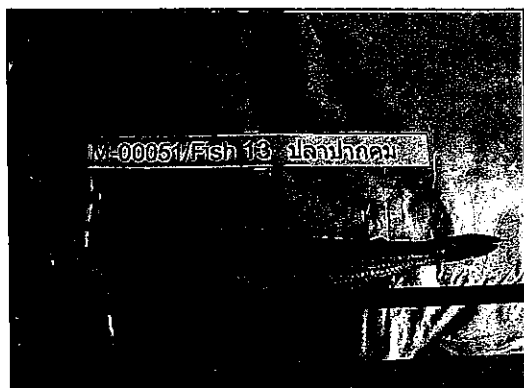
Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Bioaccumulation Study
SAMPLING DEVICES : Fish Sampling
SAMPLING LOCATION : Concession Block G6/48
SAMPLE NAME : ปลาปากคม (*Saurida tumbil*), Common Name = Greater lizardfish

SAMPLING DATE : February 1-11, 2009



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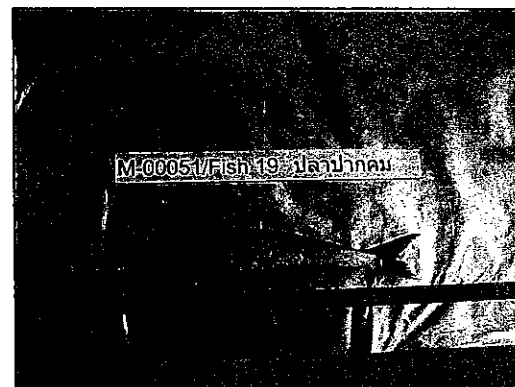
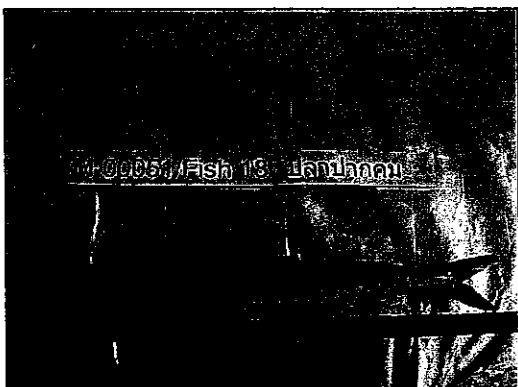
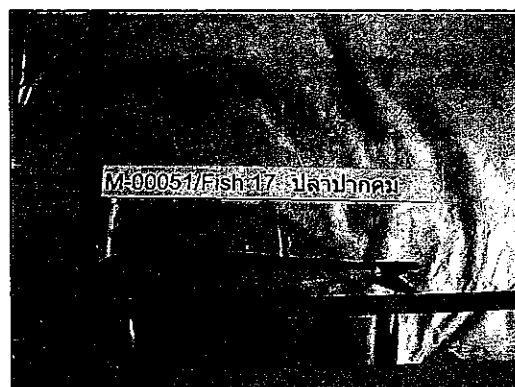
Report No. : 2009-00051 / 006-2 (page 4 of 4)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
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Analysis Report

SAMPLE DESIGNATED AS : Bioaccumulation Study
SAMPLING DEVICES : Fish Sampling
SAMPLING LOCATION : Concession Block G6/48
SAMPLE NAME : ปลาปากคม (*Saurida tumbil*), Common Name = Greater lizardfish
SAMPLING DATE : February 1-11, 2009



This report is issued in accordance to the disclaimer statements.

Report No. : 2009-00051 / 006-3 (page 1 of 4)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Bioaccumulation Study
SAMPLING DEVICES : Fish Sampling
SAMPLING LOCATION : Concession Block G6/48
SAMPLE NAME : ปลาเก๋ำจุดน้ำดาด (*Cephalopholis tauvina*), Common Name = Greasy Grouper
SAMPLING DATE : February 1-11, 2009

Parameters	Unit	LOQ	Value					Standard	
			Sample 1	Sample 2	Sample 3	Sample 4	Sample 5		
Length	cm.	-	33.0	31.4	32.6	33.0	31.5	-	-
Weight	g.	-	414.97	341.26	401.69	427.83	432.03	-	-
Lead (Pb)	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.5 ^{1/}	1.0 ^{2/}
Cadmium (Cd)	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.2 ^{1/}	-
Mercury (Hg)	mg/kg	0.07	0.07	0.09	0.07	0.06	0.03	1.0 ^{1/}	0.5 ^{2/}
Total Arsenic (As)	mg/kg	0.01	1.43	0.47	1.43	0.83	0.17	-	-
Inorganic Arsenic*	mg/kg	-	-	-	-	-	-	-	2.0 ^{3/}

Remark : * The literature suggested that the Inorganic Arsenic contained in fish tissue is not more than 10 percents of Total Arsenic.

-^{1/} LOQ = Limit of Quantitation

Sources : ^{1/} Chemical Reference Criteria for Frozen Fishery Products, gathering data by Fish Inspection and Quality Control Division, Department of Fisheries.

Lead (Pb) refer to FDA Guidance Documents Commission Regulation (EC) No. 221/2002, and AQSIQ, GB184064-2001, GB2733-2005 and GB10132-2005.

Cadmium (Cd) refer to EU Commission, 2001, Commission Regulation (EC) No. 466/2001 Amend No.5 SZ-1, and AQSIQ, GB184064-2001, GB2733-2005 and GB10132-2005.

Mercury (Hg) refer to EU Commission, 2001, Commission Regulation (EC) No. 466/2001, and AQSIQ, GB184064-2001, GB2733-2005 and GB10132-2005.

^{2/} Notification of Ministry of Public Health, regarding Food contamination, Vol. 98, B.E. 2529

^{3/} Notification of Ministry of Public Health, regarding Food contamination, Vol. 273, B.E. 2546

Siriporn Imwilaiwan
 (Siriporn Imwilaiwan)
 License ID : 2-010-ค-1793



Sompong Kiatiporn
 (Sompong Kiatiporn)
 Environmental Manager

SK/SA/BS/Pp

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Report No. : 2009-00051 / 006-3 (page 2 of 4)

Issued date : February 27, 2009

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 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Bioaccumulation Study
SAMPLING DEVICES : Fish Sampling
SAMPLING LOCATION : Concession Block G6/48
SAMPLE NAME : ปลาเก๋จันทาล (Cephalopholis tauvina), Common Name = Greasy Grouper
SAMPLING DATE : February 1-11, 2009

Parameters	Unit	LOQ	Value					Standard	
			Sample 6	Sample 7	Sample 8	Sample 9	Sample 10		
Length	cm.	-	30.0	32.4	30.4	32.4	30.6	-	-
Weight	g.	-	392.35	423.23	347.92	406.20	420.72	-	-
Lead (Pb)	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.5 ^{1/}	1.0 ^{2/}
Cadmium (Cd)	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.2 ^{1/}	-
Mercury (Hg)	mg/kg	0.07	0.04	0.06	0.06	0.10	0.03	1.0 ^{1/}	0.5 ^{2/}
Total Arsenic (As)	mg/kg	0.01	0.22	2.52	0.43	1.07	0.48	-	-
Inorganic Arsenic*	mg/kg	-	-	-	-	-	-	-	2.0 ^{3/}

Remark : * The literature suggested that the Inorganic Arsenic contained in fish tissue is not more than 10 percents of Total Arsenic.

Sources : ^{1/} LOQ = Limit of Quantitation
^{1/} Chemical Reference Criteria for Frozen Fishery Products, gathering data by Fish Inspection and Quality Control Division, Department of Fisheries.


Lead (Pb) refer to FDA Guidance Documents Commission Regulation (EC) No. 221/2002, and AQSII, GB184064-2001, GB2733-2005 and GB10132-2005.

Cadmium (Cd) refer to EU Commission, 2001, Commission Regulation (EC) No. 466/2001 Amend No.5 SZ-1, and AQSII, GB184064-2001, GB2733-2005 and GB10132-2005.

Mercury (Hg) refer to EU Commission, 2001, Commission Regulation (EC) No. 466/2001, and AQSII, GB184064-2001, GB2733-2005 and GB10132-2005.

^{2/} Notification of Ministry of Public Health, regarding Food contamination, Vol. 98, B.E. 2529

^{3/} Notification of Ministry of Public Health, regarding Food contamination, Vol. 273, B.E. 2546


 (Siriporn Imwilaiwan)
 License ID : ๗-010-ค-1793

SK/SA/BS/Pp




 (Sompong Kiatiporn)
 Environmental Manager

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Report No. : 2009-00051 / 006-3 (page 3 of 4)

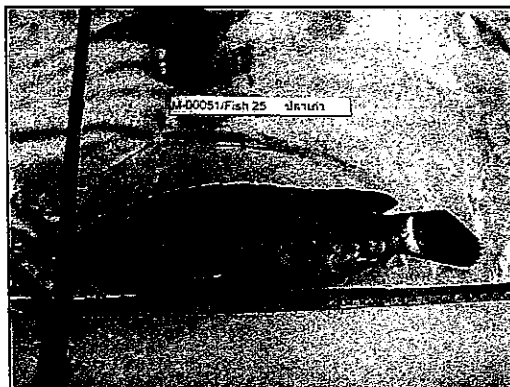
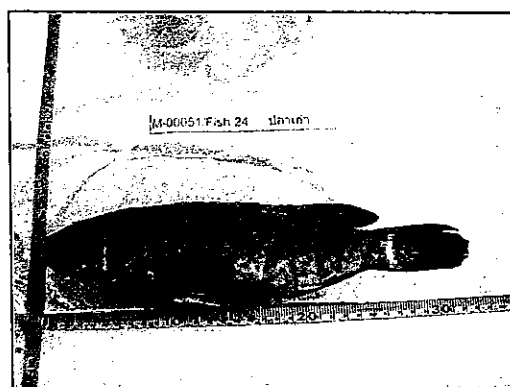
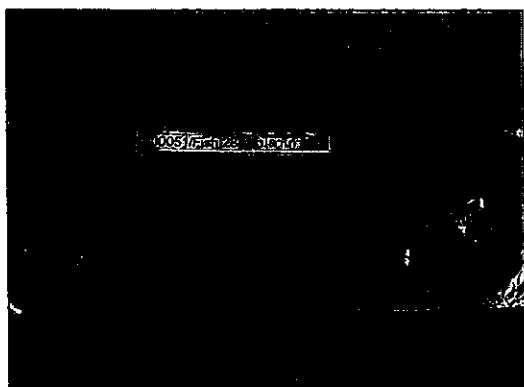
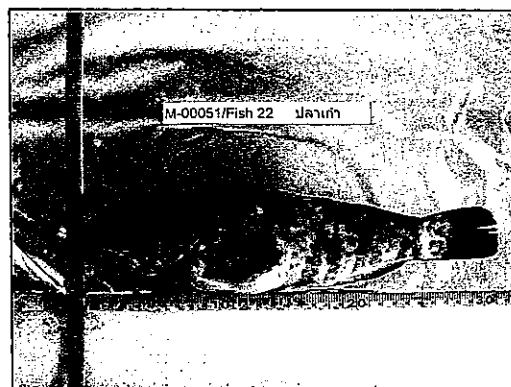
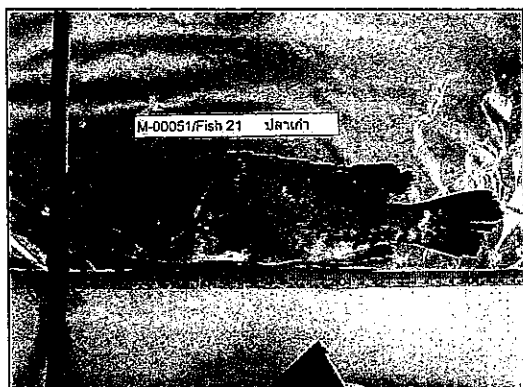
Issued date : February 27, 2009

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ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
 Tel. +66 (0)2 792 1721 Fax. +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Bioaccumulation Study
SAMPLING DEVICES : Fish Sampling
SAMPLING LOCATION : Concession Block G6/48
SAMPLE NAME : ปลาเก๋จูดน้ำตาด (*Cephalopholis tauvina*), Common Name = Greasy Grouper

SAMPLING DATE : February 1-11, 2009



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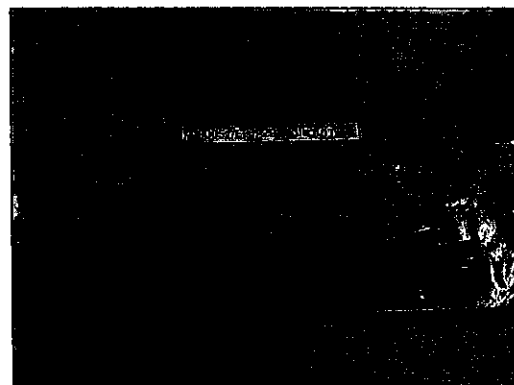
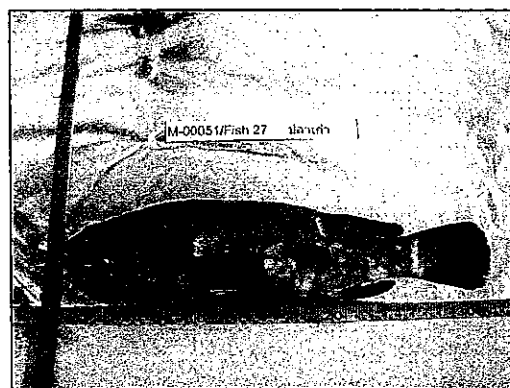
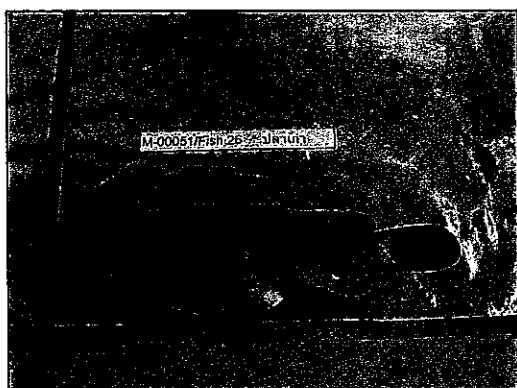
Report No. : 2009-00051 / 006-3 (page 4 of 4)

Issued date : February 27, 2009

CLIENT : PEARL OIL (THAILAND) LTD.
CONTACT : Khun Morakot Suvarnapruksa
ADDRESS : 10th Floor, SCB Park Plaza, West Tower, 18 Ratchadapisek Road, Chatuchak, Bangkok 10900
Tel. +66 (0)2 792 1721 **Fax.** +66 (0)2 792 1719

Analysis Report

SAMPLE DESIGNATED AS : Bioaccumulation Study **SAMPLING DATE :** February 1-11, 2009
SAMPLING DEVICES : Fish Sampling
SAMPLING LOCATION : Concession Block G6/48
SAMPLE NAME : ปลาเก๋ำจุดน้ำตาล (*Cephalopholis tauvina*), Common Name = Greasy Grouper



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6.2 ใบรับรองเครื่องมือตรวจวิเคราะห์

(ดูเอกสารในหน้าถัดไป)



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CALIBRATION SERVICES AND ENVIRONMENTAL ANALYSIS DEPARTMENT

534/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250

TEL. 0-2717-3000-24 FAX. 0-2719-9484



CALIBRATION
No.0008

Cert.No.: 08CPO136

Page.: 1 of 2

Certificate of Calibration

Equipment : pH Meter
Model : MP225
Serial No. : 212009
ID No. : P2002011
Manufacturer : Mettler Toledo
Made in : Switzerland
Submitted by : SGS (Thailand) Co.,Ltd.
41/23 Soi Rama 3 59, Rama 3 Road, Chongnonsee,
Yannawa,Bangkok 10120
Ambient Temperature : (24.2 - 23.7) °C (On-Site)
Relative Humidity : (56 - 53) %RH (On-Site)
Calibration Procedure: In-house method : CP-EC18/12
based on direct measurement by
using standard voltage calibrator and
certified reference material (CRM)

Calibrated by :



Approved by :

Approved Signatory

()
(✓)
()



Issue Date :

02 July 2008

The uncertainties are for a confidence probability of approximately 95%.

This certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation Scheme which has assessed the measurement capability of the laboratory and its traceability to recognised national standards and to the units of measurement realised at the corresponding national standards laboratory. This certificate may not be reproduced other than in full, except with the prior written approval of the head of Calibration services and environmental analysis department.



Equipment : pH Meter
Model : MP225
Serial No. : 212009
ID No. : P2002011
Manufacturer : Mettler Toledo
Received Date : 28 June 2008
Condition As-Received: Used Item
Calibration Date : 28 June 2008
Calibration Place : Chemical/ Mineral/ Environmental
Reference : 806-9110C

Cert.No.: 08CPO136

Page.: 2 of 2

Condition of this calibration result

1. Reference Standard Instrument : Calibrator Thermometer ID No.104/T05
Certificate No.071922 Due Date 23 Aug 2008
2. Reference Standard Instrument : Calibrator Fluke 701 S/N. 6440311
Certificate No.07E1996 Due Date 21 Aug 2008
(Traceable to National Institute of Metrology(Thailand),NIMT)
3. Reference Standard Materials : Certified secondary standard reference buffer solution
(Directly measured by differential potentiometry with the aid of two platinum hydrogen electrodes "quasi without transference" against solutions prepared from primary reference materials from PTB and NIST)

<u>Material</u>	<u>Manufacturer</u>	<u>Lot. No.</u>	<u>Exp. date</u>
pH 4.008	Merck	HC751843	31 May 2010
pH 6.864	Merck	HC756331	30 June 2010
pH 9.182	Merck	HC765714	31 Aug 2010

4. This certificate was certified only for the instrument we calibrated.
5. This result of calibration was found accurate as shown on date and place of calibration only.

Calibration Results

Performing standard curve by Fluke 701 at pH (4,7,10)

Unit Under Calibration	Nominal Value	Standard Voltage Input	Actual Reading		Uncertainty (mV)	K Factor
	pH	mV	mV	pH		
pH Meter S/N : 212009	4	177.48	176	4.01	± 0.58	2
	7	0.00	0	7.00	± 0.58	2
	10	-177.48	-177	10.00	± 0.58	2

Performing three – buffer standard curve using buffer nominal pH (4,7,9)

Unit Under Calibration	Standard pH Buffer Solution	Actual pH Reading	Actual mV Reading	Uncertainty of pH Measurement (pH)	K Factor
pH Electrode No.8172134	4.008	4.02	174	± 0.010	2
	6.864	6.87	7	± 0.017	2
	9.182	9.17	-127	± 0.049	2

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

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Auth.

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TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CALIBRATION SERVICES AND ENVIRONMENTAL ANALYSIS DEPARTMENT

534/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250

TEL. 0-2717-3000-24 FAX. 0-2719-9484



CALIBRATION
No.0008


Cert.No.: 08MM78

Page.: 1 of 3

Certificate of Calibration

Equipment : Electronic Balance
Model : AG204
Serial No. : 1121122818
ID No. : B2002004
Manufacturer : Mettler Toledo
Submitted by : SGS (Thailand) Limited,
41/23 Soi Rama III 59, Rama III Road,
Chongnonsee, Yannawa,
Bangkok 10120
Location : Chemical Lab
Ambient Temperature : (25 ± 10) °C
Relative Humidity : (60 ± 30) %
Calibrated by : [REDACTED]

Approved by :


Approved Signatory

()
(✓)
()

Issue Date :

14 February 2008

The uncertainties are for a confidence probability of approximately 95%.

This certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation Scheme which has assessed the measurement capability of the laboratory and its traceability to recognised national standards and to the units of measurement realised at the corresponding national standards laboratory. This certificate may not be reproduced other than in full, except with the prior written approval of the head of Calibration services and environmental analysis department.



Equipment : Electronic Balance
Manufacturer : Mettler Toledo
Model : AG204
Serial No. : 1121122818
ID No.: B2002004
Received order : 13 February 2008
Condition As-Received : Used Item
Calibration Date : 13 February 2008
Reference : 802-414-1 OC
Procedure used :-

Cert.No.: 08MM78
Page: 2 of 3

Calibration were conducted using in-house calibration procedure CP-OB01 according to direct measurement method against standard weight.

Condition of this result of calibration

1. Reference standard instruments:-

Instruments	Model	Serial No.	ID No.	Test report No.	Due date
1) Standard Weights E2	15884	24053	70RC007	MM-0112/07	17 Aug 2009
2) Standard Weights E2	15844	-	70RC068	MM-0038/07	22 Mar 2009
3) Standard Weights E2	15845	-	70RC069	MM-0037/07	22 Mar 2009

2. This result of calibration was found accurate as shown on date and place of calibration only.

3. This result of calibration was made on requested at the point specified by customer.

4. This certificate is not certified for any commercial transaction.

5. This certification is traceable to the International System of Unit maintained at:-

- National Institute of Metrology (Thailand).

Result of calibration () Without Adjustment (*) After Adjustment by Internal Calibration

Range capacity : 0 g to 210 g **Resolution** 0.0001 g

Before Adjustment :

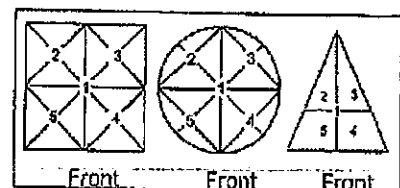
Applied Weight (g)	Balance Reading (g)	Correction (g)	Measurement Uncertainty (\pm mg)	Coverage Factor (k)
100	99.9998	+0.0002	0.19	2.03
200	199.9995	+0.0005	0.31	2.00

After Adjustment :

1. Determination of the standard deviation of weighing machine

(n = 10)

Applied Weight (g)	Standard Deviation of Reading (g)
100	0.00007
200	0.00010



2. Effect of off center loading

A mass of 50 g was placed to various position on the pan.
The weighing machine reading error obtained is given in the table

Position 1 (g)	Position 2 (g)	Position 3 (g)	Position 4 (g)	Position 5 (g)	Maximum difference between off-center and central loading (g)
+0.0001	-0.0001	+0.0002	0.0000	-0.0001	0.0002



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CALIBRATION SERVICES AND ENVIRONMENTAL ANALYSIS DEPARTMENT

334/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250

TEL. 0-2717-3000-24 FAX. 0-2719-9484






CALIBRATION
No.0008

Cert.No.: 08CC138

Page.: 1 of 2

Certificate of Calibration

Equipment : Conductivity Meter
Model : Sension 7
Serial No. : 020500002506
ID No. : C2002002
Manufacturer : Hach
Made in : USA
Submitted by : SGS (Thailand) Co.,Ltd.
41/23 Soi Rama 3 59, Rama 3 Road,
Chongnonsee, Yannawa, Bangkok 10120
Ambient Temperature : $(25 \pm 2.5) ^\circ\text{C}$
Relative Humidity : $(50 \pm 15) \%$
Calibration Procedure: In-house method : CP-EC18/06
based on direct measurement by
using certified reference material (CRM)
Calibrated by : 
Approved by : 
Approved Signatory
(☒) 
()
()
Issue Date : 24 June 2008

The uncertainties are for a confidence probability of approximately 95%.

This certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation Scheme which has assessed the measurement capability of the laboratory and its traceability to recognised national standards and to the units of measurement realised at the corresponding national standards laboratory. This certificate may not be reproduced other than in full, except with the prior written approval of the head of Calibration services and environmental analysis department.



Equipment : Conductivity Meter
Model : Sension 7
Serial No. : 020500002506
ID No. : C2002002
Manufacturer : Hach
Received Date : 17 June 2008
Condition As-Received: Used Item
Calibration Date : 20 June 2008
Reference : 806-636WC

Cert.No.: 08CC138
Page.: 2 of 2

Condition of this result of calibration

1. Reference Standard Instrument :-

<u>Instrument</u>	<u>Model</u>	<u>Serial No.</u>	<u>ID. No.</u>	<u>Certificate No.</u>	<u>Due date</u>
1) Thermometer	-	-	073/T00	0711425	13 Dec 2008

This certification is traceable to the International System of Unit through the reference standards laboratory of Industrial Calibration Center, Technology Promotion Association (Thailand-Japan).

2. Reference Standard Material :-

- Conductivity calibration solution (traceable to PTB, Germany)
- Control Conductivity calibration solution temperature by Water bath $(25 \pm 0.1) ^\circ\text{C}$

<u>Material</u>	<u>Manufacturer</u>	<u>Lot. No.</u>	<u>Exp. date</u>
147 $\mu\text{S/cm}$	Merck	HC784256	30 Nov 2010
1415 $\mu\text{S/cm}$	Merck	HC752715	31 May 2010
12.88 mS/cm	Merck	HC752811	31 May 2010

3. This certificate was certified only for the instrument we calibrated.

4. This result of calibration was found accurate as shown on data and place of calibration only.

Calibration results (*) After Adjustment at 147 $\mu\text{S/cm}$

Conductivity Meter Electrode No. 51975-00 CND 2099 012

Standard Conductivity Solution	Before Adjustment Reading	After Adjustment Reading	Uncertainty Of Measurement
147 $\mu\text{S/cm}$	146.1 $\mu\text{S/cm}$	147.6 $\mu\text{S/cm}$	± 1.1 $\mu\text{S/cm}$
1415 $\mu\text{S/cm}$	1392 $\mu\text{S/cm}$	1411 $\mu\text{S/cm}$	± 12 $\mu\text{S/cm}$
12.88 mS/cm	12.53 mS/cm	12.70 mS/cm	± 0.11 mS/cm

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor $k = 2$, providing a level of confidence of approximately 95 %.

-o0o-

Panthippa

0201400



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CALIBRATION SERVICES AND ENVIRONMENTAL ANALYSIS DEPARTMENT

534/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250

TEL. 0-2717-3000-24 FAX. 0-2719-9484




CALIBRATION
No.0008


Cert. No.: 08TM1387

Page.: 1 of 3

Certificate of Calibration

Equipment : Hot Air Oven
Model : ED 240
Serial No. : 970246
ID No. : 01998002
Manufacturer : Binder
Submitted by : SGS (Thailand) Co.,Ltd.
41/23 Soi Rama III 59, Rama III Road,
Chongnonsee, Yannawa
Bangkok 10120
Location : Chemical Laboratory (Hot Room)
Ambient Temperature : (26 ± 10) °C
Relative Humidity : (60 ± 30) %
Calibrated by : 

Approved by :


Approved Signatory

()
(✓)
()

Issue Date :

12 June 2008

The uncertainties are for a confidence probability of approximately 95%.

This certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation Scheme which has assessed the measurement capability of the laboratory and its traceability to recognised national standards and to the units of measurement realised at the corresponding national standards laboratory. This certificate may not be reproduced other than in full, except with the prior written approval of the head of Calibration services and environmental analysis department.



Equipment : Hot Air Oven
Model : ED 240
Serial No. : 970246
ID No. : O1998002
Manufacturer : Binder
Received Order : 2 June 2008
Condition As-Received : Used Item
Calibrated Date : 4 June 2008
Reference : 806-052-2 OC

Cert. No.: 08TM1387
Page.: 2 of 3

Procedure used :-

Calibration were conducted using in-house calibration procedure CP-OT02 according to direct measurement method with Data Acquisition which connected with Thermocouple Type T ID No.: OT11101 - OT11110 serially.

The temperature scale used was based on ITS-90.

Condition of this result of calibration

1. Reference standard instrument:-

<u>Instrument</u>	<u>Model</u>	<u>Serial No.</u>	<u>Cert No.</u>	<u>Due Date</u>
1) Data Acquisition	34970A	MY41016836	071702	19 June 2008

2. This result of calibration was found accurate as shown on date and place of calibration only.

3. This certification is traceable to the International System of Unit maintained at:-

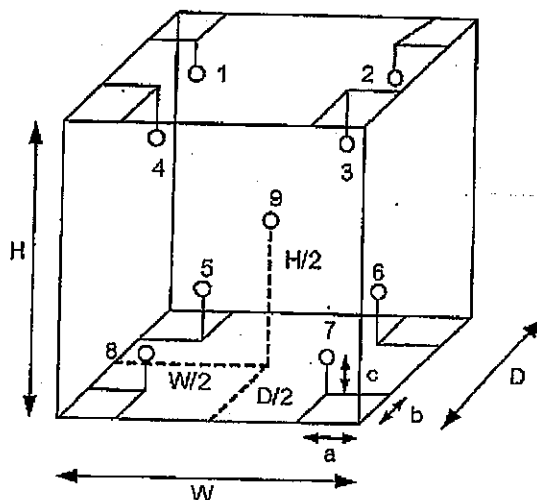
- The National Institute of Metrology (Thailand) NIMT.
- National Measurement Institute (NMI) Australia through the reference standards laboratory of Thai Airways International Public Co.,Ltd.

Result of Calibration :- (*) Without Adjustment

Function of UUC* : Temperature Source

Fresh air setting : Position 0

	<u>Environmental</u>		<u>AC Voltage Supply</u>
	<u>°C</u>	<u>%R.H.</u>	<u>Volt</u>
Beginning of Calibration	30	45	223
End of Calibration	31	46	224



Probe Installation Details :

$a \times b \times c = 5 \text{ cm} \times 5 \text{ cm} \times 5 \text{ cm}$

ut

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Equipment : Hot Air Oven
Model : ED 240
Serial No. : 970246
ID No. : O1998002
Manufacturer : Binder
Received Order : 2 June 2008
Condition As-Received : Used Item
Calibrated Date : 4 June 2008
Reference : 806-052-2 OC
Result of Calibration :- (*) Without Adjustment
Function of UUC* : Temperature Source

Cert. No.: 08TM1387

Page.: 3 of 3

Calibration Point (°C)	UUC* Setting (°C)	UUC* Reading (°C)	Average* Standard Reading (°C)								
			Position								
			1	2	3	4	5	6	7	8	9
45	45	45	45.693	45.768	45.602	45.534	45.222	45.445	45.646	45.284	45.410
105	106	106	106.911	106.426	106.304	106.437	103.837	104.277	105.547	104.643	104.905
150	151	151	152.181	151.679	151.299	151.432	147.424	148.053	150.037	148.962	149.120
180	181	181	182.519	182.206	181.525	181.497	176.704	177.607	179.822	178.773	178.973

Calibration Point (°C)	Temperature stability (± °C)	Temperature uniformity (°C)	Uncertainty of measurement (± °C)	Coverage Factor k
45	0.18	0.63	0.82	2.00
105	0.25	3.3	0.95	2.00
150	0.37	4.9	1.2	2.00
180	1.0	6.4	1.7	2.00

Average* : The average of 30 values in each position.

Temperature uniformity : The maximum difference of measured temperatures between 9 probes which are observed at the same time or at close observation time as possible to determine the temperature pattern or homogeneity within the chamber at steady-state.

Temperature stability : The one-half of greatest maximum difference of measured temperature at any one probe.

UUC* : Unit Under Calibration

Note : The reported uncertainty of measurement were excluded uniformity and stability.

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

-000-

CE



Equipment : Electronic Balance
Manufacturer : Mettler Toledo
Model : AG204
Serial No. : 1121122818
ID No. : B2002004
Received order : 13 February 2008
Condition As-Received : Used Item
Calibration Date : 13 February 2008
Reference : 802-414-1 OC

Cert.No.: 08MM78

Page: 3 of 3

Result of calibration

3. Departure from nominal value

<u>Applied Weight</u> (g)	<u>Balance Reading</u> (g)	<u>Correction</u> (g)	<u>Measurement Uncertainty</u> (\pm mg)	<u>Coverage Factor</u> (k)
Unload	0.0000	0.0000	0.14	2.20
0.1	0.0999	+0.0001	0.14	2.20
0.2	0.2001	-0.0001	0.14	2.20
0.5	0.4999	+0.0001	0.14	2.20
1	1.0000	0.0000	0.14	2.20
5	5.0001	-0.0001	0.14	2.17
10	10.0001	-0.0001	0.14	2.17
20	20.0001	-0.0001	0.14	2.15
50	50.0000	0.0000	0.15	2.11
100	99.9998	+0.0002	0.19	2.03
150	149.9999	+0.0001	0.29	2.03
200	199.9997	+0.0003	0.31	2.00

4. Hysteresis

<u>Applied Weight</u> (g)	<u>Hysteresis</u> (g)
100	0.00007

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

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Verification Report

NOMENCLATURE : 1. Inductively Coupled Plasma Spectrometer(ICP) "Varience" Model VISTA-MPX

Serial No. EL05054091

2. Working standard solution "MERCK" Lead Lot No. 1A-L08001/1

CALIBRATION PROCEDURE : Verification ICP method LBCH-08484

REFERENCE STANDARDS(SRM) : "NIST" Lead Lot No. 030721

CALIBRATION RANGE : 0.20,0.50,1.00,5.00,10.00 mg/L at 220.353 nm

CALIBRATION DATE : March 31,2008

REPRODUCIBILITY OF WORKING STANDARD

	Pb 0.2mg/L	Pb 0.5mg/L	Pb 1.0 mg/L	Pb 5.0 mg/L	Pb 10.0 mg/L
	10.33	27.13	46.32	233.0	462.9
	10.72	27.08	48.28	233.0	464.4
	11.13	23.69	47.36	233.4	462.1
	10.50	23.77	47.71	232.2	464.7
	10.90	24.58	48.43	233.0	465.1
	11.07	23.49	48.25	233.2	464.6
	10.78	24.53	47.33	231.4	463.3
	11.03	24.40	48.30	232.3	466.6
	11.07	24.17	47.79	234.4	463.7
	11.01	24.71	46.70	233.5	464.3
MEAN	10.9	24.8	47.6	232.9	464.2
SD	0.27	1.30	0.72	0.82	1.26
%RSD	2.48	5.27	1.51	0.35	0.27

RSQ OF WORKING STD CURVE FOR READ STD CRM

mg/L	0.2	0.5	1	5	10	RSQ
	0.193	0.483	0.963	5.003	9.978	
	0.202	0.482	1.006	5.004	10.01	
	0.188	0.474	0.986	5.011	9.962	
	0.197	0.475	0.993	4.986	10.02	
	0.200	0.493	1.009	5.004	10.03	
Pb	0.197	0.485	0.993	5.001	10.000	1.0000

TABLE READING STD CRM FROM WORKING STD CURVE

Standard value of CRM(mg/L)	Reading(mg/L)	Error of measurement(mg/L)	% Accuracy
Pb	0	0	0
	0.2	0.197	-0.003
	0.5	0.485	-0.016
	1	0.993	-0.007
	5	5.001	0.001
	10	10.000	0

Verification Report

Instrument Name : Inductively Coupled Plasma Spectrometer(ICP) "Varience" Model VISTA-MPX

Verify elementPb.....Wavelength ...220.353 nm.....

1.0 precision(% RSD)							
Conc.(mg/kg)	Spec Value	Final value	Result				
0.2	≤ 10	2.48	/	Pass		Fail	
0.5	≤ 10	5.27	/	Pass		Fail	
1	≤ 10	1.51	/	Pass		Fail	
5	≤ 10	0.35	/	Pass		Fail	
10	≤ 10	0.27	/	Pass		Fail	

2.0 Accuracy(% Recovery)							
Conc.(mg/kg)	Spec Value	Final value	Result				
0.2	90-110 %	98.3	/	Pass		Fail	
0.5	90-110 %	96.9	/	Pass		Fail	
1	90-110 %	99.3	/	Pass		Fail	
5	90-110 %	100.0	/	Pass		Fail	
10	90-110 %	100.0	/	Pass		Fail	

3.0 Calibration curve(r)							
	Spec Value	Final value	Result				
	≥ 0.995	1.0000	/	Pass		Fail	

Verify by.....Melap Y...... Date31/04/04.....

Approve by.....(Signature)..... Date31/03/05.....



บริษัท เพทโท-อินสตรูเมนต์ จำกัด
PETRO-INSTRUMENTS CORP., LTD.

7/409 ซ.วิภาวดีรังสิต 36 ถ.วิภาวดีรังสิต แขวงจตุจักร เขตจตุจักร กรุงเทพฯ 10900

7/409 Soi Vibhavadi-Rangsit 36, Vibhavadi-Rangsit Rd., Chatuchak, Chatuchak, Bangkok 10900, Thailand.

TEL : (662) 9395711 (12 Lines), 5132333 (12 Lines), 5139575-9 FAX : (662) 9394207, 9394208

http://www.pico.co.th E-mail-address : pico@pico.co.th

CERTIFICATION

We hereby certify that the equipment mentioned below have been maintained and have duly performed in accordance with HORIBA specifications.

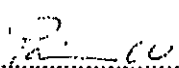
Equipment : Water Quality Checker
Model : U-10
Manufacture : HORIBA
Serial No. : 707005
Job No. : SNE 3072/PCU/08
Customer : SGS (Thailand) Limited
Calibration date : February 27, 2008

Petro-Instruments Corp., Ltd.

Serviced by.....

(Ms. Pimjai Srisangsai)

Chemistry

Approved by.....

(Mr. Paisarn Wanusbodeepsam)

A.V. P. Service Department



บริษัท เพทโร-อินสตรูเมนต์ จำกัด
PETRO-INSTRUMENTS CORP., LTD.

7/409 ซ.วิภาวดีรังสิต 36 ถ.วิภาวดีรังสิต แขวงจตุจักร เขตจตุจักร กรุงเทพฯ 10900

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http://www.pico.co.th E-mail-address : pico@pico.co.th

Test Report

Equipment : U-10	S/N: 707005	Manufacture : HORIBA
Customer name : SGS (Thailand) Limited		Location : กรุงเทพมหานคร

pH Measurement.

	pH Standard Solution (pH7)	Diff
Before Calibration	6.97	0.11
After Calibration	6.86	0.00

Measure at 25 °C pH : Calibrate at 6.86 (Zero Calibration)

With in +/- 0.05pH

Judgement GOOD

pH Measurement.

	pH Standard Solution (pH4)	Diff
Before Calibration	3.97	0.04
After Calibration	4.00	0.01

Measure at 25 °C pH : Calibrate at 4.01 (Span Calibration)

With in +/- 0.05pH

Judgement GOOD

Measurement Result

Zero Solution	Span Solution	Judgement
6.86	4.00	GOOD

Reference temperature 25.0 °C

Reference Standard : Standard Solution of HORIBA, pH 4 Lot No. G080058R and pH 7 Lot No. H000J24Z

Conductivity Measurement.

	Conductivity Standard Solution	Diff
Before Calibration	0.00	0.00
After Calibration	0.00	0.00

Measure at 25 °C COND : Calibrate at 0.00 mS/cm (Zero Calibration)

With in +/- 1%/F.S.

Judgement GOOD



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PETRO-INSTRUMENTS CORP., LTD.

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Conductivity Measurement.

	Conductivity Standard Solution	Diff
Before Calibration	1.43	0.02
After Calibration	1.41	0.00

Measure at 25 °C COND : Calibrate at 1.41 mS/cm (Span Calibration)

With in +/- 1%/F.S.

Judgement GOOD

Measurement Result

Zero Solution	Span Solution	Judgement
0 mS/cm	1.41 mS/cm	GOOD

Reference temperature 25.0 °C

Reference Standard : Standard Solution of EUTECH, Conductivity Solution 1413 μ S/cm at 25°C

No. EC-CON-1413 BT

Turbidity Measurement

	Turbidity Standard Solution	Diff
Before Calibration	-1.00	1.00
After Calibration	0.00	0.00

Measure at 25 °C TURB : Caribrate at 0 NTU (Zero Calibration)

With in +/- 3%F.S.

Judgement GOOD

Turbidity Measurement

	Turbidity Standard Solution	Diff
Before Calibration	796.00	4.00
After Calibration	800.00	0.00

Measure at 25 °C TURB : Caribrate at 800 NTU (Span Calibration)

With in +/- 3%F.S.

Judgement GOOD



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http://www.pico.co.th E-mail-address : pico@pico.co.th

Measurement Result

Zero Solution	Span Solution	Judgement
0.00 NTU	800 NTU	GOOD

Reference temperature 25.0 °C

Reference Standard : Standard Solution of HACH, Turbidity Standard 800 NTU or FNU Cat. 26605-49

DO Measurement

	DO Standard Solution	Diff
Before Calibration	0.13	0.13
After Calibration	0.00	0.00

Measure at 25 °C DO : Calibrate at 0.00 mg/L (Zero Calibration)

With in +/- 0.1 mg/l

Judgement GOOD

DO Measurement

	DO Standard Solution	Diff
Before Calibration	9.71	1.60
After Calibration	8.11	0.00

Measure at 25 °C DO : Calibrate at 8.11 mg/L (Span Calibration)

With in +/- 0.1 mg/l

Judgement GOOD

Measurement Result

Zero Solution	Span Solution	Judgement
0.00 mg/L	8.11 mg/L	GOOD

Reference temperature 25.0 °C

Reference Standard : Sodium Sulfite Anhydrous (Na₂SO₃) of Analytical UNIVAR Reagent B/No. 611370

Test By Pimjai Srisangsai

Test Date 27/02/2008

6.3 ใบรับรองห้องปฏิบัติการของบริษัท เอสจีเอส (ประเทศไทย) จำกัด

(ดูเอกสารในหน้าถัดไป)

ที่ ออก 0318/ 4899



กรมโรงงานอุตสาหกรรม
75/6 ถนนพระรามที่ 6
เขตราชเทวี กรุงเทพฯ 10400

พ.ศ. ๒๕๕๕

เรื่อง ค่ออายุหนังสืออนุญาตขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

เรียน ผู้รับอนุญาตขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน บริษัท เอสจีเอส (ประเทศไทย) จำกัด

อ้างถึง 1. คำขต่ออายุหนังสืออนุญาตขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน ลงวันที่ 3 พฤศจิกายน 2549

2. หนังสือบริษัท เอสจีเอส จำกัด ที่ SGS-ENVI-50/084 ลงวันที่ 26 เมษายน 2550

3. หนังสือบริษัท เอสจีเอส จำกัด ที่ QA 2007/55 ลงวันที่ 27 กรกฎาคม 2550

4. หนังสือบริษัท เอสจีเอส จำกัด ที่ QA 2007/59 ลงวันที่ 31 กรกฎาคม 2550

สิ่งที่ส่งมาด้วย เอกสารแนบท้ายหนังสืออนุญาตต่ออายุขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เอส จี เอส (ประเทศไทย) จำกัด จำนวน 23 แผ่น

ตามหนังสือที่อ้างถึง 1 2 3 และ 4 ขต่ออายุหนังสืออนุญาตขึ้นทะเบียนห้องปฏิบัติการ
วิเคราะห์เอกชนและเพิ่มชนิดสารมลพิษวิเคราะห์ของห้องปฏิบัติการวิเคราะห์เอกชน เลขทะเบียน ว-010
สถานที่ตั้ง เลขที่ 41/23 ถนนพระรามที่ 3 แขวงช่องนนทรี เขตยานนาวา กรุงเทพมหานคร ให้กรมโรงงาน
อุตสาหกรรมพิจารณา นั้น

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว อนุญาตให้ต่ออายุหนังสืออนุญาตขึ้นทะเบียน
ห้องปฏิบัติการวิเคราะห์เอกชน โดยมีผู้ควบคุมดูแลและเจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ ดังนี้
ผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์

1.		ทะเบียนเลขที่	
2.		ทะเบียนเลขที่	
3.		ทะเบียนเลขที่	
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7.		ทะเบียนเลขที่	
8.		ทะเบียนเลขที่	
9.		ทะเบียนเลขที่	

/เจ้าหน้าที่ประจำ...

เจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์

1.		ทะเบียนเลขที่	
2.		ทะเบียนเลขที่	
3.		ทะเบียนเลขที่	
4.		ทะเบียนเลขที่	
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11.		ทะเบียนเลขที่	
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17.		ทะเบียนเลขที่	
18.		ทะเบียนเลขที่	
19.		ทะเบียนเลขที่	
20.		ทะเบียนเลขที่	
21.		ทะเบียนเลขที่	
22.		ทะเบียนเลขที่	

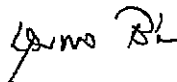
ชนิดสารมลพิษที่กรมโรงงานอุตสาหกรรมอนุญาตให้วิเคราะห์ในน้ำ/น้ำทิ้ง อากาศ
ดินและสิ่งปฏิกูลหรือวัสดุที่ไม่ใช้แล้ว จำนวนทั้งสิ้น 485 รายการ ตามสิ่งที่ส่งมาด้วย สำหรับสารมลพิษ
ไดออกซิน (Dioxins) อนุญาตให้เฉพาะการเก็บตัวอย่างเท่านั้นและต้องวิเคราะห์โดยห้องปฏิบัติการวิเคราะห์
ที่ได้รับการรับรองจากหน่วยงานที่ให้การรับรองความสามารถห้องปฏิบัติการวิเคราะห์

/ หนังสืออนุญาต...

หนังสืออนุญาตฉบับนี้จะหมดอายุในวันที่ 30 มกราคม 2553 หากประสงค์จะต่ออายุ ทะเบียนห้องปฏิบัติการวิเคราะห์ ให้ยื่นคำขอต่ออายุพร้อมสรุปผลงานในรอบ 3 ปีที่ผ่านมา ต่อกรมโรงงานอุตสาหกรรมก่อนวันที่หนังสืออนุญาตจะหมดอายุไม่น้อยกว่า 30 วัน ซึ่งคำขอต่ออายุดังกล่าวขอรับได้ที่ กรมโรงงานอุตสาหกรรม

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ



(นายจุฬพล จีระประภาพันธ์)

ผู้อำนวยการสำนักวิจัยและพัฒนาสิ่งแวดล้อมโรงงาน
ปฏิบัติราชการแทนอธิบดีกรมโรงงานอุตสาหกรรม

สำนักวิจัยและพัฒนาสิ่งแวดล้อมโรงงาน
ศูนย์วิจัยและพัฒนาสิ่งแวดล้อมโรงงานส่วนกลาง
โทร. 0 2202 4146-7 โทรสาร 0 2354 3415
<http://www.diw.go.th>

เอกสารแนบท้ายหนังสืออนุญาตต่ออายุขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชนบริษัท เอส จี เอส (ประเทศไทย) จำกัด
ที่ อก 0318/ 4899 ลงวันที่ - 4 ส.ย. 2551

ชนิดสารมลพิษที่อนุญาตให้วิเคราะห์ จำนวนทั้งสิ้น 485 รายการ

มลพิษน้ำ จำนวน 138 รายการ

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
1	Acephate	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
2	Acidity	Titration Method
3	Aldicarb	High Performance Liquid Chromatographic Method
4	Aldrin	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
5	Alkalinity	Titration Method
6	Aluminium	Direct Nitrous Oxide-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
7	Antimony	Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
8	Arsenic	Hydride Generation, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
9	Azinphos Ethyl	Liquid-Liquid Extraction, Gas Chromatography (FPD) Method
10	Azinphos Methyl	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
11	Barium	Direct Nitrous Oxide-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
12	Bendiocarb	High Performance Liquid Chromatographic Method
13	Benzene	Purge and Trap Technique, Gas Chromatographic (FID) Method
14	alpha-BHC	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
15	beta-BHC	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
16	delta-BHC	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
17	gamma-BHC	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
18	Biochemical Oxygen Demand	5 Day BOD test, Azide Modification Method
19	Bisphenol A	High Performance Liquid Chromatographic Method

/ 20 Boron ...

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
20	Boron	Direct Nitrous Oxide-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
21	Cadmium	Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
22	Calcium	Direct Nitrous Oxide-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
23	Carbaryl	High Performance Liquid Chromatographic Method
24	Carbon Tetrachloride	Purge and Trap Technique, Gas Chromatographic (FID) Method
25	Carbonate	Titration Method
26	Chemical Oxygen Demand	Closed Reflux, Titrimetric Method
27	alpha-Chlordane	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
28	gamma-Chlordane	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
29	Chlorfenvinphos	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
30	Chloride	Potentiometric Method
31	Chlorine (Residual)	DPD Colorimetric Method
32	Chlorpyrifos	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
33	Chlorpyrifos Methyl	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
34	Chromium (Hexavalent)	Colorimetric Method
35	Chromium (Total)	Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
36	Chromium (Trivalent)	Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method, Colorimetric Method
37	Cobalt	Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
38	Coliform	Multiple-Tube Fermentation Technique Method

/ 39 Color...

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
39	Color	Visual Comparison Method
40	Conductivity	Laboratory Method
41	Copper	Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
42	Cyanide	Colorimetric Method
43	Cyfluthrin	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
44	Cypermethrin	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
45	p,p'-DDD	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
46	p,p'-DDE	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
47	o,p'-DDT	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
48	p,p'-DDT	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
49	Deltamethrin	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
50	Diazinon	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
51	1,1-Dichloroethylene	Purge and Trap Technique, Gas Chromatographic (FID) Method
52	1,2-Dichloroethylene	Purge and Trap Technique, Gas Chromatographic (FID) Method
53	cis-1,2-Dichloroethylene	Purge and Trap Technique, Gas Chromatographic (FID) Method
54	trans-1,2-Dichloroethylene	Purge and Trap Technique, Gas Chromatographic (FID) Method
55	Dichloromethane	Purge and Trap Technique, Gas Chromatographic (FID) Method
56	Dichlorvos	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
57	Dicofol	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
58	Dicrotophos	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
59	Dieldrin	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
60	Dimethoate	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
61	Dissolved Oxygen	Azide Modification Method
62	Disulfoton	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
63	EPN	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
64	Endosulfan I	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
65	Endosulfan II	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
66	Endosulfan Sulfate	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
67	Endrin	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method

/ 68 Endrin Aldehyde ...

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
68	Endrin Aldehyde	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
69	Endrin Ketone	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
70	Escherichia coli	Multiple-Tube Fermentation Technique Method
71	Ethion	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
72	Ethylbenzene	Purge and Trap Technique, Gas Chromatographic (FID) Method
73	Etriphos	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
74	Fecal Coliform	Multiple-Tube Fermentation Technique Method
75	Fenitrothion	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
76	Fenobucarb	High Performance Liquid Chromatographic Method
77	Fenvalerate	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
78	Fluoride	SPADNS Method
79	Formaldehyde	Colorimetric Method
80	Hardness	EDTA Titrimetric Method
81	Heptachlor	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
82	Heptachlor Epoxide	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
83	Iron	Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
84	Isoprocab	High Performance Liquid Chromatographic Method
85	Lead	Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
86	Malathion	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
87	Manganese	Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
88	Mercury	Cold Vapor Technique, Atomic Absorption Spectrometric Method
89	Methamidophos	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
90	Methoxychlor	Liquid-Liquid Extraction Gas Chromatographic (ECD) Method
91	Mevinphos	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
92	Methiocarb	High Performance Liquid Chromatographic Method

/ 93 Molybdenum...

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
93	Molybdenum	Direct Nitrous Oxide-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
94	Monocotophos	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
95	Nickel	Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
96	Nitrogen (Ammonia)	Phenate Method
97	Nitrogen (Nitrate)	Cadmium Reduction Method
98	Nitrogen (Nitrite)	Colorimetric Method
99	Odor	Threshold Odor Test Method
100	Oil and Grease	Liquid-Liquid, Partition-Gravimetric Method
101	Omethoate	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
102	Oxamyl	High Performance Liquid Chromatographic Method
103	pH	Electrometric Method
104	Parathion Ethyl	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
105	Parathion Methyl	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
106	Permethrin	Liquid-Liquid Extraction, Gas Chromatographic (ECD) Method
107	Phenols	Chloroform Extraction Method
108	Phorate	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
109	Phosphamidon	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
110	Phosphorus	Vanadomolybdophosphoric Acid Colorimetric Method
111	Phosalone	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
112	Potassium	Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
113	Potassium Permanganate	Spectrophotometric Method
114	Pirimiphos Ethyl	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
115	Pirimiphos Methyl	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
116	Profenophos	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method
117	Prothiophos	Liquid-Liquid Extraction, Gas Chromatographic (FPD) Method

/ 118 Selenium...

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
118	Selenium	Hydride Generation, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
119	Settleable Solids	Volumetric Method
120	Silver	Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
121	Styrene	Purge and Trap Technique, Gas Chromatographic (FID) Method
122	Sulfate	Turbidimetric Method
123	Sulfide	Methylene Blue Method
124	Suspended Solids	Dried at 103-105 °C
125	Temperature	Laboratory and Field Methods
126	Tetrachloroethylene	Purge and Trap Technique, Gas Chromatographic (FID) Method
127	Tin	Direct Nitrous Oxide-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
128	Toluene	Purge and Trap Technique, Gas Chromatographic (FID) Method
129	Total Dissolved Solids	Dried at 103-105 °C; Dried at 180 °C
130	Total Kjeldahl Nitrogen	Macro Kjeldahl Method
131	Total Plate Count	Pour Plate Method
132	Triazophos	Liquid-Liquid Extraction Gas Chromatographic (FPD) Method
133	1,1,1-Trichloroethane	Purge and Trap Technique, Gas Chromatographic (FID) Method
134	1,1,2-Trichloroethane	Purge and Trap Technique, Gas Chromatographic (FID) Method
135	Trichloroethylene	Purge and Trap Technique, Gas Chromatographic (FID) Method
136	Turbidity	Nephelometric Method
137	Xylene (ortho, meta, para)	Purge and Trap Technique, Gas Chromatographic (FID) Method
138	Zinc	Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method

/มลพิษอากาศ...

มลพิษอากาศ จำนวน 255 รายการ

ปล่องระบาย

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
1	Acetone	Sorbent Adsorption, Gas Chromatographic (FID) Method
2	Acrylic Acid	Sorbent Adsorption, High-Performance Liquid Chromatographic Method
3	Acrylonitrile	Sorbent Adsorption, Gas Chromatographic (FID) Method
4	Aluminium	Isokinetic Sampling, Inductively Coupled Plasma Atomic Emission Spectrometric Method
5	Antimony	Isokinetic Sampling, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method, Inductively Coupled Plasma Atomic Emission Spectrometric Method
6	Arsenic	Isokinetic Sampling, Inductively Coupled Plasma Atomic Emission Spectrometric Method
7	Asbestos	Isokinetic Sampling, Light Microscope Phase Contrast Method
8	Benzene	Sorbent Adsorption, Gas Chromatographic (FID) Method
9	Bisphenol A	Sorbent Adsorption, High-Performance Liquid Chromatographic Method
10	Bromoform	Sorbent Adsorption, Gas Chromatographic (FID) Method
11	1,3-Butadiene	Sorbent Adsorption, Gas Chromatographic (FID) Method
12	n-Butyl Acetate	Sorbent Adsorption, Gas Chromatographic (FID) Method
13	sec-Butyl Acetate	Sorbent Adsorption, Gas Chromatographic (FID) Method
14	tert-Butyl Acetate	Sorbent Adsorption, Gas Chromatographic (FID) Method
15	n-Butyl Mercaptan	Sorbent Adsorption, Gas Chromatographic (FID) Method
16	Cadmium	Isokinetic Sampling, Inductively Coupled Plasma Atomic Emission Spectrometric Method
17	Carbon Dioxide	Orsat's Method; Electrochemical Method; Infrared Method
18	Carbon Monoxide	Electrochemical Method, Non Dispersive Infrared Method
19	Cobalt	Isokinetic Sampling, Inductively Coupled Plasma Atomic Emission Spectrometric Method
20	Chlorobenzene	Sorbent Adsorption, Gas Chromatographic (FID) Method
21	Chloroform	Sorbent Adsorption, Gas Chromatographic (FID) Method

/ 22 Chloroform...

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
22	Chlorprene	Sorbent Adsorption, Gas Chromatographic (FID) Method
23	Chromium	Isokinetic Sampling, Inductively Coupled Plasma Atomic Emission Spectrometric Method
24	Copper	Isokinetic Sampling, Inductively Coupled Plasma Atomic Emission Spectrometric Method
25	Cresol and Phenols	Sorbent Adsorption, Gas Chromatographic (FID) Method
26	Cyclohexane	Sorbent Adsorption, Gas Chromatographic (FID) Method
27	Cyclohexene	Sorbent Adsorption, Gas Chromatographic (FID) Method
28	1,2-Dichlorobenzene	Sorbent Adsorption, Gas Chromatographic (FID) Method
29	1,4-Dichlorobenzene	Sorbent Adsorption, Gas Chromatographic (FID) Method
30	Dimethyl Disulfide	Sorbent Adsorption, Gas Chromatographic (FID) Method
31	Dioxane	Sorbent Adsorption, Gas Chromatographic (FID) Method
32	Dioxins	Isokinetic Sampling, Analysis by Accredited Laboratory
33	Ethyl Acetate	Sorbent Adsorption, Gas Chromatographic (FID) Method
34	Ethyl Mercaptan	Sorbent Adsorption, Gas Chromatographic (FID) Method
35	Ethylbenzene	Sorbent Adsorption, Gas Chromatographic (FID) Method
36	Ethylene Dichloride	Sorbent Adsorption, Gas Chromatographic (FID) Method
37	Formaldehyde	Sorbent Adsorption, Gas Chromatographic (FID) Method
38	n-Heptane	Sorbent Adsorption, Gas Chromatographic (FID) Method
39	n-Hexane	Sorbent Adsorption, Gas Chromatographic (FID) Method
40	Hydrochloric Acid	Isokinetic Sampling, Ion Selective Electrode Method
41	Hydrogen Sulfide	Chemical Absorption, Titration Method
42	Inorganic Lead	Isokinetic Sampling, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method
43	Iron	Isokinetic Sampling, Inductively Coupled Plasma Atomic Emission Spectrometric Method
44	Isobutyl Alcohol	Sorbent Adsorption, Gas Chromatographic (FID) Method
45	Lead	Isokinetic Sampling, Inductively Coupled Plasma Atomic Emission Spectrometric Method
46	Manganese	Isokinetic Sampling, Inductively Coupled Plasma Atomic Emission Spectrometric Method

/ 47 Mercury...

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
47	Mercury	Isokinetic Sampling, Cold Vapor Technique, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
48	Methyl Acetate	Sorbent Adsorption, Gas Chromatographic (FID) Method
49	Methyl Alcohol	Sorbent Adsorption, Gas Chromatographic (FID) Method
50	Methyl Ethyl Ketone	Sorbent Adsorption, Gas Chromatographic (FID) Method
51	Methyl Isobutyl Ketone	Sorbent Adsorption, Gas Chromatographic (FID) Method
52	Methyl Mercaptan	Sorbent Adsorption, Gas Chromatographic (FID) Method
53	Methylene Chloride	Sorbent Adsorption, Gas Chromatographic (FID) Method
54	Moisture Content	Condensation Method
55	Naphtha	Sorbent Adsorption, Gas Chromatographic (FID) Method
56	Nickel	Isokinetic Sampling, Inductively Coupled Plasma Atomic Emission Spectrometric Method
57	Nonsulfuric acid Particulate Matter	Isokinetic Sampling, Gravimetric Method
58	n-Octane	Sorbent Adsorption, Gas Chromatographic (FID) Method
59	Oxide of Nitrogen	Chemiluminescence Method; Colorimetric Method; Electrochemical Method
60	Oxygen	Orsat's Method; Electrochemical Method; Zirconium Method; Paramagnetic Method
61	Particulate Matter less than 10 micron (PM-10)	Size Selective, Isokinetic Sampling, Gravimetric Method
62	Phosphorus	Isokinetic Sampling, Inductively Coupled Plasma Atomic Emission Spectrometric Method
63	Selenium	Isokinetic Sampling, , Hydride Generation, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
64	Silver	Isokinetic Sampling, Inductively Coupled Plasma Atomic Emission Spectrometric Method
65	Styrene	Sorbent Adsorption, Gas Chromatographic (FID) Method

/ 66 Sulfur Dioxide...

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
66	Sulfur Dioxide	Chemical Absorption, Barium-Thorin Titration Method; Electrochemical Method; UV-Flourescence Method
67	Sulfuric Acid Mist	Isokinetic Sampling, Barium-Thorin Titration Method
68	Temperature	Type K Thermocouple Method
69	Tin	Isokinetic Sampling, Direct Nitrous Oxide-Acetylene Flame, Atomic Absorption Spectrometric Method, Inductively Coupled Plasma Atomic Emission Spectrometric Method
70	Toluene	Sorbent Adsorption, Gas Chromatographic (FID) Method
71	Total Suspended Particulate	Isokinetic Sampling, Gravimetric Method
72	Velocity	S-Type Pilot Tube Method
73	Vinyl Chloride	Sorbent Adsorption, Gas Chromatographic (FID) Method
74	Xylene	Sorbent Adsorption, Gas Chromatographic (FID) Method
75	Zinc	Isokinetic Sampling, Inductively Coupled Plasma Atomic Emission Spectrometric Method

พื้นที่ทำงาน

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
1	Acetone	Sorbent Adsorption, Gas Chromatographic (FID) Method
2	Acrylic Acid	Sorbent Adsorption, High-Performance Liquid Chromatographic Method
3	Acrylonitrile	Sorbent Adsorption, Gas Chromatographic (FID) Method
4	Alkaline Dusts	Filtering, Titration Method
5	Aluminium	Filtering, Direct Nitrous Oxide-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma, Atomic Emission Spectrometric Method
6	Ammonia	Sorbent Adsorption, Colorimetric Method
7	Antimony	Filtering, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method

/ 8 Arsenic...

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
8	Arsenic	Filtering, Hydride Generation, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
9	Asbestos	Light Microscope Phase Contrast Method
10	Bacteria and Fungi	Colonies Count Method
11	Barium	Filtering, Direct Nitrous Oxide-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
12	Benzene	Sorbent Adsorption, Gas Chromatographic (FID) Method
13	Beryllium	Filtering, Inductively Coupled Plasma Atomic Emission Spectrometric Method
14	Bisphenol A	Sorbent Adsorption, High-Performance Liquid Chromatography Method
15	Bromoform	Sorbent Adsorption, Gas Chromatographic (FID) Method
16	1,3-Butadiene	Sorbent Adsorption, Gas Chromatographic (FID) Method
17	n-Butyl Acetate	Sorbent Adsorption, Gas Chromatographic (FID) Method
18	sec-Butyl Acetate	Sorbent Adsorption, Gas Chromatographic (FID) Method
19	tert-Butyl Acetate	Sorbent Adsorption, Gas Chromatographic (FID) Method
20	n-Butyl Mercaptan	Sorbent Adsorption, Gas Chromatographic (FID) Method
21	Cadmium	Filtering, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
22	Calcium	Filtering, Direct Nitrous Oxide-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
23	Carbon Monoxide	Sampling Bag, Non Dispersive Infrared Method
24	Carbon Tetrachloride	Sorbent Adsorption, Gas Chromatographic (FID) Method
25	Chromium	Filtering, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
26	Chloride	Filtering, Potentiometric Method

/ 27 Chlorobenzene...

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
27	Chlorobenzene	Sorbent Adsorption, Gas Chromatographic (FID) Method
28	Chloroform	Sorbent Adsorption, Gas Chromatographic (FID) Method
29	Chloroprene	Sorbent Adsorption, Gas Chromatographic (FID) Method
30	Cobalt	Filtering, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
31	Copper	Filtering, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
32	Cresol and Phenol	Sorbent Adsorption, Gas Chromatographic (FID) Method
33	Cyclohexane	Sorbent Adsorption, Gas Chromatographic (FID) Method
34	Cyclohexene	Sorbent Adsorption, Gas Chromatographic (FID) Method
35	1,2-Dichlorobenzene	Sorbent Adsorption, Gas Chromatographic (FID) Method
36	1,4-Dichlorobenzene	Sorbent Adsorption, Gas Chromatographic (FID) Method
37	1,1-Dichloroethylene	Sorbent Adsorption, Gas Chromatographic (FID) Method
38	1,2-Dichloroethylene	Sorbent Adsorption, Gas Chromatographic (FID) Method
39	Dimethyl Disulfide	Sorbent Adsorption, Gas Chromatographic (FID) Method
40	Ethyl Acetate	Sorbent Adsorption, Gas Chromatographic (FID) Method
41	Ethyl Alcohol	Sorbent Adsorption, Gas Chromatographic (FID) Method
42	Ethyl Mecaptan	Sorbent Adsorption, Gas Chromatographic (FID) Method
43	Ethylbenzene	Sorbent Adsorption, Gas Chromatographic (FID) Method
44	Ethylene Dichloride	Sorbent Adsorption, Gas Chromatographic (FID) Method
45	Formaldehyde	Sorbent Adsorption, Gas Chromatographic (FID) Method
46	Free Chlorine	Chemical Absorption, Methyl Orange Method
47	n-Heptane	Sorbent Adsorption, Gas Chromatographic (FID) Method
48	n-Hexane	Sorbent Adsorption, Gas Chromatographic (FID) Method
49	Hydrochloric Acid	Chemical Absorption, Potentiometric Method
50	Hydrogen Cyanide	Chemical Absorption, Spectrophotometric Method
51	Hydrogen Sulfide	Chemical Absorption, Spectrophotometric Method

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
52	Iron	Filtering, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
53	Isobutyl Alcohol	Sorbent Adsorption, Gas Chromatographic (FID) Method
54	Isopropyl Alcohol	Sorbent Adsorption, Gas Chromatographic (FID) Method
55	Lead	Filtering, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
56	Light Intensity	Lux Meter
57	Manganese	Filtering, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
58	Methyl Acetate	Sorbent Adsorption, Gas Chromatographic (FID) Method
59	Methyl Alcohol	Sorbent Adsorption, Gas Chromatographic (FID) Method
60	Methyl Ethyl Ketone	Sorbent Adsorption, Gas Chromatographic (FID) Method
61	Methyl Isobutyl Ketone	Sorbent Adsorption, Gas Chromatographic (FID) Method
62	Methyl Mercaptan	Sorbent Adsorption, Gas Chromatographic (FID) Method
63	Methylene Chloride	Sorbent Adsorption, Gas Chromatographic (FID) Method
64	Naphtha	Sorbent Adsorption, Gas Chromatographic (FID) Method
65	Nickel	Filtering, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
66	Nitrogen Dioxide	Colorimetric Method
67	Noise (L_{max} , L_{min} , L_{eq} , L_N Octave Band, Noise Dose)	Noise Dosimeter; Octave Band Meter; Sound Level Meter
68	n-Octane	Sorbent Adsorption, Gas Chromatographic (FID) Method
69	Respirable Dust	Cyclone Filtering, Gravimetric Method
70	Selenium	Filtering, Hydride Generation, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
71	Styrene	Sorbent Adsorption, Chromatographic (FID) Method

/ 72 Sulfur Dioxide...

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
72	Sulfur Dioxide	Chemical Absorption, Barium-Thorin Titration Method
73	Sulfuric Acid Aerosol	Filtering, Barium Perchlorate Titration-Mixed Indicator Method
74	Temperature	Certified Thermometer
75	Tetrachloroethylene	Sorbent Adsorption, Gas Chromatographic (FID) Method
76	Tin	Filtering, Direct Nitrous Oxide-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
77	Toluene	Sorbent Adsorption, Gas Chromatographic (FID) Method
78	Total Dust	Filtering, Gravimetric Method
79	1,1,1-Trichloroethane	Sorbent Adsorption, Gas Chromatographic (FID) Method
80	1,1,2-Trichloroethane	Sorbent Adsorption, Gas Chromatographic (FID) Method
81	Trichloroethylene	Sorbent Adsorption, Gas Chromatographic (FID) Method
82	Tungsten	Filtering, Inductively Coupled Plasma Atomic Emission Spectrometric Method
83	Vanadium	Filtering, Direct Nitrous Oxide-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
84	Vinyl Chloride	Sorbent Adsorption, Gas Chromatographic (FID) Method
85	Xylene	Sorbent Adsorption, Gas Chromatographic (FID) Method
86	Zinc	Filtering, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method

บรรยากาศทั่วไป

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
1	Acetone	Sorbent Adsorption, Gas Chromatographic (FID) Method
2	Acrylic Acid	Sorbent Adsorption, Gas Chromatographic (FID) Method
3	Acrylonitrile	Canisters, Gas Chromatographic Mass Spectrometric Method; Sorbent Adsorption, Gas Chromatographic (FID) Method
4	Ammonia	Indophenol Method

/ 5 Antimony...

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
5	Antimony	High Volume Filtering, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
6	Benzene	Canisters, Gas Chromatographic Mass Spectrometric Method; Sorbent Adsorption, Gas Chromatographic (FID) Method
7	Bisphenol A	Filtering, High Performance Liquid Chromatographic Method
8	Bromoform	Sorbent Adsorption, Gas Chromatographic (FID) Method
9	Bromomethane	Canisters, Gas Chromatographic Mass Spectrometric Method
10	1,3-Butadiene	Sorbent Adsorption, Gas Chromatographic (FID) Method; Canisters, Gas Chromatographic Mass Spectrometric Method
11	n-Butyl Acetate	Sorbent Adsorption, Gas Chromatographic (FID) Method
12	sec-Butyl Acetate	Sorbent Adsorption, Gas Chromatographic (FID) Method
13	tert-Butyl Acetate	Sorbent Adsorption, Gas Chromatographic (FID) Method
14	n-Butyl Alcohol	Sorbent Adsorption, Gas Chromatographic (FID) Method
15	n-Butyl Mercaptan	Sorbent Adsorption, Gas Chromatographic (FID) Method
16	Carbon Monoxide	Non-Dispersive Infrared Method
17	Carbon Tetrachloride	Canisters, Gas Chromatographic Mass Spectrometric Method
18	Chloride	Chemical Absorption, Titration Method
19	Chlorobenzene	Canisters, Gas Chromatographic Mass Spectrometric Method; Sorbent Adsorption, Gas Chromatographic (FID) Method
20	Chloroform	Canisters, Gas Chromatographic Mass Spectrometric Method; Sorbent Adsorption, Gas Chromatographic (FID) Method
21	Chromium	High volume sampling, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
22	Chloprene	Sorbent Adsorption, Gas Chromatographic (FID) Method
23	Copper	High volume Sampling, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
24	Cresol and Phenol	Sorbent Adsorption, Gas Chromatographic (FID) Method

/ 25 Cyclohexane...

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
25	Cyclohexane	Canisters, Gas Chromatographic Mass Spectrometric Method
26	Cyclohexene	Sorbent Adsorption, Gas Chromatographic (FID) Method
27	3-Chloropropene	Canisters, Gas Chromatographic Mass Spectrometric Method
28	1,2-Dibromoethane	Canisters, Gas Chromatographic Mass Spectrometric Method
29	1,2-Dichlorobenzene	Canisters, Gas Chromatographic Mass Spectrometric Method; Sorbent Adsorption, Gas Chromatographic (FID) Method
30	1,3-Dichlorobenzene	Canisters, Gas Chromatographic Mass Spectrometric Method
31	1,4-Dichlorobenzene	Canisters, Gas Chromatographic Mass Spectrometric Method; Sorbent Adsorption, Gas Chromatographic (FID) Method
32	Dichlorodifluoromethane	Canisters, Gas Chromatographic Mass Spectrometric Method
33	1,1-Dichloroethane	Canisters, Gas Chromatographic Mass Spectrometric Method
34	1,2-Dichloroethane	Canisters, Gas Chromatographic Mass Spectrometric Method Sorbent Adsorption, Gas Chromatographic (FID) Method
35	1,1-Dichloroethene	Canisters, Gas Chromatographic Mass Spectrometric Method
36	1,2-Dichloropropane	Canisters, Gas Chromatographic Mass Spectrometric Method
37	cis-1,3-Dichloropropene	Canisters, Gas Chromatographic Mass Spectrometric Method
38	trans-1,3-Dichloropropene	Canisters, Gas Chromatographic Mass Spectrometric Method
39	1,2-Dichlorotetrafluoroethane	Canisters, Gas Chromatographic Mass Spectrometric Method
40	Dioxane	Sorbent Adsorption, Gas Chromatographic (FID) Method
41	Ethyl Acetate	Sorbent Adsorption, Gas Chromatographic (FID) Method
42	Ethyl Alcohol	Sorbent Adsorption, Gas Chromatographic (FID) Method
43	Ethyl Benzene	Canisters, Gas Chromatographic Mass Spectrometric Method; Sorbent Adsorption, Gas Chromatographic (FID) Method
44	Ethyl Chloride	Canisters, Gas Chromatographic Mass Spectrometric Method
45	Ethyl Mercaptan	Sorbent Adsorption, Gas Chromatographic (FID) Method
46	Ethylene Dichloride	Sorbent Adsorption, Gas Chromatographic (FID) Method
47	4-Ethyltoluene	Canisters, Gas Chromatographic Mass Spectrometric Method
48	Formaldehyde	Sorbent Adsorption, Gas Chromatographic (FID) Method
49	Free Chlorine	Methyl Orange Method
50	n-Heptane	Sorbent Adsorption, Gas Chromatographic (FID) Method
51	Hexachloro-1,3,-Butadiene	Canisters, Gas Chromatographic Mass Spectrometric Method

/ 52 n-Hexane...

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
52	n-Hexane	Sorbent Adsorption, Gas Chromatographic (FID) Method
53	Hydrochloric Acid	Titration Method
54	Iron	High volume Sampling, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
55	Isobutyl Alcohol	Sorbent Adsorption, Gas Chromatographic (FID) Method
56	Isopropyl Alcohol	Sorbent Adsorption, Gas Chromatographic (FID) Method
57	Lead	High volume Sampling, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
58	Manganese	High volume Sampling, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
59	Methyl Acetate	Sorbent Adsorption, Gas Chromatographic (FID) Method
60	Methyl Alcohol	Sorbent Adsorption, Gas Chromatographic (FID) Method
61	Methyl Chloride	Canisters, Gas Chromatographic Mass Spectrometric Method
62	Methyl Ethyl Ketone	Sorbent Adsorption, Gas Chromatographic (FID) Method
63	Methyl Mercaptan	Sorbent Adsorption, Gas Chromatographic (FID) Method
64	Methyl Isobutyl Ketone	Sorbent Adsorption, Gas Chromatographic (FID) Method
65	Methylene Chloride	Canisters, Gas Chromatographic Mass Spectrometric Method; Sorbent Adsorption, Gas Chromatographic (FID) Method
66	Molybdenum	High volume Sampling, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
67	Naphtha	Sorbent Adsorption, Gas Chromatographic (FID) Method
68	Nickel	High volume Sampling, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
69	Nitrogen Dioxide	Colorimetric Method, Chemiluminescence Method
70	Noise (L_{max} , L_{min} , L_{eq} , L_N)	Sound Level Meter
71	n-Octane	Sorbent Adsorption, Gas Chromatographic (FID) Method

/ 72 Particulate Matter...

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
72	Particulate Matter less than 10 micron (PM-10)	Size-Selective High Volume Sampling, Gravimetric Method
73	n-Propyl Alcohol	Sorbent Adsorption, Gas Chromatographic (FID) Method
74	Styrene	Canisters, Gas Chromatographic Mass Spectrometric Method; Sorbent Adsorption, Gas Chromatographic (FID) Method
75	Sulfur Dioxide	Pararosaniline Method; UV-Fluorescence Method
76	Suspended Particulate Matter	High Volume Sampling, Gravimetric Method
77	Tetrachloroethylene	Canisters, Gas Chromatographic Mass Spectrometric Method
78	1,1,2,2-Tetrachloroethane	Canisters, Gas Chromatographic Mass Spectrometric Method
79	Toluene	Canisters, Gas Chromatographic Mass Spectrometric Method; Sorbent Adsorption, Gas Chromatographic (FID) Method
80	1,2,4-Trichlorobenzene	Canisters, Gas Chromatographic Mass Spectrometric Method
81	1,1,1-Trichloroethane	Canisters, Gas Chromatographic Mass Spectrometric Method; Sorbent Adsorption, Gas Chromatographic (FID) Method
82	1,1,2-Trichloroethane	Canisters, Gas Chromatographic Mass Spectrometric Method
83	Trichloroethylene	Canisters, Gas Chromatographic Mass Spectrometric Method
84	Trichlorofluoromethane	Canisters, Gas Chromatographic Mass Spectrometric Method
85	1,1,2-Trichlorotrifluoroethane	Canisters, Gas Chromatographic Mass Spectrometric Method
86	1,2,4-Trimethylbenzene	Canisters, Gas Chromatographic Mass Spectrometric Method
87	1,3,5-Trimethylbenzene	Canisters, Gas Chromatographic Mass Spectrometric Method
88	Vanadium	High Volume Filtering, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
89	Vibration	Vibration Meter
90	Vinyl Chloride	Canisters, Gas Chromatographic Mass Spectrometric Method; Sorbent Adsorption, Gas Chromatographic (FID) Method
91	Xylene (ortho, meta, para)	Canisters, Gas Chromatographic Mass Spectrometric Method; Sorbent Adsorption, Gas Chromatographic (FID) Method
92	Wind Direction	Wind Vane Method
93	Wind Speed	Cup Anemometer Method

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
94	Zinc	High volume Sampling, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method

ดินและสิ่งปฏิกูลหรือวัสดุที่ไม่ใช้แล้ว จำนวน 92 รายการ

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
1	Acephate	Solid Phase Extraction, Gas Chromatographic (FPD) Method
2	Aldicarb	High Performance Liquid Chromatographic Method
3	Aldrin	Solid Phase Extraction, Gas Chromatographic (ECD) Method
4	Antimony	Waste Extraction, Acid Digestion, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
5	Arsenic	Waste Extraction, Acid Digestion, Hydride Generation, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
6	Azinphos Ethyl	Solid Phase Extraction, Gas Chromatographic (FPD) Method
7	Azinphos Methyl	Solid Phase Extraction, Gas Chromatographic (FPD) Method
8	Bendiocarb	High Performance Liquid chromatographic Method
9	Benzene	Head Space Technique, Gas Chromatographic (FID) Method
10	alpha-BHC	Solid Phase Extraction, Gas Chromatographic (ECD) Method
11	beta-BHC	Solid Phase Extraction, Gas Chromatographic (ECD) Method
12	delta-BHC	Solid Phase Extraction, Gas Chromatographic (ECD) Method
13	gamma-BHC	Solid Phase Extraction, Gas Chromatographic (ECD) Method
14	Cadmium	Waste Extraction, Acid Digestion, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
15	Carbaryl	High Performance Liquid Chromatographic Method
16	Carbon Tetrachloride	Head Space Technique, Gas Chromatographic (FID) Method
17	alpha-Chlordane	Solid Phase Extraction, Gas Chromatographic (ECD) Method
18	gamma-Chlordane	Solid Phase Extraction, Gas Chromatographic (ECD) Method

/ 19 Chlorfenvinphos...

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
19	Chlorfenvinphos	Solid Phase Extraction, Gas Chromatographic (FPD) Method
20	Chlorpyrifos	Solid Phase Extraction, Gas Chromatographic (FPD) Method
21	Chlorpyrifos Methyl	Solid Phase Extraction, Gas Chromatographic (FPD) Method
22	Chromium	Waste Extraction, Acid Digestion, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
23	Copper	Waste Extraction, Acid Digestion, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
24	Cyanide	Waste Extraction, Colorimetric Method
25	Cyfluthrin	Solid Phase Extraction, Gas Chromatographic (ECD) Method
26	Cypermethrin	Solid Phase Extraction, Gas Chromatographic (ECD) Method
27	Deltamethrin	Solid Phase Extraction, Gas Chromatographic (ECD) Method
28	Diazinon	Solid Phase Extraction, Gas Chromatographic (FPD) Method
29	Dichlorvos	Solid Phase Extraction, Gas Chromatographic (FPD) Method
30	Dicofol	Solid Phase Extraction, Gas Chromatographic (ECD) Method
31	Dicrotophos	Solid Phase Extraction, Gas Chromatographic (FPD) Method
32	Dieldrin	Solid Phase Extraction, Gas Chromatographic (ECD) Method
33	Dimethoate	Solid Phase Extraction, Gas Chromatographic (FPD) Method
34	Disulfoton	Solid Phase Extraction, Gas Chromatographic (FPD) Method
35	p,p'- DDD	Solid Phase Extraction, Gas Chromatographic (ECD) Method
36	p,p'- DDE	Solid Phase Extraction, Gas Chromatographic (ECD) Method
37	o,p'- DDT	Solid Phase Extraction, Gas Chromatographic (ECD) Method
38	p,p'- DDT	Solid Phase Extraction, Gas Chromatographic (ECD) Method
39	1,1-Dichloroethylene	Head Space Technique, Gas Chromatographic (FID) Method
40	1,2-Dichloroethylene	Head Space Technique, Gas Chromatographic (FID) Method
41	cis-1,2-Dichloroethylene	Head Space Technique, Gas Chromatographic (FID) Method
42	trans-1,2-Dichloroethylene	Head Space Technique, Gas Chromatographic (FID) Method
43	Dichloromethane	Head Space Technique, Gas Chromatographic (FID) Method
44	Endosulfan I	Solid Phase Extraction, Gas Chromatographic (ECD) Method
45	Endosulfan II	Solid Phase Extraction, Gas Chromatographic (ECD) Method

/ 46 Endosulfan Sulfate...

ลำดับที่	ชนิดสารมลพิษ	วิธีวิเคราะห์
46	Endosulfan Sulfate	Solid Phase Extraction, Gas Chromatographic (ECD) Method
47	Endrin	Solid Phase Extraction, Gas Chromatographic (ECD) Method
48	Endrin Aldehyde	Solid Phase Extraction, Gas Chromatographic (ECD) Method
49	Endrin Ketone	Solid Phase Extraction, Gas Chromatographic (ECD) Method
50	EPN	Solid Phase Extraction, Gas Chromatographic (FPD) Method
51	Ethion	Solid Phase Extraction, Gas Chromatographic (FPD) Method
52	Ethylbenzene	Head Space Technique, Gas Chromatographic (FID) Method
53	Etrimphos	Solid Phase Extraction, Gas Chromatographic (FPD) Method
54	Fenitrothion	Solid Phase Extraction, Gas Chromatographic (FPD) Method
55	Fenobucarb	High Performance Liquid Chromatographic Method
56	Fenvalerate	Solid Phase Extraction, Gas Chromatographic (ECD) Method
57	Heptachlor	Solid Phase Extraction, Gas Chromatographic (ECD) Method
58	Heptachlor Epoxide	Solid Phase Extraction, Gas Chromatographic (ECD) Method
59	Isoprocab	High Performance Liquid Chromatographic Method
60	Lead	Waste Extraction , Acid Digestion, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
61	Malathion	Solid Phase Extraction, Gas Chromatographic (FPD) Method
62	Manganese	Waste Extraction, Acid Digestion, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
63	Mercury	Waste Extraction, Acid Digestion, Cold Vapor Technique, Atomic Absorption Spectrometric Method
64	Methamidophos	Solid Phase Extraction, Gas Chromatographic (FPD) Method
	Methiocarb	High Performance Liquid Chromatographic Method
65	Methoxychlor	Solid Phase Extraction, Gas Chromatographic (ECD) Method
66	Mevinphos	Solid Phase Extraction, Gas Chromatographic (FPD) Method
67	Moisture Content	Condensation, Gravimetric Method
68	Monocotophos	Solid Phase Extraction, Gas Chromatographic (FPD) Method

ลำดับที่	ชนิดสารพิษ	วิธีวิเคราะห์
69	Nickel	Waste Extraction, Acid Digestion, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
70	Omethoate	Solid Phase Extraction, Gas Chromatographic (FPD) Method
71	Oxamyl	High Performance Liquid chromatographic Method
72	Parathione Ethyl	Solid Phase Extraction, Gas Chromatographic (FPD) Method
73	Parathion Methyl	Solid Phase Extraction, Gas Chromatographic (FPD) Method
74	Permethrin	Solid Phase Extraction, Gas Chromatographic (ECD) Method
75	Phorate	Solid Phase Extraction, Gas Chromatographic (FPD) Method
76	Phosalone	Solid Phase Extraction, Gas Chromatographic (FPD) Method
77	Phosphamidon	Solid Phase Extraction, Gas Chromatographic (FPD) Method
78	Pirimiphos Ethyl	Solid Phase Extraction, Gas Chromatographic (FPD) Method
79	Pirimiphos Methyl	Solid Phase Extraction, Gas Chromatographic (FPD) Method
80	Profenophos	Solid Phase Extraction, Gas Chromatographic (FPD) Method
81	Prothiophos	Solid Phase Extraction, Gas Chromatographic (FPD) Method
82	Selenium	Waste Extraction, Acid Digestion, Hydride Generation, Atomic Absorption Spectrometric Method
83	Silver	Waste Extraction, Acid Digestion, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method
84	Styrene	Head Space Technique, Gas Chromatographic (FID) Method
85	Tetrachloroethylene	Head Space Technique, Gas Chromatographic (FID) Method
86	Toluene	Head Space Technique, Gas Chromatographic (FID) Method
87	Triazophos	Solid Phase Extraction, Gas Chromatographic (FPD) Method
88	Trichloroethylene	Head Space Technique, Gas Chromatographic (FID) Method
89	1,1,1-Trichloroethane	Head Space Technique, Gas Chromatographic (FID) Method
90	1,1,2-Trichloroethane	Head Space Technique, Gas Chromatographic (FID) Method
91	Xylene (ortho, meta, para)	Head Space Technique, Gas Chromatographic (FID) Method
92	Zinc	Waste Extraction, Acid Digestion, Direct Air-Acetylene Flame, Atomic Absorption Spectrometric Method; Inductively Coupled Plasma Atomic Emission Spectrometric Method

30 พ.ค. 51 / เอกสารอ้างอิง...

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