

ภาคผนวก ข

เอกสารประกอบการปฏิบัติตาม
มาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม

ภาคผนวก ข.1

เอกสารรับรองระบบการจัดการสิ่งแวดล้อม (ISO 14001)
และระบบการจัดการด้านอาชีวอนามัย
และความปลอดภัย (ISO 45001)

Certificate TH03/2684

The management system of

Star Petroleum Refining Public Company Limited (SPRC)

No. 1, I-3B Road, Map Ta Phut, Muang Rayong, Rayong 21150, Thailand
has been assessed and certified as meeting the requirements of

ISO 9001:2015

For the following activities

Operation of Crude Oil Refining Process and Manufacture of Asphalt Cement.

This certificate is valid from 16 January 2022 until 16 January 2025 and remains valid subject to satisfactory surveillance audits.
Issue 10. Certified since 07 November 2003.

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



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SGS

Certificate TH04/2685

The management system of

Star Petroleum Refining Public Company Limited (SPRC)

No. 1, I-3B Road, Map Ta Phut, Muang Rayong, Rayong 21150, Thailand
has been assessed and certified as meeting the requirements of

ISO 9001:2015

For the following activities

Operation of Crude Oil Refining Process and Manufacture of Asphalt Cement.

This certificate is valid from 16 January 2022 until 16 January 2025 and remains valid subject to satisfactory surveillance audits.
Issue 10. Certified since 16 September 2004.

SGS (Thailand) Ltd.
100 Nanglinchee Road Chongnonsee Yannawa, Bangkok 10120 Thailand
t +66 (0)2 678 1813 - www.sgs.com



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Certificate TH07/2686

The management system of

Star Petroleum Refining Public Company Limited (SPRC)

No. 1, I-3B Road, Map Ta Phut, Muang Rayong,
Rayong 21150, Thailand

has been assessed and certified as meeting the requirements of

ISO 14001:2015

For the following activities

Operation of Crude Oil Refining Process and
Manufacture of Asphalt Cement.

This certificate is valid from 16 January 2022 until 16 January 2025 and
remains valid subject to satisfactory surveillance audits.
Recertification audit due a minimum of 60 days before the expiration date.
Issue 8. Certified since 16 January 2007



SGS United Kingdom Ltd
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 TH04/2687

The management system of

Star Petroleum Refining Public Company Limited (SPRC)

No. 1, I-3B Road, Map Ta Phut, Muang Rayong,
Rayong 21150, Thailand

has been assessed and certified as meeting the requirements of

ISO 14001:2015

For the following activities

Operation of Crude Oil Refining Process and
Manufacture of Asphalt Cement.

This certificate is valid from 16 January 2022 until 16 January 2025 and
remains valid subject to satisfactory surveillance audits.
Re certification audit due before 6 November 2024
Issue 10. Certified since 16 January 2007



SGS (Thailand) Limited
100 Nanglinchee Road, Chongnonsee, Yannawa, Bangkok 10120, Thailand
t +66 (0)2 678 18 13 f +66 (0)2 678 06 20 www.sgs.com

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Certificate TH19/11752

The management system of

Star Petroleum Refining Public Company Limited (SPRC)

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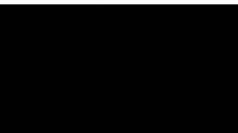
has been assessed and certified as meeting the requirements of
ISO 45001:2018

For the following activities

Operation of Crude Oil Refining Process and Manufacture of Asphalt Cement.



This certificate is valid from 14 January 2022 until 13 January 2025 and remains valid subject to satisfactory surveillance audits.
Issue 3. Certified since 14 January 2019.



SGS Australia Pty. Ltd.
10/585 Blackburn Road Notting Hill VIC 3168
t (61-3) 9574 3200 - www.au.sgs.com

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ภาคผนวก ข.2

โปรแกรมการจัดการด้านสิ่งแวดล้อม อาชีวอนามัย และความปลอดภัย (Environmental, Health and Safety Management Programmes)

2024 Health, Safety, ER and Security Objectives, Targets & Management Programs

Areas of Focus /Continual Improvement	Objective	Targets	Management Program	Responsibility	Benefit / Cost Incurred	Completion Target (Start-finish)
1. Safe Work Practice	Robust Safe Work Practice System	Complete implement e-PTW in all areas of refinery.	Implement e-PTW in all areas of refinery.	QS/41	Improve efficiency and effectiveness of Safe Work Practice Process	Q1-Q3
2. Training and awareness	Maintain EHS awareness of all SPRC family members	Complete to develop the EHS e-learning and the IIF Orientation training the trainer as plan.	2.1 Develop the EHS e-learning for using in SPRC. 2.2 Set up the IIF Orientation train the trainer session.	QS/42 QS/4	Incident and injury free workplace	Q1-Q4
3. Safety Promotion and Recognition	Increase awareness of safety and IIF for all low-risk contractors.	Complete the program with low-risk contractors.	Set up the program of "Take a break with IIF" and conduct with all low-risk contractors	QS/42	Incident and injury free workplace	Q1-Q2
4. Health Promotion	Raise awareness of health and wellbeing for all SPRC family members.	Overall lipid profile of SPRC staff reduce \geq 5% compare with previous year.	Set up the healthy promotion activity to encourage SPRC family members to reduce lipid profile	QS/43	Wellbeing organization	Q2-Q4
5. RSI	Improve office facilities to support RSI prevention.	Complete the project within this year.	Develop the project to change office workstations by prioritizing the installation of adjustable desks or sit-to-stand workstations for high-risk groups as the first priority.	QS/43	Incident and injury free workplace	Q1-Q4

Areas of Focus /Continual Improvement	Objective	Targets	Management Program	Responsibility	Benefit / Cost Incurred	Completion Target (Start-finish)
5. Emergency Response Preparedness Enhancement	Readiness and high reliability of firefighting equipment and emergency response	Familiar and learning on Advance fire, tank fire, Hazmat and Rescue	5.1 Set up training program in Q1 to Q3	QS/31 & 32	Knowledge on Tank fire, Advance fire etc.	Q3
6. Emergency Response Preparedness Enhancement	Emergency readiness for SPM operating and Marine terminal	Review and revise Oil Spill Response Contingency Plan	6.1 Conduct the oil spill tabletop for SPM.	QS/3 and PD/1B	Readiness of the response team and duty Rota members	Q1 & Q3
7. Emergency Response Preparedness Enhancement	Emergency operation center communication improvement	Linkage and improve the communication system in each emergency operation and related room (TE3786 Improve EOC room)	7.1 Propose the proposal to the DRB and get approval for phase 3 7.2 Improvement according to the scope approved	QS/31	Good communication in each location	Q2

2024 Environmental Objectives, Targets & Management Programs

Significant Aspect	Objective	Target	Management Program	Responsibility	Benefit / Cost Incurred	Completion Target Date (Start-Finish)	Status As of Apr'24
1. Legal & Other Requirement	Comply with MOI Notification	Fully Comply and report as per legal timeline	1. Continue implement DIW VOC Control at tank, flare and shut down & TA	QS/21		Q1-Q4	In progress, Submitted the 1 st annual VOC emission inventory from tank. Shared VOC measurement practice for shutdown activity with PN.
			2. Continue CEMs installation and online reporting to DIW Project	QS/2 & AS/242 (Project Manager) TE 6236 TE 6283		Q1-Q4	In progress, TE 6236 in CPDEP Phase 4 new CEM will be installed in Q2 and connect to DIW. TE 6283 approved CPDEP Phase 3 in Apr'24, move to CPDEP phase 4
	Comply with Ministry of Natural Resources Environment Notification	Fully Comply and report as per legal timeline	3. Implement Benzene monitoring at fence line.	QS/2		Q4	The regulation announced on 2 Apr 2024, effective in Oct'25. Plan to start in Oct'24.

Revision No.:40
Date: 15-May-24

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Significant Aspect	Objective	Target	Management Program	Responsibility	Benefit / Cost Incurred	Completion Target Date (Start-Finish)	Status As of Apr'24
2. SPM Oil spill Post incident and recovery	Improve reliability of SPM.	Get approval from Marine Department	4. Conduct EIA Study report for SPM new bouy	QS/2		Q4	
	Assess environmental impact from SPM oil spill	Support SPM resume operation and ongoing court case	5. Continue to conduct EIA post oil project by 3 universities researchers	QS/2	Resume SPM operation and support court case	Q4	Engaged relevant government agencies in Q1'24. Plan to distribute summary report in Q2.
3. Emissions to Air	<ul style="list-style-type: none"> Improve determine sources complaints for prevention or mitigation Identify release and prediction during emergency case 	Proactive to control sources prior to get community complaints	6. Continue TE3791: Fence-line Air Quality Monitoring System Installation, CPDEP Phase 3	QS/2 & AS/244 (Project Manager)		Q4'24	Completed FAT in US, plan to shipment to Thailand for installation in Q3'24.
4. Waste Management	To seek opportunities to improve waste management.	To raise Green awareness staff and contractor	7. Continue waste reduction program "Reduce single use plastic" and Office waste segregation	QS/22	Reduce waste and GHG emission	Q4	In progress, promotion "This cup we treat", Drinking water station, waste segregation.

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Date: 15-May-24

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Significant Aspect	Objective	Target	Management Program	Responsibility	Benefit / Cost Incurred	Completion Target Date (Start-Finish)	Status As of Apr'24
	Seek opportunity to reduce landfill waste	Zero waste to landfill	8. Explore 3R disposal method for sulfur waste, lab waste, air filter and RO membrane	QS/22		Q4	Collaborated with other department for these items handling and discussed with waste processor for alternative disposal method
	Seek opportunity to change office food waste to soil amendment	Zero food waste	9. Install food composting machines to reduce food waste and create soil amendment	QS/22	Reduce waste and GHG emission	Q4	

Note:

1. Community Relationship and Public Affair, please refer to Social Responsibility & Community Outreach Action Plan.
2. Use of Natural Resources, please refer to Energy Roadmap & Sustainable Development (SD) Water Management Roadmap.
3. Release to Air, please refer to SD Air Quality and Climate Change

ภาคผนวก ข.3

นโยบายสิ่งแวดล้อม สุขภาพอนามัย และความปลอดภัย

ENVIRONMENT, HEALTH AND SAFETY POLICY

Star Petroleum Refining Public Company Limited

It is the policy of SPRC to conduct business in a socially responsible and ethical manner with the balance of environment, social and economic that protects safety and health of SPRC family, concerned stakeholders and the environment in the area which may be impacted by our operation.

SPRC is committed to organizational culture and environment where Environment, Health and Safety (EHS) are recognized as value-based and built on a mindset intolerant of any level, frequency or severity of incident and injury. We believe that all injuries can be prevented, and our goal of incident and injury free operations is achievable.

Our commitment on Operational Excellence (OE) is embodied in EHS value of building Incident and Injury Free (IIF) leadership and a caring family mindset.

This culture is reflected in SPRC Environment, Health and Safety Policy as follows:

1. Achieve EHS excellence including compliance with all applicable EHS legal, regulatory and other requirements.
2. Integrate EHS performance as a part of SPRC key performance Indicators and place the management of EHS as a prime responsibility of line management. Inspire every individual be responsible for his/her own safety and the safety of others.
3. Create Incident and Injury Free (IIF) culture, apply pollution prevention, risk-based thinking, and pro-active methods to promote personal and process safety and minimize impacts to environment and health. When unsafe situation occurs, we stop work and take action.
4. Creatively promote awareness, understanding, involvement and leadership of SPRC personnel in EHS management system and programs through relationship building, training, engagement, and consultation.
5. Build a safe, reliable, and healthy workplace and a healthier, mindful and disciplined SPRC family to drive toward incident and injury free operations, prevent injuries and process safety incidents and make long-lasting healthy lifestyle and wellness.
6. Build low carbons and resource-circulating society throughout green supply chain management to minimize Climate Changes impact, ensure efficient use of the natural resources and to deliver environmentally friendly products for sustainable development.
7. Foster caring, communication, understanding, and cooperation related to EHS issues including EHS objectives within SPRC and between SPRC, surrounding communities and business and Thai governmental bodies.
8. Review the compliance of EHS policy, management system and programs and make corrective actions where required.
9. Implement continual improvement in SPRC Environmental, Health and Safety performance to aim the sustainability.

This policy applies to all SPRC personnel and the conduct of the SPRC's business and operations by considering Life Cycle Perspective. Safety covers both personal and process safety.

Responsibility

1. The Management is responsible for providing adequate and appropriate resources to implement the EHS policy and management system.
2. All SPRC personnel shall be responsible for their own safety and safety of others and shall always make time for people to extend the "circle of influence" and spread IIF culture.
3. All SPRC personnel shall know, understand and carry out duties in accordance with EHS training and instructions and actively participate in the development and implementation of EHS programs, procedures and standards.

Procedures

1. SPRC shall ensure that the EHS policy is documented, implemented, maintained, updated, monitored and communicated to everyone in order to meet or exceed applicable EHS standards/practices which lead to the excellent performance in EHS aspects for SPRC personnel and other stakeholders.
2. SPRC shall maintain awareness and focus for all SPRC personnel on EHS standards, rules & regulations and procedures through training, promotion and communications.
3. SPRC shall ensure effective functioning of EHS Management System and always seek opportunities for continual improvements through utilization of available best practices.

Revision No.: 05
Date: 5 Jan. 2022

Robert J. Dobrik
Chief Executive Officer



นโยบายสิ่งแวดล้อม สุขภาพอนามัยและความปลอดภัย

บริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน)

บริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน) มีนโยบายดำเนินธุรกิจด้วยความรับผิดชอบต่อ การดูแลด้านความปลอดภัยสุขภาพอนามัยของสมาชิก ครอบคลุมบริษัท ผู้มีส่วนได้เสียที่เกี่ยวข้อง ตลอดจนสิ่งแวดล้อม สังคมและเศรษฐกิจในพื้นที่ซึ่งอาจได้รับผลกระทบจากการดำเนินธุรกิจของบริษัท

บริษัทฯ มีความมุ่งมั่นในการสร้างวัฒนธรรมองค์กรที่ยึดถือด้านสิ่งแวดล้อม สุขภาพอนามัยและความปลอดภัยเป็นค่านิยมหลักและมีแนวคิดที่จะไม่ยอมให้มีอุบัติเหตุและการบาดเจ็บเกิดขึ้นไม่ว่าจะเป็น ความรุนแรงหรือความถี่ระดับไหน บริษัทฯ มีความเชื่อว่าการบาดเจ็บสามารถป้องกันได้ และสามารถบรรลุเป้าหมายการทำงานที่ปราศจากอุบัติเหตุและการบาดเจ็บได้

ค่านิยมสัญญาของบริษัทฯ ในด้านความเป็นเลิศในการปฏิบัติงานอยู่รวมอยู่ในค่านิยมด้านสิ่งแวดล้อม สุขภาพอนามัยและความปลอดภัยในการสร้างแนวคิดความเป็นผู้นำด้านการงานโดยปราศจากอุบัติเหตุและการบาดเจ็บและครอบคลุมทั้งความห่วงใยผู้ออก

ดังนั้นจึงกำหนดให้มีนโยบายสิ่งแวดล้อม สุขภาพอนามัยและความปลอดภัยไว้ดังต่อไปนี้

1. บรรลุความเป็นเลิศด้านสิ่งแวดล้อม สุขภาพอนามัยและความปลอดภัย รวมถึงปฏิบัติตามกฎหมาย ระเบียบข้อบังคับและมาตรฐานที่เกี่ยวข้องกับการประกอบกิจการของบริษัทฯ
2. กำหนดให้ผลการปฏิบัติงานด้านสิ่งแวดล้อม สุขภาพอนามัยและความปลอดภัย เป็นหนึ่งในดัชนีชี้ประสิทธิภาพหลักของบริษัทฯ และการบริหารงานในด้านนี้เป็นหน้าที่สำคัญของสายงานบริหารในระดับต่าง ๆ เพื่อสร้างแรงบันดาลใจให้ทุกคนมีความรับผิดชอบต่อความปลอดภัยของตนเองและผู้อื่น
3. สร้างวัฒนธรรมการทำงานโดยปราศจากอุบัติเหตุและการบาดเจ็บ (HSE) ใช้วิธีการป้องกันมลพิษที่ต้นเหตุ (Pollution Prevention) ใช้วิธีคิดบนพื้นฐานของความเสี่ยง (Risk-based thinking) และการดำเนินธุรกิจเชิงรุก (Pro-active) เพื่อส่งเสริมความปลอดภัยส่วนบุคคลและความปลอดภัยกระบวนการผลิต และลดผลกระทบด้านสิ่งแวดล้อมและสุขภาพอนามัย หากมีสถานการณ์ที่ไม่ปลอดภัยเกิดขึ้น เราหยุดและแก้ไขปัญหาการดำเนินงานทันที
4. ใช้วิธีการอย่างสร้างสรรค์ในการส่งเสริมให้บุคลากรของบริษัทฯ มีความรู้ความเข้าใจ มีส่วนร่วมและมีความเป็นผู้นำในโครงการด้านสิ่งแวดล้อม สุขภาพอนามัยและความปลอดภัยผ่านทางการสร้างความสัมพันธ์ที่ดี การฝึกอบรม การสร้างความผูกพันกับองค์กรและการปรึกษาหารือ
5. ดำเนินการเพื่อให้อุตสาหกรรมที่มีความปลอดภัย เชื้อเพลิงและถูกสุขอนามัยและส่งเสริมให้ปฏิบัติงานมีสุขภาพอนามัยที่ดี มีสติและวินัย เพื่อนำไปสู่การทำงานที่ปราศจากอุบัติเหตุและการบาดเจ็บ ป้องกันการบาดเจ็บและอุบัติเหตุการจราจรบนถนนและคุณภาพชีวิตที่ดีอย่างยั่งยืน
6. สร้างสังคมคาร์บอนต่ำและหมุนเวียนการใช้ทรัพยากร ผ่านกระบวนการบริหารจัดการห่วงโซ่อุปทานที่เป็นมิตรต่อสิ่งแวดล้อม เพื่อลดผลกระทบจากการเปลี่ยนแปลงของสภาพภูมิอากาศ การใช้ทรัพยากรอย่างมีประสิทธิภาพ และส่งเสริมผลิตภัณฑ์ที่เป็นมิตรต่อสิ่งแวดล้อม เพื่อการพัฒนาอย่างยั่งยืน
7. เสริมสร้างความเอื้ออาทรและใส่ใจ การสื่อสารความเข้าใจและความร่วมมือภายในบริษัทฯ และระหว่างบริษัทฯ กับชุมชนใกล้เคียงองค์กรที่เกี่ยวข้องและหน่วยงานของรัฐบาล ทางด้านสิ่งแวดล้อม สุขภาพอนามัยและความปลอดภัย ทั้งนี้โดยครอบคลุมทั้งวัตถุประสงค์และเป้าหมายที่กำหนดไว้
8. จัดให้มีการทบทวนนโยบาย ระบบการจัดการและโครงการด้านสิ่งแวดล้อม สุขภาพอนามัยและความปลอดภัย และดำเนินการปรับปรุงแก้ไข
9. พัฒนาการดำเนินงานด้านสิ่งแวดล้อม สุขภาพอนามัยและความปลอดภัยอย่างต่อเนื่องเพื่อความยั่งยืน

นโยบายสิ่งแวดล้อม สุขภาพอนามัยและความปลอดภัยนี้มีขอบเขตครอบคลุมการปฏิบัติงานของบุคลากรทุกคน ในทุกๆ กิจกรรมของบริษัทฯ และดำเนินงานโดยพิจารณาบนมุมมองของวิถีชีวิตอย่างรอบด้าน ความปลอดภัยในที่นี้ครอบคลุมทั้งความปลอดภัยส่วนบุคคลและความปลอดภัยกระบวนการผลิต

หน้าที่ความรับผิดชอบ

1. ผู้บริหารมีหน้าที่ในการจัดสรรทรัพยากรที่เหมาะสม และเพียงพอต่อการดำเนินการตามนโยบายและระบบบริหารจัดการด้านสิ่งแวดล้อม สุขภาพอนามัยและความปลอดภัย
2. บุคลากรทุกคนของบริษัทฯ ต้องรับผิดชอบต่อความปลอดภัยของตนเองและบุคคลอื่นที่เกี่ยวข้อง และต้องให้เวลาให้กับตนเองในการขยาย “ขอบเขตแห่งอิทธิพล” และเผยแพร่วัฒนธรรมการทำงานโดยปราศจากอุบัติเหตุและการบาดเจ็บ
3. บุคลากรทุกคนของบริษัทฯ มีหน้าที่ในการรับรู้ เข้าใจและปฏิบัติตามให้ถูกต้องตามขั้นตอนการปฏิบัติงานและความรู้ที่ได้รับจากการฝึกอบรมด้านสิ่งแวดล้อม สุขภาพอนามัยและความปลอดภัย ตลอดจนการมีส่วนร่วมในการพัฒนาและปฏิบัติตามมาตรฐานระเบียบปฏิบัติงานและโครงการต่าง ๆ ในด้านสิ่งแวดล้อม สุขภาพอนามัยและความปลอดภัย

การนำไปปฏิบัติ

1. บริษัทฯ ต้องดำเนินการเพื่อให้มั่นใจว่า นโยบายสิ่งแวดล้อม สุขภาพอนามัยและความปลอดภัยมีการจัดทำและระบุไว้อย่างเป็นลายลักษณ์อักษร มีการนำไปปฏิบัติ ดำรงไว้ ปรับปรุงให้ทัน ติดตามตรวจสอบและมีการสื่อสารไปยังผู้ที่เกี่ยวข้องทุกคน เพื่อให้ได้ผลการดำเนินงานด้านสิ่งแวดล้อม สุขภาพอนามัยและความปลอดภัยตามมาตรฐานและวิธีปฏิบัติงานที่ดีระบุไว้หรือดีกว่า ซึ่งจะนำไปสู่ความเป็นเลิศของการดำเนินงานด้านสิ่งแวดล้อม สุขภาพอนามัยและความปลอดภัยสำหรับบุคลากรและผู้มีส่วนได้เสียของบริษัทฯ
2. บริษัทฯ ต้องดำรงไว้ซึ่งความตระหนักและใส่ใจสำหรับบุคลากรของบริษัทฯ ทุกคนในเรื่องของมาตรฐาน กฎระเบียบข้อบังคับและระเบียบปฏิบัติงานด้านสิ่งแวดล้อม สุขภาพอนามัยและความปลอดภัย ผ่านทางการฝึกอบรม การส่งเสริมประชาสัมพันธ์และการสื่อสาร
3. บริษัทฯ ต้องดำเนินการเพื่อให้มั่นใจว่าระบบบริหารจัดการด้านสิ่งแวดล้อม สุขภาพอนามัยและความปลอดภัยมีการดำเนินงานอย่างมีประสิทธิภาพ และแสวงหาโอกาสในการปรับปรุงระบบอย่างต่อเนื่อง โดยการนำมาตรฐานและวิธีการปฏิบัติงานที่ดีและได้รับการยอมรับมาไว้

ปรับปรุงแก้ไขครั้งที่: 5
วันที่ 5 มกราคม 2565

โรเบิร์ต โจเซฟ โดบรีค
ประธานเจ้าหน้าที่บริหาร



PRODUCT QUALITY POLICY

Star Petroleum Refining Public Company Limited

It is the policy of SPRC to provide quality products which meet specifications required by law, other applicable standards and customer's expectations.

Ensuring product integrity is critical to satisfying customer needs and expectations for quality and value in SPRC's products. This is vital to insure SPRC products' reputation, quality image and maintenance industry trust.

It is reflected in SPRC Product Quality Policy as follows:

- Provide customers with products and services which meet agreed specifications and performance requirements as well as comply with all applicable product quality laws and regulations and other requirements every time.
- Provide products which are safe and effective for their intended use when handled and used according to recommended guidelines and procedures.
- Working within an Incident and Injury Free culture, apply the continual Quality Management process to secure SPRC's competitive edge with the aim of being best in class and to continue to provide customers satisfaction.
- Stimulate innovation, involvement and co-operation at all levels of the organization to enhance the development of products quality and integrity.
- Implement continual improvement in quality performance and measure appropriate performance indicators resulting in meeting of the agreed specifications and performance requirement of the products in order to gain competitive advantage, enhance shareholder value, and exceed customer expectations.

This policy applies to all SPRC personnel and the conduct of the SPRC's business and operations and shall include all SPRC products sold by SPRC through direct sales and/or off-take agreements.



Responsibility

The Management is responsible for the integrity of SPRC products that it manufactures and sells. The Management is also responsible to provide adequate and appropriate resources to implement the Product Quality Policy and related management system and ensuring that SPRC personnel understand the roles and responsibilities toward the product quality.

All SPRC personnel shall know, understand, and carry out duties to achieve the Product Quality specifications.

Procedures

1. SPRC products shall comply with all applicable legal and business requirements/standards.
2. Products which SPRC manufactures, and sells are tested in accredited laboratories.
3. SPRC shall foster a climate in which innovation and initiative are encouraged and shall demonstrate commitment to continual improvement by recognizing and rewarding SPRC personnel accordingly.
4. SPRC shall incorporate House of Quality to actively promote and facilitate communication and cooperation within and across functions in order to improve product quality, supply reliability, services and work processes.
5. Performance against those standards will be monitored and feedback regularly.

Robert J. Dobrik
Chief Executive Officer

Revision No.: 4
Date: 1 June 2022

นโยบาย คุณภาพของผลิตภัณฑ์

บริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน)

บริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน) มีนโยบายที่ผลิตและจัดหาผลิตภัณฑ์ที่มีคุณภาพ ตรงตามข้อกำหนดของกฎหมาย มาตรฐานต่างๆ ที่มีผลบังคับใช้ต่อผลิตภัณฑ์และตรงตามความต้องการของลูกค้า

การทำให้เกิดความเชื่อมั่นต่อคุณภาพของผลิตภัณฑ์ถือเป็นสิ่งสำคัญในการตอบสนองความต้องการและความคาดหวังของลูกค้าในเรื่องของคุณภาพและคุณค่าผลิตภัณฑ์ของบริษัทฯ นี่เป็นส่วนสำคัญที่สุดที่จะรับประกันชื่อเสียงภาพลักษณ์ที่ดีต่อผลิตภัณฑ์ของบริษัทฯ ตลอดจนรักษาความเชื่อมั่นและความไว้วางใจของภาคอุตสาหกรรมที่มีต่อบริษัทฯ

บริษัทฯ จึงกำหนดให้มีนโยบายคุณภาพของผลิตภัณฑ์ไว้ดังต่อไปนี้

- จัดหาสินค้าและบริการให้ตรงตามความต้องการและข้อกำหนดที่ได้ตกลงกันไว้กับลูกค้ารวมถึงคุณภาพของสินค้าและบริการนั้นจะต้องได้มาตรฐานตามข้อกำหนดของกฎหมายและมาตรฐานต่างๆ ที่มีผลบังคับใช้ต่อผลิตภัณฑ์ในด้านคุณภาพตลอดเวลา
- ดำเนินการผลิตผลิตภัณฑ์ที่ปลอดภัยและมีประสิทธิภาพให้เป็นไปตามข้อกำหนดของผลิตภัณฑ์ที่ได้ระบุไว้ในระเบียบปฏิบัติงาน
- ปฏิบัติงานภายใต้วัฒนธรรมการทำงานโดยปราศจากอุบัติเหตุและการบาดเจ็บ ใช้กระบวนการบริหารคุณภาพทั่วทั้งองค์กรที่ทำให้บริษัทฯ รักษาความได้เปรียบในการแข่งขัน เพื่อเป็นผู้นำในธุรกิจ และสามารถตอบสนองความพึงพอใจแก่ลูกค้าได้อย่างต่อเนื่อง
- กระตุ้นพนักงานทุกระดับของบริษัทฯ ให้เกิดนวัตกรรม ความร่วมมือและการมีส่วนร่วมเพื่อเสริมสร้างการพัฒนาของคุณภาพและความสมบูรณ์พร้อมของผลิตภัณฑ์
- ดำเนินงานในเรื่องการปรับปรุงคุณภาพอย่างต่อเนื่องและมีการวัดผลในตัวชี้วัดผลการดำเนินงานที่เหมาะสมตามข้อกำหนดของผลิตภัณฑ์และความต้องการที่ตกลงกัน เพื่อที่จะรักษาความได้เปรียบในการแข่งขันทางธุรกิจ เพิ่มมูลค่าให้กับผู้ถือหุ้นและตอบสนองต่อความคาดหวังของลูกค้า

นโยบายคุณภาพของผลิตภัณฑ์นี้มีขอบเขตครอบคลุมถึงบุคลากรทุกคนของบริษัทฯ การดำเนินธุรกิจและการผลิตของบริษัทฯ ตลอดจนผลิตภัณฑ์ทุกชนิดของบริษัทฯ ทั้งที่จัดจำหน่ายโดยทั่วไปและจัดจำหน่ายผ่านทางผู้ถือหุ้น



หน้าที่ความรับผิดชอบ

ผู้บริหารมีหน้าที่รับผิดชอบต่อความสมบูรณ์พร้อมของผลิตภัณฑ์ที่ผลิตและจัดจำหน่ายของบริษัทฯ นอกจากนี้ยังมีหน้าที่ในการจัดสรรทรัพยากรที่เหมาะสม และเพียงพอต่อการดำเนินการตามนโยบายคุณภาพของผลิตภัณฑ์และระบบบริหารจัดการด้านคุณภาพ ตลอดจนทำให้เกิดความมั่นใจว่าบุคลากรของบริษัทฯ เข้าใจถึงบทบาทหน้าที่ของตนเองที่มีต่อคุณภาพของผลิตภัณฑ์

บุคลากรทุกคนของบริษัทฯ มีหน้าที่ในการรับรู้ เข้าใจและปฏิบัติงานให้ถูกต้องตามขั้นตอนเพื่อให้ผลิตภัณฑ์มีคุณภาพตามที่กำหนด

การนำไปปฏิบัติ

1. ผลิตภัณฑ์ของบริษัทฯ จะต้องมีคุณภาพตรงตามข้อกำหนดด้านกฎหมายตลอดจนมาตรฐานต่างๆ ที่มีผลบังคับใช้ต่อผลิตภัณฑ์
2. ผลิตภัณฑ์ของบริษัทฯ ที่ผลิตและจัดจำหน่ายจะต้องได้รับการทดสอบและรับรองคุณภาพจากห้องปฏิบัติการที่ได้รับการรับรองและเชื่อถือได้
3. บริษัทฯ สนับสนุนอย่างจริงจังในการทำให้เกิดนวัตกรรมและความคิดริเริ่มสร้างสรรค์ และบริษัทฯ มีความมุ่งมั่นที่จะทำให้เกิดการปรับปรุงคุณภาพของผลิตภัณฑ์อย่างต่อเนื่องโดยการขึ้นเงินเดือนและให้รางวัลแก่บุคลากรของบริษัทฯ ที่มีส่วนเกี่ยวข้อง
4. บริษัทฯ ใช้กระบวนการของ "House of Quality" ในการส่งเสริมให้เกิดการสื่อสารและการประสานงานที่มีประสิทธิภาพภายในของบริษัทฯ เพื่อให้เกิดการปรับปรุงคุณภาพของผลิตภัณฑ์ การให้บริการ รวมถึงกระบวนการทำงานอย่างยั่งยืน
5. ผลการดำเนินงานที่ไม่เป็นไปตามมาตรฐานจะถูกติดตามและแก้ไขอย่างเป็นประจำ

โรเบิร์ต โจเซฟ โดบริค
ประธานเจ้าหน้าที่บริหาร

ปรับปรุงแก้ไขครั้งที่: 4
วันที่ 1 มิถุนายน 2565





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1. Policy

It is the policy of SPRC to conduct business in a socially responsible and ethical manner with the balance of environment, social and economic that protects safety and health of SPRC family, concerned stakeholders and the environment in the area which may be impacted by our operation.

SPRC is committed to organizational culture and environment where Environment, Health and Safety (EHS) are recognized as value-based and built on a mindset intolerant of any level, frequency or severity of incident and injury. We believe that all injuries can be prevented, and our goal of incident and injury free operations is achievable.

Our commitment on Operational Excellence (OE) is embodied in EHS value of building Incident and Injury Free (IIF) leadership and a caring family mindset.

This culture is reflected in SPRC Environment, Health and Safety Policy as follows:

1. Achieve EHS excellence including compliance with all applicable EHS legal, regulatory and other requirements.
2. Integrate EHS performance as a part of SPRC key performance Indicators and place the management of EHS as a prime responsibility of line management. Inspire every individual be responsible for his/her own safety and the safety of others.
3. Create Incident and Injury Free (IIF) culture, apply pollution prevention, risk-based thinking, and pro-active methods to promote personal and process safety and minimize impacts to environment and health. When unsafe situation occurs, we stop work and take action.
4. Creatively promote awareness, understanding, involvement and leadership of SPRC personnel in EHS management system and programs through relationship building, training, engagement, and consultation.
5. Build a safe, reliable, and healthy workplace and a healthier, mindful and disciplined SPRC family to drive toward incident and injury free operations, prevent injuries and process safety incidents and make long-lasting healthy lifestyle and wellness.
6. Build low carbons and resource-circulating society throughout green supply chain management to minimize Climate Changes impact, ensure efficient use of the natural resources and to deliver environmentally friendly products for sustainable development.



7. Foster caring, communication, understanding, and cooperation related to EHS issues including EHS objectives within SPRC and between SPRC, surrounding communities and business and Thai governmental bodies.
8. Review the compliance of EHS policy, management system and programs and make corrective actions where required.
9. Implement continual improvement in SPRC Environmental, Health and Safety performance to aim the sustainability.

2. Scope

This policy applies to all SPRC personnel and the conduct of the SPRC's business and operations by considering Life Cycle Perspective. Safety covers both personal and process safety.

3. Responsibility

1. The Management is responsible for providing adequate and appropriate resources to implement the EHS policy and management system.
2. All SPRC personnel shall be responsible for their own safety and safety of others and shall always make time for people to extend the "circle of influence" and spread IIF culture.
3. All SPRC personnel shall know, understand and carry out duties in accordance with EHS training and instructions and actively participate in the development and implementation of EHS programs, procedures and standards.

4. Procedures

1. SPRC shall ensure that the EHS policy is documented, implemented, maintained, updated, monitored and communicated to everyone in order to meet or exceed applicable EHS standards/practices which lead to the excellent performance in EHS aspects for SPRC personnel and other stakeholders.
2. SPRC shall maintain awareness and focus for all SPRC personnel on EHS standards, rules & regulations and procedures through training, promotion and communications.



3. SPRC shall ensure effective functioning of EHS Management System and always seek opportunities for continual improvements through utilization of available best practices.

ภาคผนวก ข.4

ตำแนห่งสื่อนำส่งรายงานผลการปฏิบัติตาม
มาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม
และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม
ต่อหน่วยงานอนุญาต



STAR PETROLEUM REFINING PUBLIC COMPANY LIMITED

บริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน)

เลขทะเบียนนิติบุคคล 0107555000155

SPRC-QS-OUT 24-1623

วันที่ 26 กรกฎาคม พ.ศ. 2567

เรื่อง ขอนำส่งรายงานผลการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม โครงการท่าเทียบเรือ บริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน) ครั้งที่ 1/2567 ระหว่างเดือนมกราคม ถึงมิถุนายน พ.ศ. 2567

เรียน อธิบดีกรมเจ้าท่า

สิ่งที่ส่งมาด้วย รายงานผลการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม โครงการท่าเทียบเรือ บริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน) จำนวน 3 เล่ม และ CD-ROM จำนวน 4 แผ่น

ตามที่ บริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน) ได้รับความเห็นชอบในรายงานการเปลี่ยนแปลงรายละเอียดโครงการในรายงานการประเมินผลกระทบสิ่งแวดล้อม โครงการท่าเทียบเรือ (ครั้งที่ 4) (EIA) ตามหนังสือ ที่ ออก 5102.3.1/1266 ลงวันที่ 7 พฤษภาคม พ.ศ. 2562 ซึ่งโครงการตั้งอยู่ในนิคมอุตสาหกรรมมาบตาพุด ตำบลมาบตาพุด อำเภอเมืองระยอง จังหวัดระยอง เลขทะเบียนโรงงาน น. 49-1/2537-ญนพ. นั้น

เพื่อให้เป็นไปตามประกาศกระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อม เรื่อง หลักเกณฑ์ และวิธีการจัดทำรายงานผลการปฏิบัติตามมาตรการที่กำหนดไว้ในรายงานการประเมินผลกระทบสิ่งแวดล้อม ซึ่งผู้ดำเนินการ หรือผู้ขออนุญาต จะต้องจัดทำเมื่อได้รับอนุญาตให้ดำเนินโครงการหรือกิจการแล้ว พ.ศ.2561 ทางบริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน) จึงได้ขอนำส่งรายงานผลการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม โครงการท่าเทียบเรือ ครั้งที่ 1/2567 ระหว่างเดือนมกราคม ถึงมิถุนายน พ.ศ. 2567 ดังรายละเอียดตามสิ่งที่ส่งมาด้วย เพื่อให้หน่วยงานของท่านพิจารณาและดำเนินการตามขั้นตอนต่อไป

หากท่านมีข้อเสนอแนะหรือต้องการข้อมูลเพิ่มเติมประการใด ขอความกรุณาติดต่อนางสาวศุภกัศ์ชยา แก่กล้า ผู้เชี่ยวชาญด้านสิ่งแวดล้อม หมายเลขโทรศัพท์ 038-699-277

จึงเรียนมาเพื่อโปรดทราบ

รองกรรมการผู้จัดการใหญ่ ด้านปฏิบัติการเพื่อความเป็นเลิศ



STAR PETROLEUM REFINING PUBLIC COMPANY LIMITED
บริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน)

เลขทะเบียนนิติบุคคล 0107555000155

SPRC-QS-OUT 24-1623

วันที่ 26 กรกฎาคม พ.ศ. 2567

เรื่อง ขอนำส่งรายงานผลการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม โครงการทำแท็บเรือ บริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน) ครั้งที่ 1/2567 ระหว่างเดือนมกราคม ถึงมิถุนายน พ.ศ. 2567

เรียน ผู้อำนวยการสำนักงานท่าเรืออุตสาหกรรมมาบตาพุด

สิ่งที่ส่งมาด้วย รายงานผลการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม โครงการทำแท็บเรือ บริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน) จำนวน 1 เล่ม และ CD-ROM จำนวน 1 แผ่น

ตามที่ บริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน) ได้รับความเห็นชอบในรายงานการเปลี่ยนแปลงรายละเอียดโครงการในรายงานการประเมินผลกระทบสิ่งแวดล้อม โครงการทำแท็บเรือ (ครั้งที่ 4) (EIA) ตามหนังสือ ที่ ออก 5102.3.1/1266 ลงวันที่ 7 พฤษภาคม พ.ศ. 2562 ซึ่งโครงการตั้งอยู่ในนิคมอุตสาหกรรมมาบตาพุด ตำบลมาบตาพุด อำเภอเมืองระยอง จังหวัดระยอง เลขทะเบียนโรงงาน น. 49-1/2537-ญนพ. นั้น

เพื่อให้เป็นไปตามประกาศกระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อม เรื่อง หลักเกณฑ์ และวิธีการจัดทำรายงานผลการปฏิบัติตามมาตรการที่กำหนดไว้ในรายงานการประเมินผลกระทบสิ่งแวดล้อม ซึ่งผู้ดำเนินการ หรือผู้ขออนุญาต จะต้องจัดทำเมื่อได้รับอนุญาตให้ดำเนินโครงการหรือกิจการแล้ว พ.ศ.2561 ทางบริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน) จึงได้ขอนำส่งรายงานผลการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม โครงการทำแท็บเรือ ครั้งที่ 1/2567 ระหว่างเดือนมกราคม ถึงมิถุนายน พ.ศ. 2567 ดังรายละเอียดตามสิ่งที่ส่งมาด้วย เพื่อให้หน่วยงานของท่านพิจารณาและดำเนินการตามขั้นตอนต่อไป

หากท่านมีข้อเสนอแนะหรือต้องการข้อมูลเพิ่มเติมประการใด ขอความกรุณาติดต่อนางสาวศุภกัษิญา แก่กล้า ผู้เชี่ยวชาญด้านสิ่งแวดล้อม หมายเลขโทรศัพท์ 038-699-277

จึงเรียนมาเพื่อโปรดทราบ

รองกรรมการผู้จัดการใหญ่ ด้านปฏิบัติการเพื่อความเป็นเลิศ

ภาคผนวก ข.5

ระเบียบปฏิบัติ เรื่อง การตรวจสอบเครื่องจักรและอุปกรณ์ประจำเดือน
และตัวอย่างบันทึกการตรวจสอบเครื่องจักรและอุปกรณ์

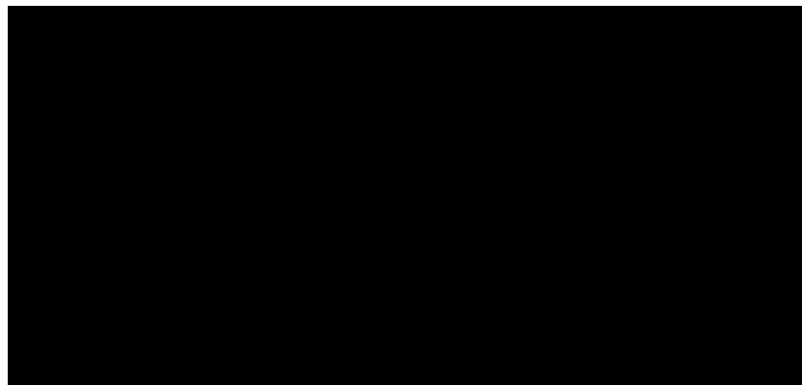


Star Petroleum Refining Public Company Limited

Production Unit Movement and Dispatches

HC-FO-PD-3015

Plant 67 General Condition Monthly Check List



Copy No.	Controller/Holder	Location
00	Electronic	EDMS

Amendment List

[illegible]

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1. PLANT 67 CHECK LIST	1
1.1 Purpose	1
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1. Plant 67 Check List

1.1 Purpose

This Check List is to be completed monthly by the designated shift to ensure that the General Condition of Plant 67 are maintained in good condition.

1.2 Summary

This General Condition Monthly Check List for the Plant 67 must be completed each month, all items on the list must be checked and the appropriate Yes/No column completed. Any responses in the 'No' column must be supported by entering findings in the 'Comments' column and by entering the Work Request MR number to indicate that any actions required to correct deficiencies have been initiated.

It is the Senior Operator responsibility to ensure that the Shift Check List is completed as scheduled.

The check list must be signed by the Area Operator(s) carrying out the checks, Senior Operator must then sign to indicate that he has reviewed the check list and taken any necessary actions required i.e. Senior Operator informed, work request entered, recorded in turnover, appropriate people informed of deficiencies etc.

2. Plant 67 General Condition Monthly Checklist

Plant 67 SUPPORT FACILITY

Month: _____

Year: _____

Location	Description	Yes	No	Comments	MR No.
Sanitary System	Hypochlorite tank level OK				
	Acid feed pump OK				
	Air blower working				
	Sludge level OK				
	Fire extinguisher in place				
	Enough Hypochlorite available				
	Empty Hypochlorite containers removed				
	Discharge pipe clear of debris				
	Discharge channel clean				
	Clean, safe & well maintained				
LPG Flare	Pressure Gauges OK				
	Meter sun shade in good condition				
	Warning signs in place				
	Lighting OK				
	Raw water supply OK				
	Utility air point in good condition				
	Block valves greased & exercised				
	Utility hose in place				
Nitrogen Meter Skid	Pressure gauges OK				
	Cage locked				
	Clean, safe & well maintained				
Sub Station	Lighting OK				
	CO2 Extinguisher				
	Air conditioning OK				
	Doors closed				
	Clean, safe & well maintained				

Location	Description	Yes	No	Comments	MR No.
Emergency Generator House	Engine control switch in auto				
	Alarm panel clear				
	Lamp test OK				
	Fuel tank level OK				
	Lighting OK				
	Sprinkler inlet valve open				
	Fire hose connection covers on				
	Clean, safe & well maintained				
Mini Lab	Air conditioning working				
	Vent fan working				
	Water supply OK				
	Drainage OK				
	Testing equipment clean & stored				
	Fire extinguishers in place				
	Clean, safe & well maintained				
MCB Lift Station	Inspection hatch cover in place				
	Pumps run OK				
	Pumps in auto				
	Clean, safe & well maintained				
48" Crude Line	Sample points clean				
	Pressure gauges OK				
	Drain plugs in place				
	Block valves greased & exercised				
	Access platform clear				
Shoreline Valve Area	Clean, safe & well maintained				
	Line identification OK				
	Deck drain clean				
	Firemain block valve open				
	Block valves greased & exercised				
	MOV fire protection covers in place				
	Drain plugs in place				
	Walkways clear				
	Clean, safe & well maintained				



Location	Description	Yes	No	Comments	MR No.
Oil Spill Boom Area	Oil spill boom covered				
	Deployment gate unobstructed				
	Oil spill container access OK				
	Full Lube oil drums on pallets.				
	Full dye drums on pallets				
	Empty drums removed				
	Nitrogen bottles secure in stand				
	Safety shower & eye wash OK				
	Clean, safe & well maintained				

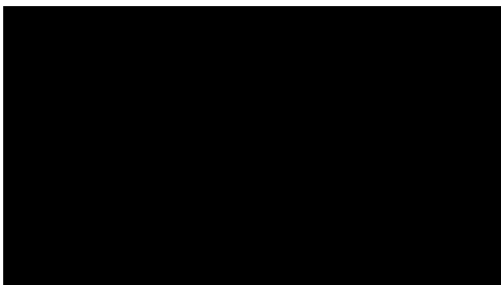
Hose Maintenance Area & Sump	Adjustable slide gate closed				
	Pump run OK				
	Pump in auto				
	Pressure gauge OK				
	Outfall valve closed				
	Sump level OK				
	Sump contents clean & free of debris				
	Hose roller channel clean				
	Raw water supply OK				
	Utility air point in good condition				
	Block valves greased & exercised				
	Clean, safe & well maintained				

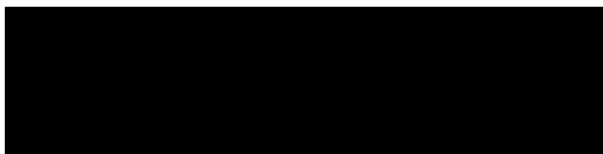
Excise Lift & Utility Station	Inspection hatch cover in place				
	Pump run OK				
	Discharge valve open				
	Pump in auto control				
	Raw water supply OK				
	Utility air point in good condition				
	Block valves greased & exercised				
	Clean, safe & well maintained				

Inspected by Operator: _____ Date: _____

Checked by Senior Operator: _____ Date: _____

Equipment t Tag	Equipment Description	Check List	Check List Description	Inspectio n result	Unit	Date/Time	Report By	Equipmen t Tag	Equipment Description	Check List	Check List Description	Inspectio n result	Unit	Date/Time	Report By
67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-10-18 13:00:31.000	phamphatb	67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-12-10 15:03:48.000	phamphatb
67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-10-19 12:03:35.000	phamphatb	67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-12-11 23:50:02.000	phamphatb
67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-10-20 10:33:12.000	phamphatb	67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-12-12 14:02:13.000	phamphatb
67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-10-21 13:51:14.000	phamphatb	67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-12-13 12:35:26.000	phamphatb
67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-10-22 15:59:56.000	phamphatb	67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-12-14 11:28:20.000	phamphatb
67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-10-23 10:03:54.000	phamphatb	67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-12-15 11:46:13.000	phamphatb
67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-10-24 12:53:14.000	phamphatb	67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-12-16 15:37:09.000	phamphatb
67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-10-25 10:06:11.000	phamphatb	67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-12-17 12:29:38.000	phamphatb
67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-10-26 11:07:33.000	phamphatb	67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-12-18 13:42:00.000	phamphatb
67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-10-27 14:00:44.000	phamphatb	67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-12-19 11:44:35.000	phamphatb
67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-10-28 11:32:55.000	phamphatb	67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-12-20 09:07:48.000	phamphatb
67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-10-29 12:45:48.000	phamphatb	67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-12-21 09:38:48.000	phamphatb
67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-10-30 09:10:11.000	phamphatb	67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-12-22 09:05:28.000	phamphatb
67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-10-31 16:50:59.000	phamphatb	67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-12-23 13:22:08.000	phamphatb
67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-11-01 14:15:55.000	phamphatb	67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-12-24 15:22:16.000	phamphatb
67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-11-02 12:36:34.000	phamphatb	67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-12-25 09:46:43.000	phamphatb
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67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-11-04 11:07:05.000	phamphatb	67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-12-27 13:08:45.000	phamphatb
67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-11-05 11:31:11.000	phamphatb	67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-12-28 12:55:38.000	phamphatb
67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-11-06 14:40:43.000	phamphatb	67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-12-29 13:20:21.000	phamphatb
67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-11-07 15:08:29.000	phamphatb	67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-12-30 09:42:07.000	phamphatb
67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-11-08 14:28:26.000	phamphatb	67K107	LPG FLARE BLOWER	Start Mod	Check Start Mode	Low speed	Single Selection	2024-12-31 13:25:50.000	ph







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ภาคผนวก ข.13

รายงานการติดตามยานพาหนะ



รายงานการติดตามยานพาหนะ

Onelink Technology Co.,Ltd.

รายงาน: รายละเอียดการเดินทาง

พนักงานขับรถ: นายอภิเดช เกตุรังษ์

ทะเบียน: 64-8937

รหัสรถ: R119(64-8937)

ตั้งแต่: 15 ก.ค. 67 (จ.) 8:00

ถึง: 15 ก.ค. 67 (จ.) 23:59

จุดต้นเครื่อง จุดสิ้นสุดเครื่อง เส้นทาง ความเร็วเกินกำหนด

วันที่, เวลา	วันที่,เวลา เริ่มจอด	วันที่,เวลา สิ้นสุด	รวมเวลาจอด	เซนเซอร์					ความเร็ว	ระยะทาง	รวม	อุปกรณ์	สถานี	สถานที่		
				1	2	3	4	A						ตำบล	อำเภอ	จังหวัด
15 ก.ค. 67 08:00:16	null	null	-	0	0	0	0		75	0.0	0.0	-		เขาไฉ่น้ำ	นางเลิ้ง	ชลบุรี
15 ก.ค. 67 08:05:16	null	null	-	0	0	0	0		64	0.6	6.4	-		โป่ง	นางเลิ้ง	ชลบุรี
15 ก.ค. 67 08:10:16	null	null	-	0	0	0	0		73	0.6	13.0	-		มะขามคู่	นิคมพัฒนา	ระยอง
15 ก.ค. 67 08:15:16	null	null	-	0	0	0	0		85	0.7	19.5	-		นิคมพัฒนา	นิคมพัฒนา	ระยอง
15 ก.ค. 67 08:20:16	null	null	-	0	0	0	0		25	0.1	23.1	-		นาข่า	นิคมพัฒนา	ระยอง
15 ก.ค. 67 08:25:16	null	null	-	0	0	0	0		0	0.0	23.2	-		นาข่า	นิคมพัฒนา	ระยอง
15 ก.ค. 67 08:30:16	null	null	-	0	0	0	0		60	0.5	25.4	-		นาตาพูด	เมืองระยอง	ระยอง
15 ก.ค. 67 08:35:16	null	null	-	0	0	0	0		63	0.5	28.0	-		นาตาพูด	เมืองระยอง	ระยอง
15 ก.ค. 67 08:40:16	null	null	-	0	0	0	0		52	0.5	32.7	-		นาตาพูด	เมืองระยอง	ระยอง
15 ก.ค. 67 08:45:16	15 ก.ค. 67 08:45:16	15 ก.ค. 67 08:54:16	0 วัน 00 ชม 09 นาที	0	0	0	0		0	0.0	33.8	-		นาตาพูด	เมืองระยอง	ระยอง
15 ก.ค. 67 08:54:16	null	null	-	0	0	0	0		1	0.0	33.8	-		นาตาพูด	เมืองระยอง	ระยอง
15 ก.ค. 67 08:59:41	null	null	-	0	0	0	0		17	0.0	34.2	-		นาตาพูด	เมืองระยอง	ระยอง
15 ก.ค. 67 09:22:16	15 ก.ค. 67 09:03:46	15 ก.ค. 67 09:22:46	0 วัน 00 ชม 19 นาที	0	0	0	0		0	0.0	34.3	-		นาตาพูด	เมืองระยอง	ระยอง
15 ก.ค. 67 09:22:46	null	null	-	0	0	0	0		0	0.0	34.3	-		นาตาพูด	เมืองระยอง	ระยอง
15 ก.ค. 67 09:27:46	null	null	-	0	0	0	0		0	0.0	34.5	-		นาตาพูด	เมืองระยอง	ระยอง
15 ก.ค. 67 09:32:46	null	null	-	0	0	0	0		0	0.0	34.7	-		นาตาพูด	เมืองระยอง	ระยอง
15 ก.ค. 67 09:37:46	null	null	-	0	0	0	0		0	0.0	34.8	-		นาตาพูด	เมืองระยอง	ระยอง
15 ก.ค. 67 09:42:46	null	null	-	0	0	0	0		0	0.0	34.8	-		นาตาพูด	เมืองระยอง	ระยอง
15 ก.ค. 67 09:47:46	null	null	-	0	0	0	0		0	0.0	34.8	-		นาตาพูด	เมืองระยอง	ระยอง
15 ก.ค. 67 09:52:46	null	null	-	0	0	0	0		0	0.0	34.8	-		นาตาพูด	เมืองระยอง	ระยอง
15 ก.ค. 67 09:57:46	null	null	-	0	0	0	0		0	0.0	34.8	-		นาตาพูด	เมืองระยอง	ระยอง
15 ก.ค. 67 10:02:46	null	null	-	0	0	0	0		0	0.0	34.8	-		นาตาพูด	เมืองระยอง	ระยอง

15 ส.ค. 67 10:10:55

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วันที่, เวลา	วันที่,เวลา เริ่มจอด	วันที่,เวลา สิ้นสุด	รวมเวลาจอด	เซนเซอร์					ความเร็ว	ระยะทาง	รวม	อุปกรณ์	สถานี	สถานที่		
				1	2	3	4	A						ตำบล	อำเภอ	จังหวัด
15 ก.ค. 67 12:32:46	null	null	-	0	0	0	0		30	0.1	180.0	-		นาข้วย	เมืองระยอง	ระยอง
15 ก.ค. 67 12:37:46	null	null	-	0	0	0	0		58	0.5	184.5	-		โพรงอากาศ	บ้านป่าบิเียว	ระยอง
15 ก.ค. 67 12:42:46	null	null	-	0	0	0	0		0	0.0	187.3	-		โพรงอากาศ	บ้านป่าบิเียว	ระยอง
15 ก.ค. 67 12:47:46	null	null	-	0	0	0	0		0	0.0	187.7	-		โพรงอากาศ	บ้านป่าบิเียว	ระยอง
15 ก.ค. 67 12:52:46	null	null	-	0	0	0	0		66	0.6	190.1	-		หนองขอม	บ้านป่าบิเียว	ระยอง
15 ก.ค. 67 12:57:46	null	null	-	0	0	0	0		69	0.6	195.4	-		สิงโตทอง	บ้านป่าบิเียว	ระยอง
15 ก.ค. 67 13:02:46	null	null	-	0	0	0	0		65	0.5	201.0	-		คลองเกาะแก้ว	บ้านป่าบิเียว	ระยอง
15 ก.ค. 67 13:07:46	null	null	-	0	0	0	0		61	0.4	205.5	-		พระอาจารย์	องครักษ์	นครนายก
15 ก.ค. 67 13:12:46	null	null	-	0	0	0	0		54	0.5	210.4	-		นางลูกเสือ	องครักษ์	นครนายก
15 ก.ค. 67 13:17:46	null	null	-	0	0	0	0		47	0.4	214.1	-		นางลูกเสือ	องครักษ์	นครนายก
15 ก.ค. 67 13:22:46	null	null	-	0	0	0	0		62	0.5	218.4	-		องครักษ์	องครักษ์	นครนายก
15 ก.ค. 67 13:27:46	null	null	-	0	0	0	0		72	0.5	222.9	-		พระยุด	องครักษ์	นครนายก
15 ก.ค. 67 13:32:46	null	null	-	0	0	0	0		22	0.1	226.6	-		นางอ้อ	บ้านนา	นครนายก
15 ก.ค. 67 13:37:46	null	null	-	0	0	0	0		58	0.5	230.5	-		นางอ้อ	บ้านนา	นครนายก
15 ก.ค. 67 13:42:46	null	null	-	0	0	0	0		55	0.3	234.4	-		หนองหลวง	บ้านนา	นครนายก
15 ก.ค. 67 13:47:46	null	null	-	0	0	0	0		56	0.5	239.8	-		บ้านนา	บ้านนา	นครนายก
15 ก.ค. 67 13:52:46	null	null	-	0	0	0	0		0	0.0	242.7	-		ป่าชะ	บ้านนา	นครนายก
15 ก.ค. 67 13:57:46	null	null	-	0	0	0	0		65	0.6	245.7	-		ป่าชะ	บ้านนา	นครนายก
15 ก.ค. 67 14:02:46	null	null	-	0	0	0	0		66	0.5	251.2	-		เขาเหิน	บ้านนา	นครนายก
15 ก.ค. 67 14:07:46	null	null	-	0	0	0	0		61	0.5	256.7	-		ชะมด	แก่งคอย	สระบุรี
15 ก.ค. 67 14:12:46	null	null	-	0	0	0	0		70	0.5	261.8	-		ชะมด	แก่งคอย	สระบุรี
15 ก.ค. 67 14:17:46	null	null	-	0	0	0	0		71	0.6	267.6	-		ท่ามะปราง	แก่งคอย	สระบุรี
15 ก.ค. 67 14:22:46	null	null	-	0	0	0	0		0	0.0	270.6	-		เขาคีเขาว	แก่งคอย	สระบุรี
15 ก.ค. 67 14:27:46	null	null	-	0	0	0	0		0	0.0	270.7	-		เขาคีเขาว	แก่งคอย	สระบุรี
15 ก.ค. 67 14:32:46	null	null	-	0	0	0	0		0	0.0	270.7	-		เขาคีเขาว	แก่งคอย	สระบุรี
15 ก.ค. 67 14:37:42	null	null	-	0	0	0	0		1	0.0	270.8	-		เขาคีเขาว	แก่งคอย	สระบุรี
15 ก.ค. 67 14:42:46	null	null	-	0	0	0	0		0	0.0	270.9	-		เขาคีเขาว	แก่งคอย	สระบุรี
15 ก.ค. 67 15:47:16	15 ก.ค. 67 14:46:16	15 ก.ค. 67 18:19:48	0 วัน 03 ชม 33 นาที	0	0	0	0		0	0.0	270.9	-		เขาคีเขาว	แก่งคอย	สระบุรี
15 ก.ค. 67 18:19:48	null	null	-	0	0	0	0		0	0.0	270.9	-		เขาคีเขาว	แก่งคอย	สระบุรี

15 ส.ค. 67 10:10:56

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วันที่, เวลา	วันที่,เวลา เริ่มจอด	วันที่,เวลา สิ้นสุด	รวมเวลาจอด	เซนเซอร์					ความเร็ว	ระยะทาง	รวม	อุปกรณ์	สถานี	สถานที่		
				1	2	3	4	A						ตำบล	อำเภอ	จังหวัด
15 ก.ค. 67 10:07:42	null	null	-	0	0	0	0		27	0.3	36.8	-		นาตาพูด	เมืองระยอง	ระยอง
15 ก.ค. 67 10:12:46	null	null	-	0	0	0	0		66	0.6	42.2	-		เนินพระ	เมืองระยอง	ระยอง
15 ก.ค. 67 10:17:46	null	null	-	0	0	0	0		68	0.6	47.3	-		ทับนา	เมืองระยอง	ระยอง
15 ก.ค. 67 10:22:46	null	null	-	0	0	0	0		69	0.7	53.3	-		นาข่า	นิคมพัฒนา	ระยอง
15 ก.ค. 67 10:27:46	null	null	-	0	0	0	0		43	0.3	58.1	-		นิคมพัฒนา	นิคมพัฒนา	ระยอง
15 ก.ค. 67 10:32:46	null	null	-	0	0	0	0		66	0.6	63.3	-		มะขามคู่	นิคมพัฒนา	ระยอง
15 ก.ค. 67 10:37:46	null	null	-	0	0	0	0		73	0.6	68.7	-		โป่ง	นางเลิ้ง	ชลบุรี
15 ก.ค. 67 10:42:46	null	null	-	0	0	0	0		72	0.5	74.0	-		โป่ง	นางเลิ้ง	ชลบุรี
15 ก.ค. 67 10:47:46	null	null	-	0	0	0	0		60	0.5	80.1	-		โป่ง	นางเลิ้ง	ชลบุรี
15 ก.ค. 67 10:52:46	null	null	-	0	0	0	0		56	0.4	83.8	-		หนองปลาไหล	นางเลิ้ง	ชลบุรี
15 ก.ค. 67 10:57:46	null	null	-	0	0	0	0		60	0.5	89.4	-		ตะเคียนเตี้ย	นางเลิ้ง	ชลบุรี
15 ก.ค. 67 11:02:46	null	null	-	0	0	0	0		60	0.5	94.9	-		ฉิ่ง	ศรีราชา	ชลบุรี
15 ก.ค. 67 11:07:46	null	null	-	0	0	0	0		62	0.5	100.3	-		หนองขาม	ศรีราชา	ชลบุรี
15 ก.ค. 67 11:12:46	null	null	-	0	0	0	0		65	0.6	105.8	-		ศรีศักดิ์	ศรีราชา	ชลบุรี
15 ก.ค. 67 11:17:46	null	null	-	0	0	0	0		67	0.6	111.7	-		นาข้วย	ศรีราชา	ชลบุรี
15 ก.ค. 67 11:22:46	null	null	-	0	0	0	0		72	0.6	117.6	-		หนองช้างคอก	เมืองชลบุรี	ชลบุรี
15 ก.ค. 67 11:27:46	null	null	-	0	0	0	0		62	0.5	123.1	-		หนองช้างคอก	เมืองชลบุรี	ชลบุรี
15 ก.ค. 67 11:32:46	null	null	-	0	0	0	0		73	0.6	129.1	-		นาข่า	เมืองชลบุรี	ชลบุรี
15 ก.ค. 67 11:37:46	null	null	-	0	0	0	0		71	0.6	135.0	-		คลองน้ำฝืด	เมืองชลบุรี	ชลบุรี
15 ก.ค. 67 11:42:46	null	null	-	0	0	0	0		66	0.5	140.6	-		นาข้วย	พนาทอง	ชลบุรี
15 ก.ค. 67 11:47:46	null	null	-	0	0	0	0		76	0.7	146.5	-		เขาหิน	บ้านโป่ง	ฉะเชิงเทรา
15 ก.ค. 67 11:52:46	null	null	-	0	0	0	0		47	0.4	152.0	-		ท่ามะอาน	บ้านโป่ง	ฉะเชิงเทรา
15 ก.ค. 67 11:57:46	null	null	-	0	0	0	0		55	0.4	154.3	-		หนองจอก	บ้านโป่ง	ฉะเชิงเทรา
15 ก.ค. 67 12:02:46	null	null	-	0	0	0	0		65	0.6	160.6	-		คลองประเวศ	บ้านโพธิ์	ฉะเชิงเทรา
15 ก.ค. 67 12:07:46	null	null	-	0	0	0	0		56	0.4	164.0	-		นาข้วย	เมืองฉะเชิงเทรา	ฉะเชิงเทรา
15 ก.ค. 67 12:12:46	null	null	-	0	0	0	0		54	0.4	166.2	-		หน้าเมือง	เมืองฉะเชิงเทรา	ฉะเชิงเทรา
15 ก.ค. 67 12:17:46	null	null	-	0	0	0	0		67	0.6	170.6	-		วัดตะเคียน	เมืองฉะเชิงเทรา	ฉะเชิงเทรา
15 ก.ค. 67 12:22:46	null	null	-	0	0	0	0		46	0.4	174.6	-		วัดตะเคียน	เมืองฉะเชิงเทรา	ฉะเชิงเทรา
15 ก.ค. 67 12:27:46	null	null	-	0	0	0	0		55	0.5	178.5	-		ท่าไข่	เมืองฉะเชิงเทรา	ฉะเชิงเทรา

15 ส.ค. 67 10:10:56

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วันที่, เวลา	วันที่,เวลา เริ่มจอด</
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รายงานการติดตามยานพาหนะ

Onelink Technology Co.,Ltd.

รายงาน: รายละเอียดการเดินทาง

พนักงานขับรถ: นายสมพร เขยกลีน

ทะเบียน: 65-0822

รหัสรถ: S105(65-0822)

ตั้งแต่: 24 ก.ย. 67 (อ.) 8:00

ถึง: 24 ก.ย. 67 (อ.) 23:59

จุดต้นเครื่อง จุดสิ้นสุดเครื่อง เส้นทาง ความเร็วเกินกำหนด

วันที่, เวลา	วันที่,เวลา เริ่มจุด	วันที่,เวลา สิ้นสุด	รวมเวลาจอด	เซนเซอร์					ความเร็ว	ระยะทางรวม	ระยะทางรวม	อุปกรณ์	สถานี	สถานที่		
				1	2	3	4	A						ตำบล	อำเภอ	จังหวัด
24 ก.ย. 67 11:08:37	null	null	-	0	0	0	0		52	0.0	0.0	-		บ้านช้าง	ดงมะไฟพัฒนา	ระยอง
24 ก.ย. 67 11:13:37	null	null	-	0	0	0	0		66	0.6	4.8	-		ดงมะไฟพัฒนา	ดงมะไฟพัฒนา	ระยอง
24 ก.ย. 67 11:18:37	null	null	-	0	0	0	0		56	0.4	8.5	-		มะขามคู่	ดงมะไฟพัฒนา	ระยอง
24 ก.ย. 67 11:23:37	null	null	-	0	0	0	0		65	0.5	13.6	-		มะขามคู่	ดงมะไฟพัฒนา	ระยอง
24 ก.ย. 67 11:28:37	null	null	-	0	0	0	0		66	0.6	18.9	-		โปล่ง	บางละมุง	ชลบุรี
24 ก.ย. 67 11:33:37	null	null	-	0	0	0	0		6	0.1	20.7	-		โปล่ง	บางละมุง	ชลบุรี
24 ก.ย. 67 11:38:37	null	null	-	0	0	0	0		7	0.1	21.0	-		โปล่ง	บางละมุง	ชลบุรี
24 ก.ย. 67 11:43:37	null	null	-	0	0	0	0		23	0.1	21.8	-		โปล่ง	บางละมุง	ชลบุรี
24 ก.ย. 67 11:48:37	null	null	-	0	0	0	0		67	0.5	25.6	-		โปล่ง	บางละมุง	ชลบุรี
24 ก.ย. 67 11:53:37	null	null	-	0	0	0	0		54	0.4	30.5	-		โปล่ง	บางละมุง	ชลบุรี
24 ก.ย. 67 11:58:37	null	null	-	0	0	0	0		57	0.5	34.3	-		หนองปลาไหล	บางละมุง	ชลบุรี
24 ก.ย. 67 12:03:37	null	null	-	0	0	0	0		60	0.5	39.4	-		ตะเคียนเตี้ย	บางละมุง	ชลบุรี
24 ก.ย. 67 12:08:37	null	null	-	0	0	0	0		65	0.5	44.9	-		บึง	ศรีราชา	ชลบุรี
24 ก.ย. 67 12:13:37	null	null	-	0	0	0	0		62	0.5	50.0	-		หนองจอก	ศรีราชา	ชลบุรี
24 ก.ย. 67 12:18:37	null	null	-	0	0	0	0		55	0.5	55.1	-		ศรีศักดิ์	ศรีราชา	ชลบุรี
24 ก.ย. 67 12:23:37	null	null	-	0	0	0	0		58	0.5	60.4	-		นางพระ	ศรีราชา	ชลบุรี
24 ก.ย. 67 12:28:37	null	null	-	0	0	0	0		57	0.5	65.3	-		นางพระ	ศรีราชา	ชลบุรี
24 ก.ย. 67 12:33:37	null	null	-	0	0	0	0		57	0.5	70.3	-		หนองจอก	ชลบุรี	ชลบุรี
24 ก.ย. 67 12:38:37	null	null	-	0	0	0	0		54	0.5	74.3	-		หนองงี	เมืองชลบุรี	ชลบุรี
24 ก.ย. 67 12:43:37	null	null	-	0	0	0	0		0	0.0	75.2	-		หนองงี	เมืองชลบุรี	ชลบุรี
24 ก.ย. 67 12:48:37	null	null	-	0	0	0	0		0	0.0	75.2	-		หนองงี	เมืองชลบุรี	ชลบุรี
24 ก.ย. 67 12:53:37	null	null	-	0	0	0	0		0	0.0	75.2	-		หนองงี	เมืองชลบุรี	ชลบุรี

09 ต.ค. 67 10:51:57

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วันที่, เวลา	วันที่,เวลา เริ่มจุด	วันที่,เวลา สิ้นสุด	รวมเวลาจอด	เซนเซอร์					ความเร็ว	ระยะทางรวม	ระยะทางรวม	อุปกรณ์	สถานี	สถานที่		
				1	2	3	4	A						ตำบล	อำเภอ	จังหวัด
24 ก.ย. 67 15:39:07	null	null	-	0	0	0	0		47	0.4	167.0	-		องครักษ์	องครักษ์	นครนายก
24 ก.ย. 67 15:44:07	null	null	-	0	0	0	0		8	0.1	170.1	-		องครักษ์	องครักษ์	นครนายก
24 ก.ย. 67 15:49:07	null	null	-	0	0	0	0		38	0.2	172.5	-		องครักษ์	องครักษ์	นครนายก
24 ก.ย. 67 15:54:07	null	null	-	0	0	0	0		52	0.4	173.4	-		คลองใหญ่	องครักษ์	นครนายก
24 ก.ย. 67 15:59:07	null	null	-	0	0	0	0		61	0.5	178.5	-		บางปลารด	องครักษ์	นครนายก
24 ก.ย. 67 16:04:07	null	null	-	0	0	0	0		47	0.4	183.4	-		ทองหลาง	บ้านนา	นครนายก
24 ก.ย. 67 16:09:07	null	null	-	0	0	0	0		45	0.3	187.5	-		ทองหลาง	บ้านนา	นครนายก
24 ก.ย. 67 16:14:07	null	null	-	0	0	0	0		54	0.5	192.2	-		บ้านนา	บ้านนา	นครนายก
24 ก.ย. 67 16:19:07	null	null	-	0	0	0	0		34	0.1	194.1	-		บ้านนา	บ้านนา	นครนายก
24 ก.ย. 67 16:24:07	null	null	-	0	0	0	0		53	0.4	198.2	-		ป่าชะ	บ้านนา	นครนายก
24 ก.ย. 67 16:29:07	null	null	-	0	0	0	0		54	0.5	202.7	-		เขาเหิน	บ้านนา	นครนายก
24 ก.ย. 67 16:34:07	null	null	-	0	0	0	0		60	0.5	207.2	-		เขาเหิน	บ้านนา	นครนายก
24 ก.ย. 67 16:39:07	null	null	-	0	0	0	0		51	0.4	211.8	-		ชะม	แก่งคอย	สระบุรี
24 ก.ย. 67 16:44:07	null	null	-	0	0	0	0		57	0.5	216.6	-		ท่ามะพร้าว	แก่งคอย	สระบุรี
24 ก.ย. 67 16:49:07	null	null	-	0	0	0	0		61	0.5	221.5	-		ท่ามะพร้าว	แก่งคอย	สระบุรี
24 ก.ย. 67 16:54:07	null	null	-	0	0	0	0		0	0.0	223.6	-		ชาติกแพ	แก่งคอย	สระบุรี
24 ก.ย. 67 16:59:07	null	null	-	0	0	0	0		0	0.0	223.6	-		ชาติกแพ	แก่งคอย	สระบุรี
24 ก.ย. 67 17:04:07	null	null	-	0	0	0	0		0	0.0	223.7	-		ชาติกแพ	แก่งคอย	สระบุรี
24 ก.ย. 67 17:09:07	null	null	-	0	0	0	0		3	0.0	223.8	-		ชาติกแพ	แก่งคอย	สระบุรี
24 ก.ย. 67 17:14:07	null	null	-	0	0	0	0		0	0.0	224.0	-		ชาติกแพ	แก่งคอย	สระบุรี
24 ก.ย. 67 17:19:02	null	null	-	0	0	0	0		2	0.0	224.0	-		ชาติกแพ	แก่งคอย	สระบุรี
24 ก.ย. 67 17:24:07	null	null	-	0	0	0	0		0	0.0	224.0	-		ชาติกแพ	แก่งคอย	สระบุรี
24 ก.ย. 67 17:29:07	null	null	-	0	0	0	0		0	0.0	224.2	-		ชาติกแพ	แก่งคอย	สระบุรี
24 ก.ย. 67 17:34:07	null	null	-	0	0	0	0		0	0.0	224.2	-		ชาติกแพ	แก่งคอย	สระบุรี
24 ก.ย. 67 17:39:07	null	null	-	0	0	0	0		0	0.0	224.2	-		ชาติกแพ	แก่งคอย	สระบุรี
24 ก.ย. 67 17:44:07	null	null	-	0	0	0	0		0	0.0	224.2	-		ชาติกแพ	แก่งคอย	สระบุรี
24 ก.ย. 67 17:49:07	null	null	-	0	0	0	0		0	0.0	224.2	-		ชาติกแพ	แก่งคอย	สระบุรี
24 ก.ย. 67 17:54:07	null	null	-	0	0	0	0		0	0.0	224.3	-		ชาติกแพ	แก่งคอย	สระบุรี
24 ก.ย. 67 20:01:07	24 ก.ย. 67 17:58:37	24 ก.ย. 67 20:01:07	0 วัน 02 ชม 02 นาที	0	0	0	0		0	0.0	224.4	-		ชาติกแพ	แก่งคอย	สระบุรี

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วันที่, เวลา	วันที่,เวลา เริ่มจุด	วันที่,เวลา สิ้นสุด	รวมเวลาจอด	เซนเซอร์					ความเร็ว	ระยะทางรวม	ระยะทางรวม	อุปกรณ์	สถานี	สถานที่		
				1	2	3	4	A						ตำบล	อำเภอ	จังหวัด
24 ก.ย. 67 12:58:37	null	null	-	0	0	0	0		0	0.0	75.2	-		หนองงี	เมืองชลบุรี	ชลบุรี
24 ก.ย. 67 13:03:37	null	null	-	0	0	0	0		0	0.0	75.2	-		หนองงี	เมืองชลบุรี	ชลบุรี
24 ก.ย. 67 13:08:37	null	null	-	0	0	0	0		0	0.0	75.2	-		หนองงี	เมืองชลบุรี	ชลบุรี
24 ก.ย. 67 13:13:37	null	null	-	0	0	0	0		0	0.0	75.2	-		หนองงี	เมืองชลบุรี	ชลบุรี
24 ก.ย. 67 13:38:37	24 ก.ย. 67 13:18:37	24 ก.ย. 67 13:39:07	0 วัน 00 ชม 20 นาที	0	0	0	0		0	0.0	75.2	-		หนองงี	เมืองชลบุรี	ชลบุรี
24 ก.ย. 67 13:39:07	null	null	-	0	0	0	0		0	0.0	75.2	-		หนองงี	เมืองชลบุรี	ชลบุรี
24 ก.ย. 67 13:44:07	null	null	-	0	0	0	0		61	0.5	78.1	-		บ้านป่า	เมืองชลบุรี	ชลบุรี
24 ก.ย. 67 13:49:07	null	null	-	0	0	0	0		69	0.5	83.5	-		คลองหัวฟัก	เมืองชลบุรี	ชลบุรี
24 ก.ย. 67 13:54:07	null	null	-	0	0	0	0		62	0.5	88.9	-		บ้านเก่า	พานทอง	ชลบุรี
24 ก.ย. 67 13:59:07	null	null	-	0	0	0	0		50	0.5	93.8	-		ท่าข้าม	บางปะกง	ฉะเชิงเทรา
24 ก.ย. 67 14:04:07	null	null	-	0	0	0	0		60	0.5	98.6	-		เขาหิน	บางปะกง	ฉะเชิงเทรา
24 ก.ย. 67 14:09:07	null	null	-	0	0	0	0		21	0.1	101.8	-		ท่าด่าน	บางปะกง	ฉะเชิงเทรา
24 ก.ย. 67 14:14:07	null	null	-	0	0	0	0		59	0.5	106.5	-		แสนสุข	บ้านโพธิ์	ฉะเชิงเทรา
24 ก.ย. 67 14:19:07	null	null	-	0	0	0	0		37	0.2	110.2	-		คลองประเวศ	บ้านโพธิ์	ฉะเชิงเทรา
24 ก.ย. 67 14:24:07	null	null	-	0	0	0	0		52	0.4	113.4	-		นางพระ	เมืองฉะเชิงเทรา	ฉะเชิงเทรา
24 ก.ย. 67 14:29:07	null	null	-	0	0	0	0		37	0.3	115.9	-		หน้าเมือง	เมืองฉะเชิงเทรา	ฉะเชิงเทรา
24 ก.ย. 67 14:34:07	null	null	-	0	0	0	0		41	0.4	117.8	-		หน้าเมือง	เมืองฉะเชิงเทรา	ฉะเชิงเทรา
24 ก.ย. 67 14:39:07	null	null	-	0	0	0	0		59	0.5	122.3	-		วังตะเคียน	เมืองฉะเชิงเทรา	ฉะเชิงเทรา
24 ก.ย. 67 14:44:07	null	null	-	0	0	0	0		59	0.5	125.9	-		ท่าไข่	เมืองฉะเชิงเทรา	ฉะเชิงเทรา
24 ก.ย. 67 14:49:07	null	null	-	0	0	0	0		44	0.3	130.0	-		นางขวัญ	เมืองฉะเชิงเทรา	ฉะเชิงเทรา
24 ก.ย. 67 14:54:07	null	null	-	0	0	0	0		54	0.5	134.6	-		โพรงอากาศ	บางน้ำเปรี้ยว	ฉะเชิงเทรา
24 ก.ย. 67 14:59:07	null	null	-	0	0	0	0		39	0.3	138.7	-		บางน้ำเปรี้ยว	บางน้ำเปรี้ยว	ฉะเชิงเทรา
24 ก.ย. 67 15:04:07	null	null	-	0	0	0	0		41	0.4	141.0	-		หนองทอง	บางน้ำเปรี้ยว	ฉะเชิงเทรา
24 ก.ย. 67 15:09:07	null	null	-	0	0	0	0		25	0.3	144.7	-		สิงโตทอง	บางน้ำเปรี้ยว	ฉะเชิงเทรา
24 ก.ย. 67 15:14:07	null	null	-	0	0	0	0		53	0.4	148.9	-		คลองเกาะก	บางน้ำเปรี้ยว	ฉะเชิงเทรา
24 ก.ย. 67 15:19:07	null	null	-	0	0	0	0		54	0.4	153.5	-		คลองเกาะก	บางน้ำเปรี้ยว	ฉะเชิงเทรา
24 ก.ย. 67 15:24:07	null	null	-	0	0	0	0		47	0.4	157.3	-		พระอาจารย์	องครักษ์	นครนายก
24 ก.ย. 67 15:29:07	null	null	-	0	0	0	0		49	0.4	159.4	-		นาลูกเสือ	องครักษ์	นครนายก
24 ก.ย. 67 15:34:07	null	null	-	0	0	0	0		50	0.4	162.8	-		นาลูกเสือ	องครักษ์	นครนายก

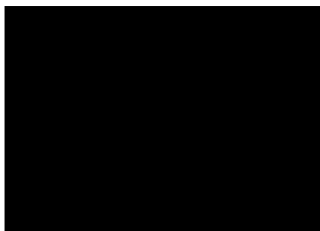
09 ต.ค. 67 10:51:57

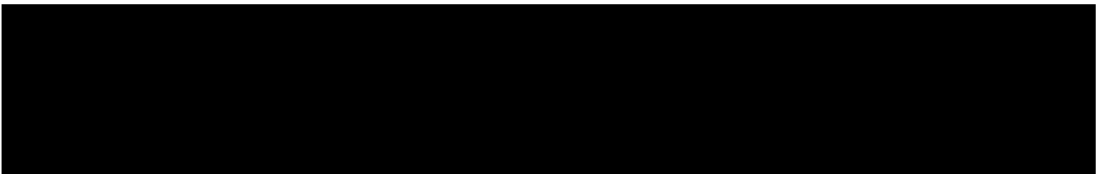
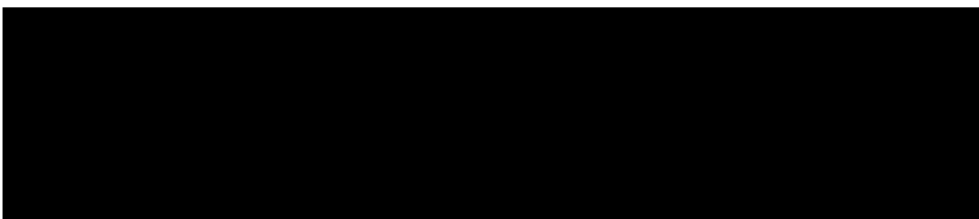
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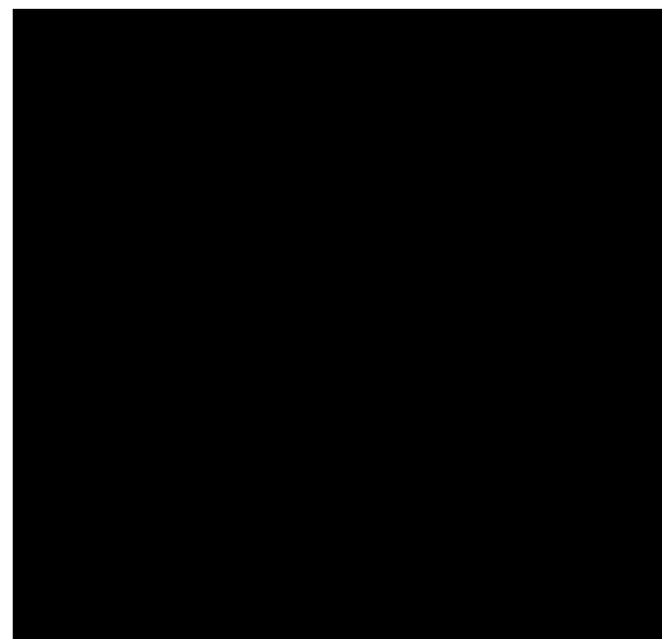
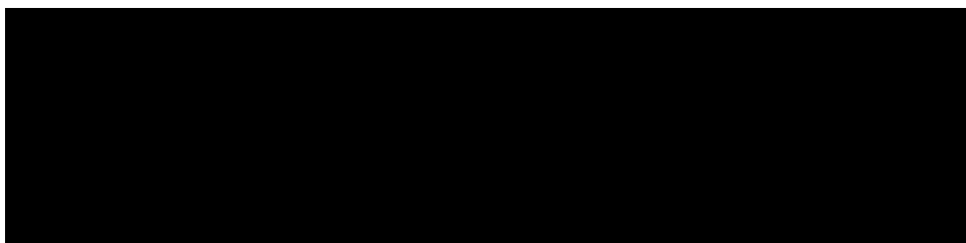
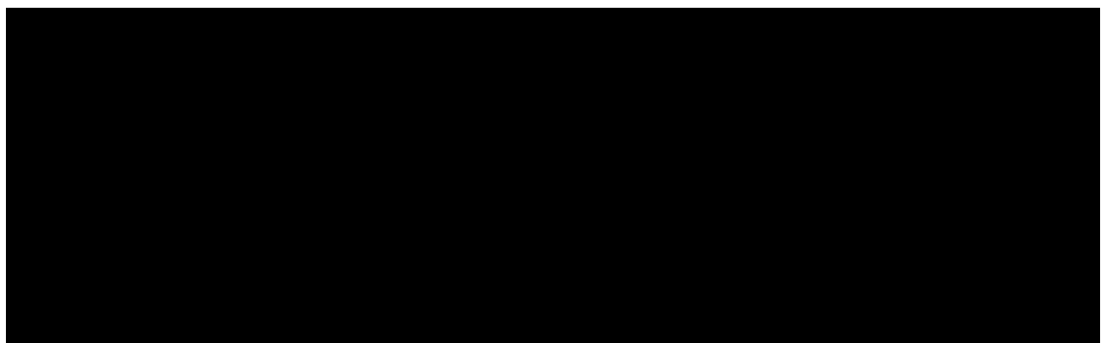
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รวมเวลาเดินเบา	0 วัน 01 ชม 46 นาที
รวมเวลาจอด	0 วัน 02 ชม 23 นาที
ระยะทางรวม	224.4

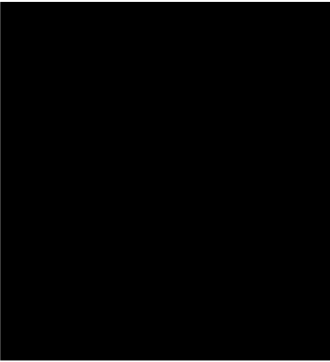
ภาคผนวก ข.14

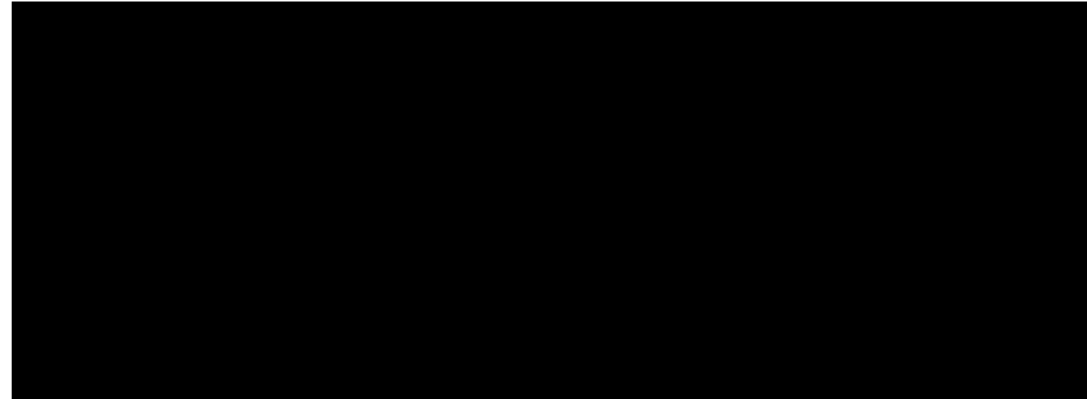
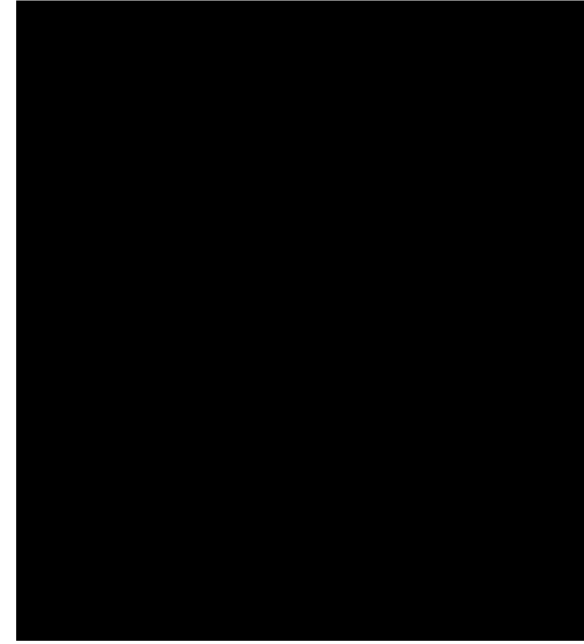
สถิติอุบัติเหตุ

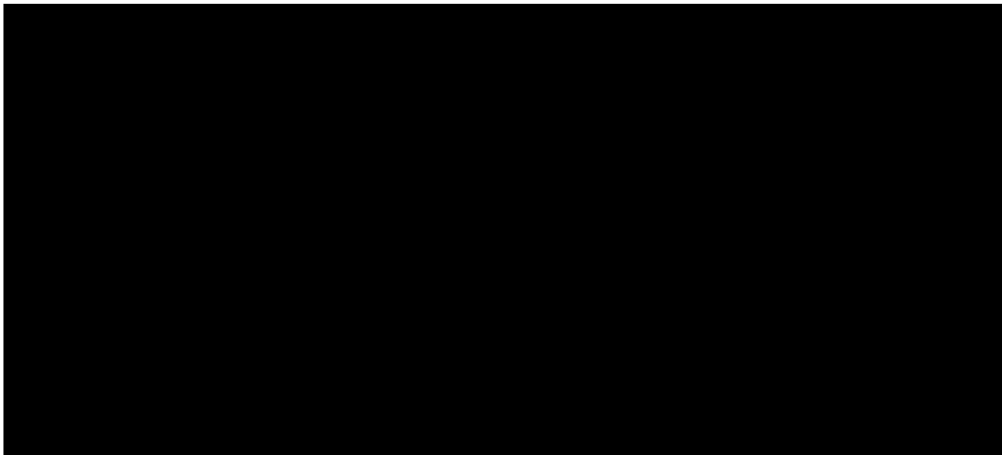


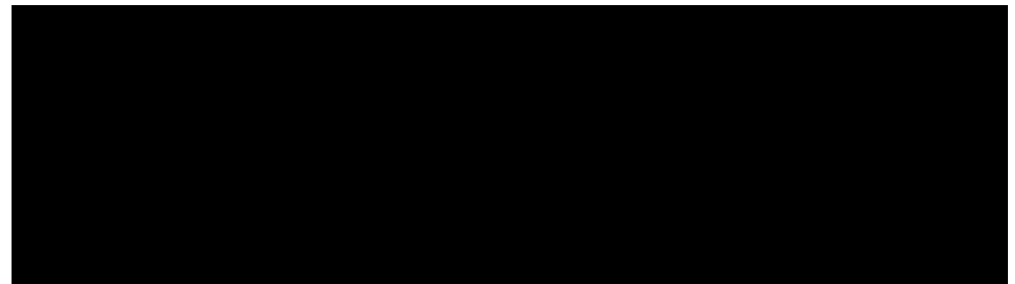
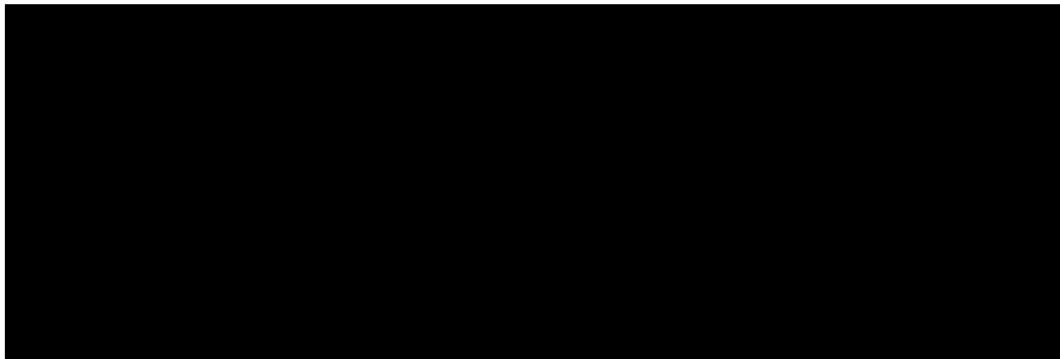


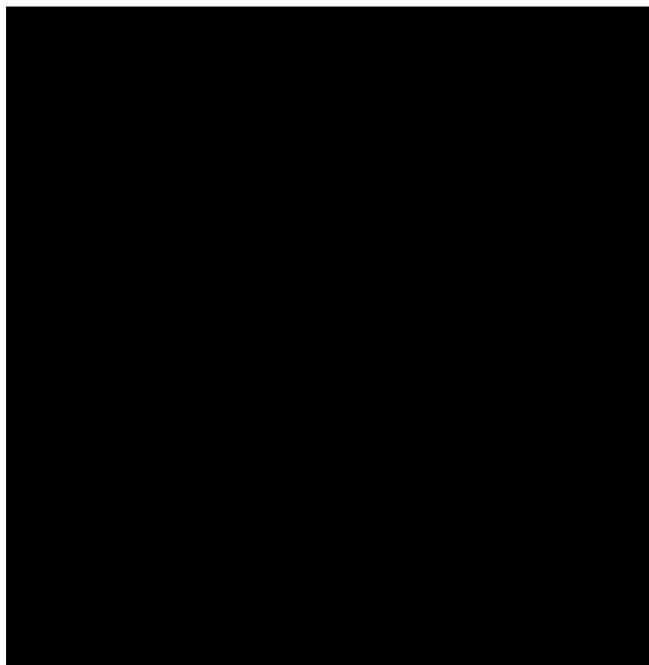
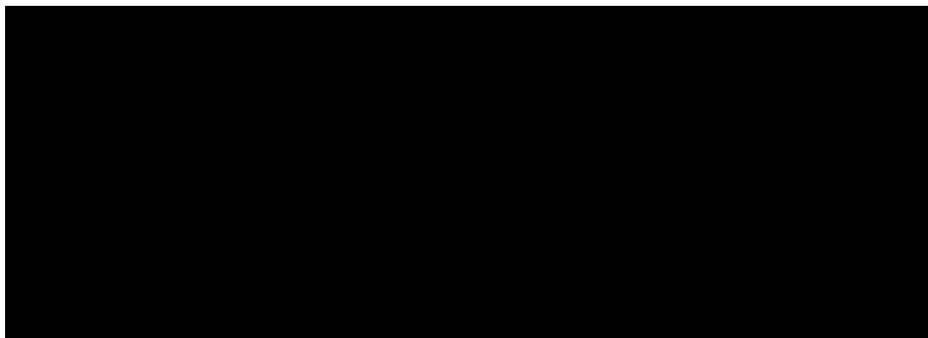
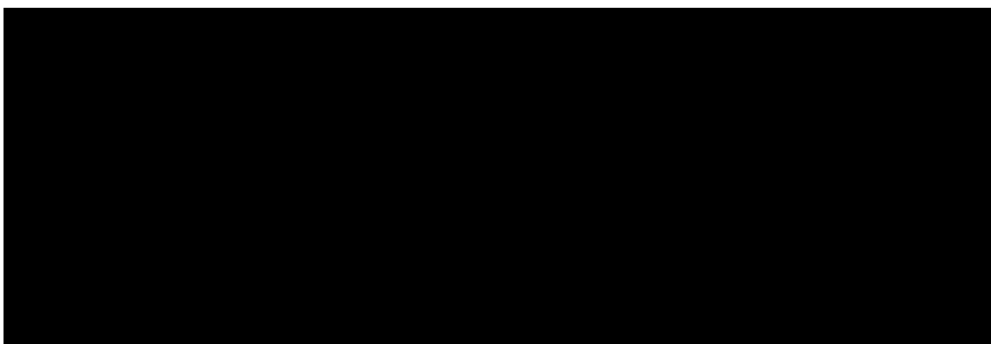
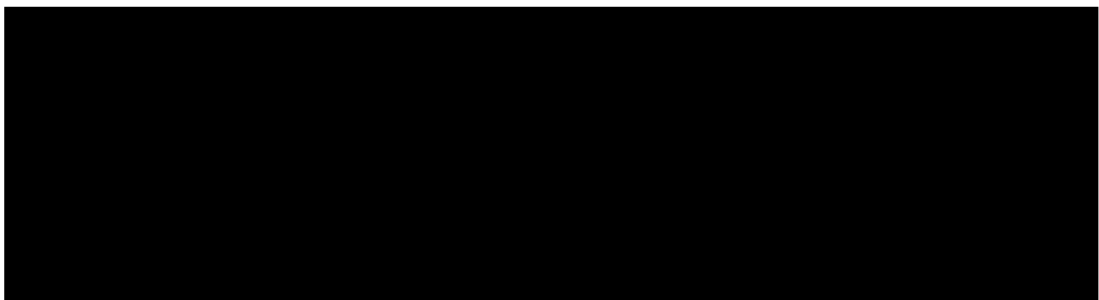




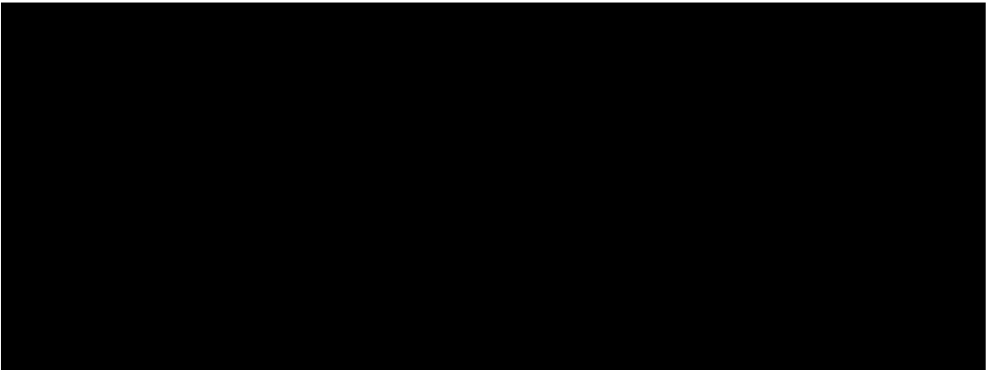
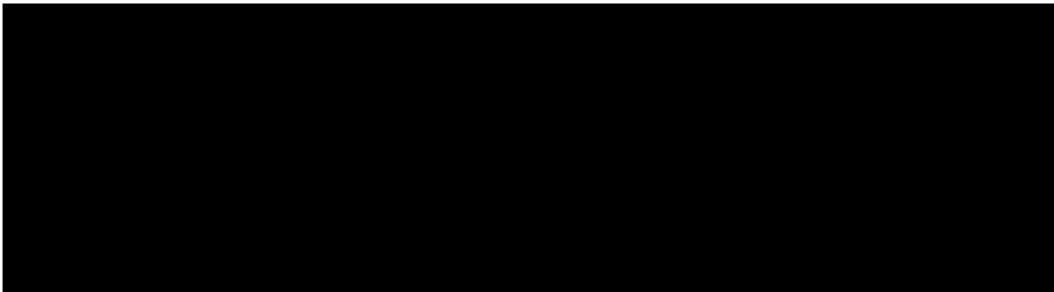
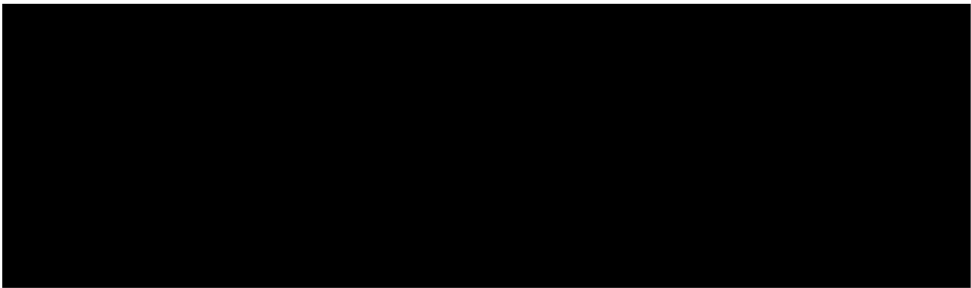
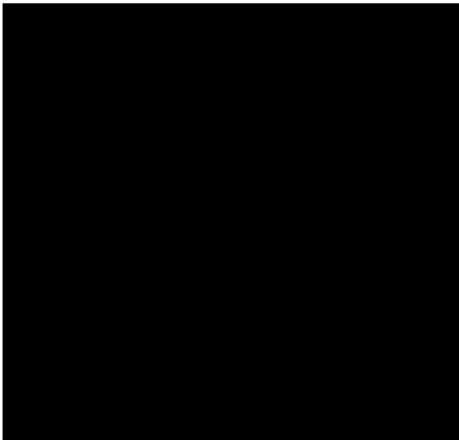
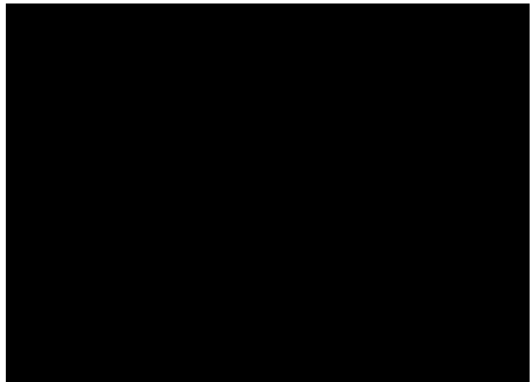


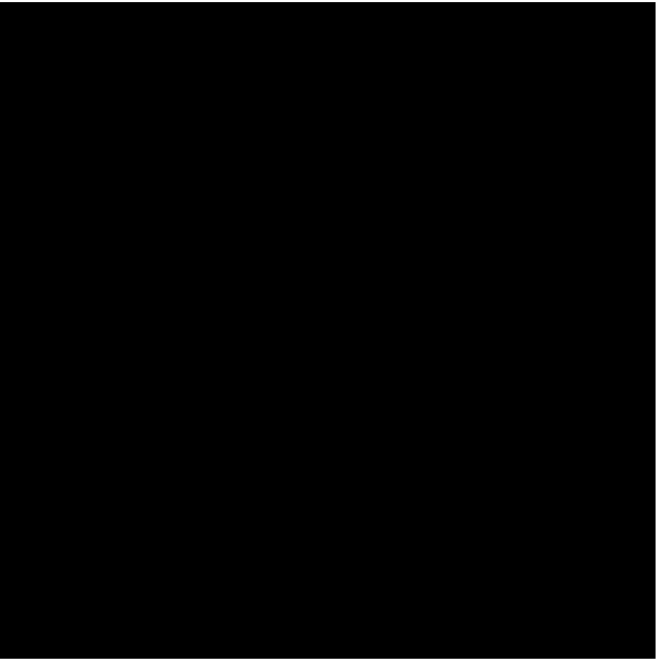
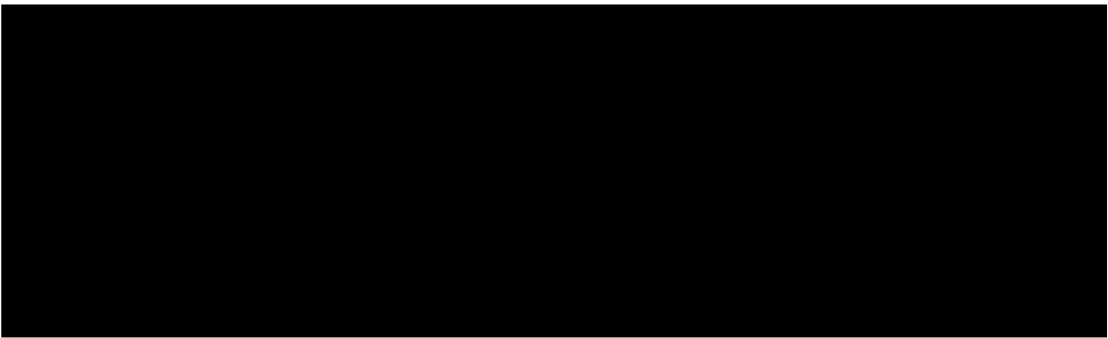


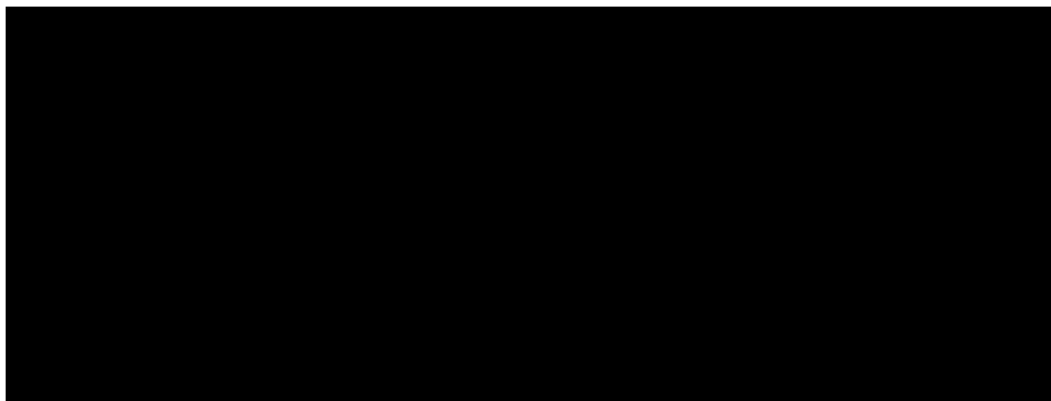
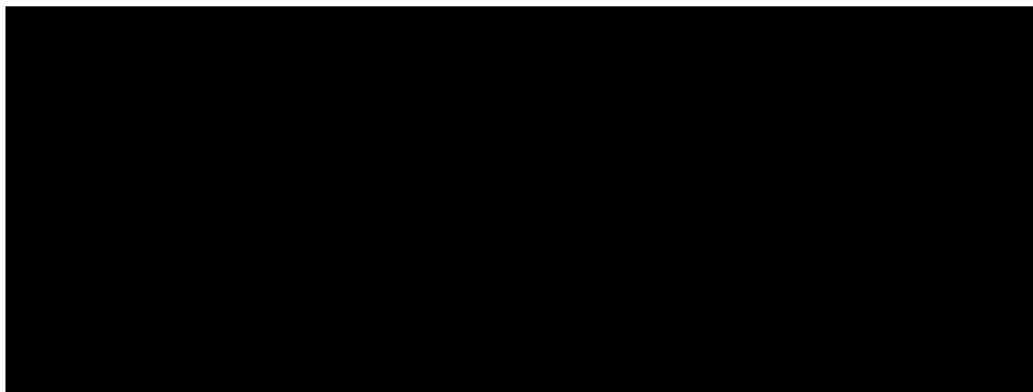
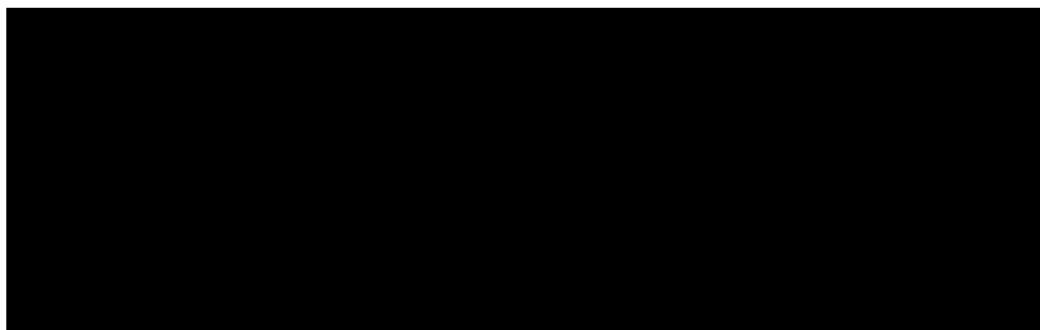
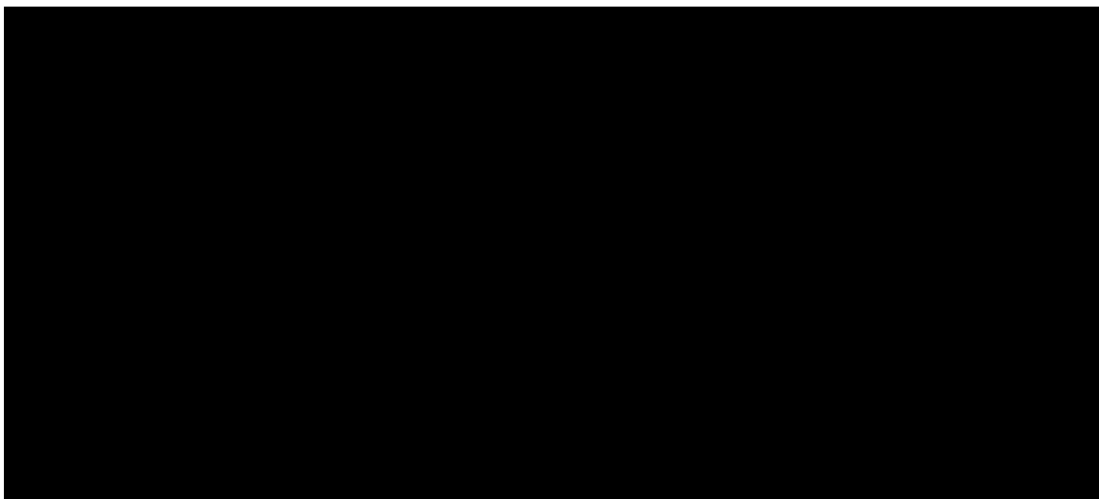


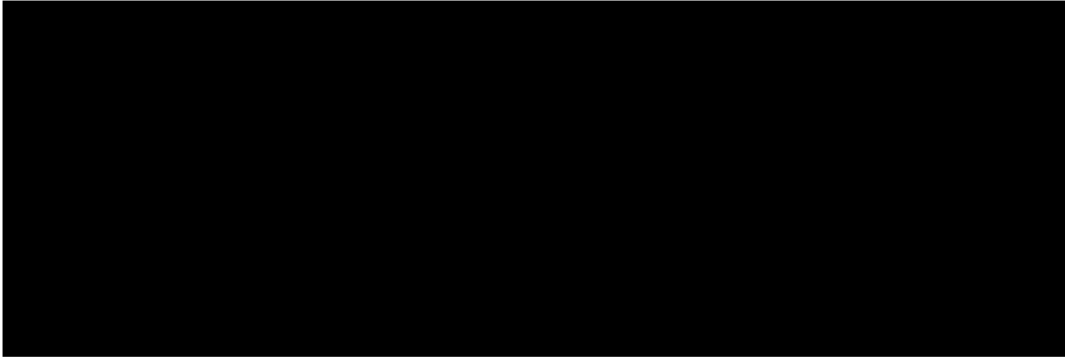
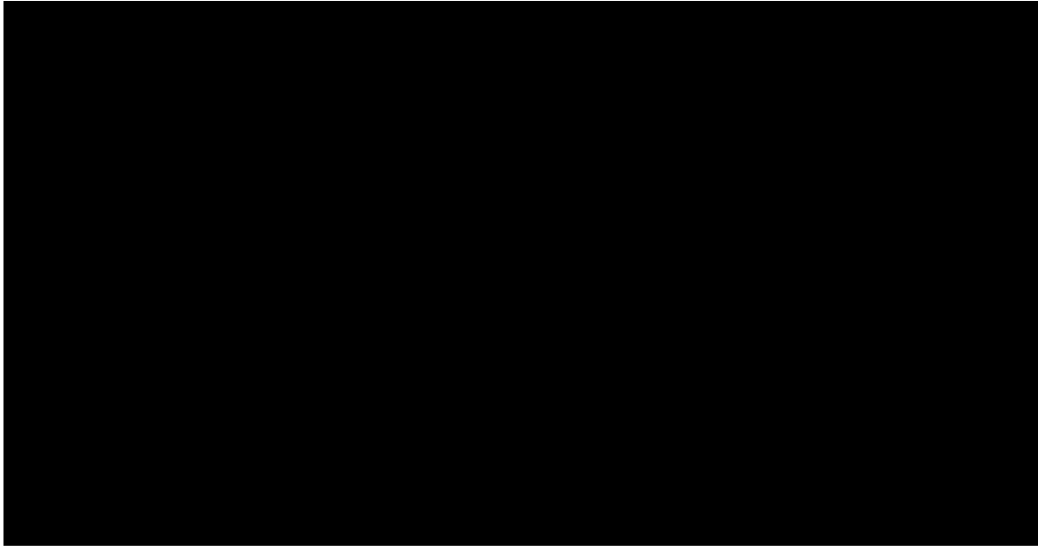


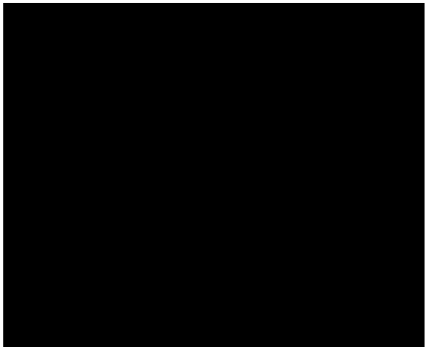
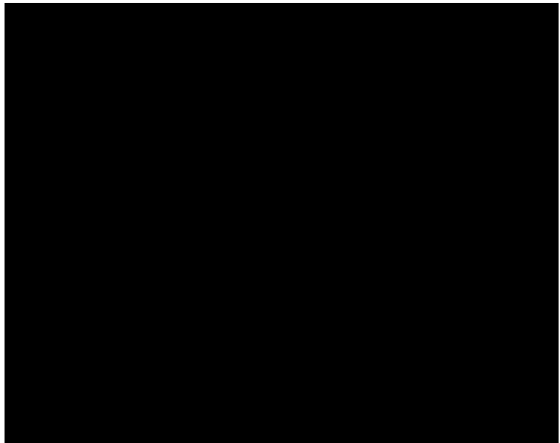












ความสำเร็จและรางวัลแห่งความภาคภูมิใจ



ISO 9001:2015 มาตรฐานระบบการบริหารด้านคุณภาพ
ISO 14001:2015 มาตรฐานระบบการบริหารสิ่งแวดล้อม
ISO/IEC 17025:2005 มาตรฐานความสามารถห้องปฏิบัติการ
ในการวิเคราะห์ และสอบเทียบ
ISO 45001:2018 มาตรฐานระบบการบริหารด้านอาชีวอนามัย
และความปลอดภัย



รางวัล CG Award ระดับเยี่ยม ประจำปี 2566
ต่อเนื่องเป็นปีที่ 5
โดย สถาบันกรรมการบริษัทไทย (IOD) ร่วมกับตลาด
หลักทรัพย์แห่งประเทศไทย (ตลท.)



ได้รับการรับรองการเป็นสมาชิกแนวร่วมปฏิบัติของ
ภาคเอกชนไทย ในการต่อต้านการทุจริต ปี 2566
(The Thailand's Private Sector Collective
Action Coalition Against Corruption หรือ CAC)



SPRC ยังคงได้รับการจัดให้อยู่ในกลุ่มดัชนี MSCI Global
Small Cap Indexes ปี 2566

Drive Together ... Grow Together



ภาคผนวก ข.17

ระเบียบปฏิบัติ เรื่อง การสื่อสารและการร้องเรียน
ด้านสิ่งแวดล้อม อาชีวอนามัย และความปลอดภัย


Common		
 EHS Communications & Complaints		
Prepared by: Nipa Nimmansethakul	Number: EHS-SP-QS-0003	
Approved by: Angkana Panyaopart	Revision: 1.	
Low	Medium	High

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Purpose

The purpose of this procedure is to provide guidelines to ensure proper internal communications between the various levels and functions of the organization, and to handle external communications; in terms of receiving, documenting and responding regarding Environment, Health and Safety including environmental complaints.

System Information

Summary	The Environmental Complaints or Community Disturbance includes:
	<ul style="list-style-type: none"> • Smell • Noise & vibration • Smoke • Particulates matters • Unauthorized discharge of wastewater, solid waste to the public • Others that has environmental impact to stakeholders e.g., products / by products spilled outside plant, Falling of material during transportation e.g., soil and make public road dirty and nuisance to public, etc.
Roles and Responsibility	Deviation from the procedure must be stopped and informed a line supervisor or line manager, concerned people for a solution prior to executing this procedure.
Precautions	N/A
Prerequisites	N/A

Detailed Activities

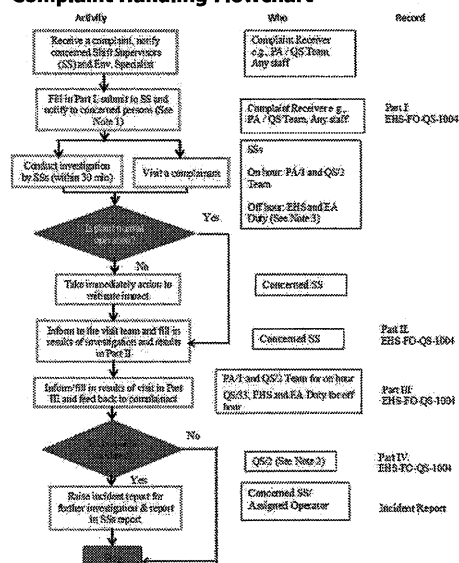
1. External Communications

1.1 Dealing with External Complaints

There are 2 levels of External Complaint or Community Disturbance as follows:

- Recordable Community Disturbance is a complaint that
 - Cause health impact to any neighbor or
 - Widely nuisance to communities (> 1 household/ company or 1 sensitive group (i.e., school, hospital, temple)
 - Unauthorized discharge of wastewater, solid waste to the public
 - Falling of material during transportation (e.g., sulfur, soil) and make public road dirty and nuisance to public
- Non Recordable Community Disturbance is a complaint other than Recordable Community Disturbance.

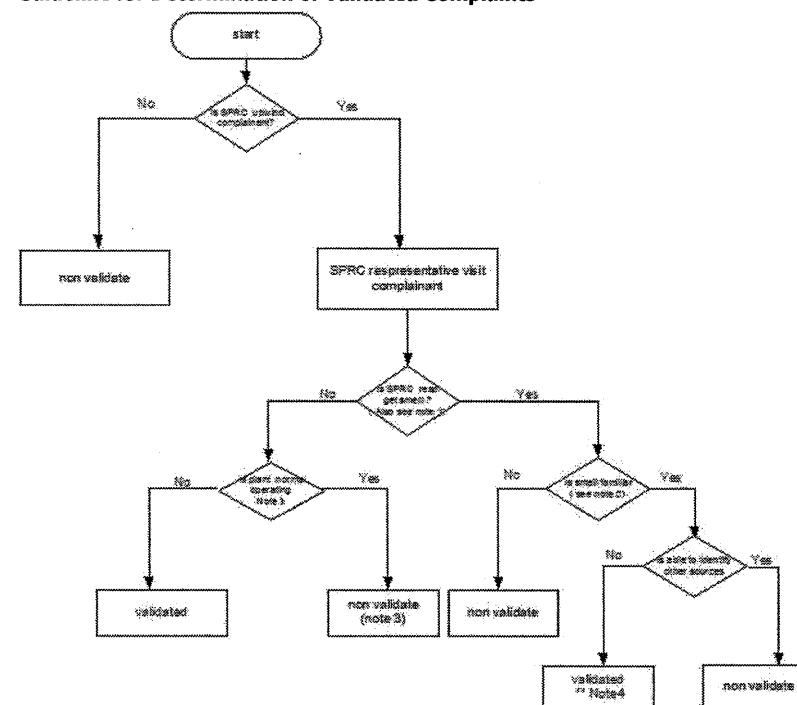
Complaint Handling Flowchart



Note:

- The concerned persons included CE, DO, PN, PD, PA, QS, PN/7 PD/7, Operation Coordinators, EHS duty, and External Affairs duty.
- QS/2 uses the Guideline for Determination of Validated Complaints. If the guideline cannot be applied, Evaluation Team should be set. Evaluation Team comprised of PUs representative, QS representative, PA representative and complainant.
- Security Team/Ops will be the 1st visit the complainant during waiting for Duty Team arrival.

Guideline for Determination of Validated Complaints



Note:

- If the guideline cannot be applied (such as representative does not visit within 1 hour or late report of the smell), Evaluation Team should be set to determine that:
 - Validate / Not Validate
 - Investigate root cause why guideline cannot be followed and improve process.
- Familiar and used to be our sources of smell include burning matches, burning gas, sour hydrocarbon, hydrogen sulfide, sulfur, hydrocarbon and LPG (like mercaptan).
- Normal operation covers:
 - No shutdown or maintenance activity which cause potential smell impact.
 - Shutdown or maintenance activity which has proper smell control.
 - Environmental Control System (for examples: vapor collection and scrubber, ETP Ground Flare, Vapor Recovery Unit, etc.) work properly and efficiently.
- Exemption for the burning match smell due to high level of sources.

Validated Complaints, KPI and Team Reward

All complaints shall be documented, investigated and determined whether they are validated.

If validated complaints occur from the same source during a particular period of time (e.g., plant upset, shut down or smell control system failure), only the initial validated complaint is taken into account in the KPI and Team Reward. However, the repeat complaints, which result from not taking the corrective actions as agreed, will be added in the KPI and Team Reward,

Example: API Separator out of service

Case 1: There are 3 complaints and determined validated complaints. In the record, there will be 3 validated complaints. However, only 1 validated complaint (initial complaint) will be taking into account in KPI and Team Reward.

Case 2: Assume QS recommended a mitigation measure which accepted by PUs Manager due to API's not in service but no action was taken resulting in a repeat complaint. This would result in an additional complaint against KPI and Team Reward.

1.2 Handling of Incoming Communications from Outside

Proper communications guidelines with external contacts which include Regulatory Authorities, Community Leaders and other Environmental Groups are established to ensure sound cooperation/coordination in environment related affairs.

Receiving External Communications

Incoming letters from outside especially regulatory authorities normally addresses to the company Chief Executive Officer (CEO). If the letters express environmental requirements, interests or concern, the Chief Executive Officer (CEO) office will forward the letter to QS for handling.

If incoming EHS communications is via phone call, the company telephone operator will route the line to QS for receiving the requirements.

Documenting and Responding to External Communications

Upon receiving an environmental letter, QS by the EHS Specialist is responsible for preparing correspondence for Manager QS's review and sign.

Incoming letter is registered in the Intranet Web\Incoming Document Registration System while a copy of responding letter is kept in Intranet Web\Outgoing Document Registration System.

In case of communication by phone, EHS Specialist can answer/talk to the callers about his or her area of knowledge. If he or she is not technically qualified to answer the question, the callers will be advised for a call back as soon as practicable.

1.3 Outgoing Communications to the Public

For external communications, refer to the AM-SP-PA-003 Corporate Communication.doc which provide guidelines for developing and implementing activities and various channels to communicate with concerned external stakeholders i.e. Map Ta Phut community people, local government authorities concerned, neighboring plants in Map Ta Phut Industrial Complex, Rayong people and general public.

The external communications arranged with objectives to enhance the company image and reputation amongst the stakeholders in the long term, including prevent misunderstanding on the refineries' operations.

In case of abnormal incident required clarification letter, the letter will be jointly drafted by PA and QS, reviewed by Duty Manager, LT of concerned area, QS and PA and then signed by Duty Manager.

1.4 Informing External Contacts

1.4. Emergency Response Drill / Exercise

1 When SPRC has plan to conduct emergency response drill/exercise including emergency alerting system in the Refinery which may cause concern to the neighbors, or plan for operations that may cause external impact (e.g., start up of the process unit), the company by Public Affairs with coordination with QS shall inform the following external contacts and neighbors in advance:

- Industrial Estate Map Ta Phut Office
- Map Ta Phut Municipality
- Map Ta Phut Police Station
- Huay Pong Police Station
- Nearby Schools and Temple
- Nearby Industrial Plants
- Rayong Provincial Industrial Work Office
- Communities

PA is responsible for notification to concern communities, local authorities and industries. For details, refer to the AM-WI-PA-006 Notification on Refinery's Operation Emergency Response Exercise.doc

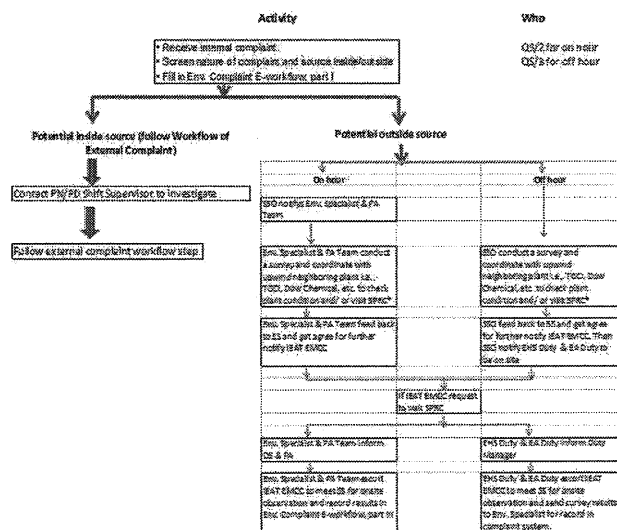
1.4. Reporting Requirements

2 EHS related reports are required to submit as detailed in the permit / license / report document in EHS-OT-QS-0006_Reporting_Requirements.xls. Document Reminder System is a tool for reminding government document due date controlled by LS Department.

For other EHS related incidents reporting, refer to RMS-SP-SPRC-007 Incident Investigation and Analysis.docx.

2. Internal Communications

2.1 Internal Environmental Complaint Guideline



Note * SS can allow neighboring plant to visit SPRC if needed. For Operation complaint, SS communicates action taken to Operators.

2.2 Shift Supervisor Report

Shift Supervisor report is prepared by Shift Supervisor and communicated in the Shift Supervisor Report via e: mail to Top Management, Manager PUs, Manager QEHS&LAB, Environmental Specialist, Public Affairs Personnel twice a day (i.e., for Day and Night Shifts). Information in this report includes the followings:

- EHS incidents including complaints incident
- PUN and PUD Operations Status

The Shift Supervisor is responsible for reporting information on nuisance from outside sources. If the smell is sufficiently strong that it could affect health i.e., irritate nose, produce nausea or dizziness, the Shift Supervisor or affected person shall notify the QS and Public Affairs or External affair duty person if outside office hours immediately.

2.3 EHS Related Meetings

There are 3 main meetings in which EHS issues are routinely informed, reported and discussed i.e., Operations Meeting, Management (Leadership Team) Meeting and EHS Supporting Meetings.

- Operations Meeting** The purpose of this meeting is to ensure sound communications and coordination between Operations and other related departments. The meeting is routinely conducted in the morning. Planned EHS and other field activities are normally informed in the meeting.
- Management (Leadership Team) Meeting** The weekly meeting is normally conducted on Wednesday. The Chief Executive Officer (CEO) chairs the meeting with senior department managers. In the meeting each manager report his or her department related issues. This meeting is a tool for communicating environment, health and safety related issues to top management and senior managers. The Chief Executive Officer (CEO) usually emphasizes the importance of environmental affairs on company business and requests full support / cooperation from each department. The minutes of management meeting is communicated to all staff for information after each meeting.
- EHS Supporting Committees Meeting** There are 4 EHS Supporting Committees (i.e., EHS Main Committee, PN EHS Committee, PD EHS Committee and Maintenance & Contractor EHS Committee) The meetings of the EHS Supporting Committees are conducted on a monthly basis. (For more detail, refer to EHS-SP-QS-0008 EHS Supporting Committee.doc) For other EHS related meetings refer to EHS-WI-QS-0002 EHS Meetings.doc

2.4 Planning for Operations that May Cause External Impact

Reference with the IEAT Notification 67/2014, type of shutdown and notification timeline is specified as below table:

Item	Type of shutdown	Notification Timeline	SPRC Actions
1	Turnaround/Annual Shutdown	≥15 days in advance	<ul style="list-style-type: none"> Required Operation to notify 17 days in advance (PA prepare document 2 days). If changes, required to re-notify
2	Commercial Shutdown	≥7 days in advance	Not Applicable
3	Emergency Shutdown	<ul style="list-style-type: none"> Within 15 minutes after incident by phone Notify plan within 3 days 	Required Operation to immediately notify REB, then REB further notify Environmental Specialist and PA/1

When planning to perform any job (for example unit start up or shut down) which may temporarily release odors or high noise levels, the Operation Coordinator is to notify Manager Public Government Affairs and Manager QEHS&LAB at least 17 days in advance for Turnaround/Annual Shutdown. Required Information for Turnaround/Annual Shutdown is as follows:

- Main equipment package list
- Chemical list remain in equipment /cleaning chemical which may result in significant impact to environment and control measures
- Equipment Isolation list ready for IEAT inspection

- Shutdown Procedure include preparing equipment, draining, opening, maintenance • Air emission, wastewater and solid waste management
- Flare management; noise, black smoke, heat, light, smell • Safety control on high risk working • Contingency Response Plan
- Contact persons & Communication plan
- Contractor Management; number, Selection criteria/competency, training & Evaluation, Safety promotion, Safety Officer, dedicated temporary area for canteen, toilet, rest area, parking lot, etc.
- Conduct pre startup safety review

For other planned shutdown, Operation Coordinator is to notify Manager Public Government Affairs and Manager QEHS&LAB at least 5 days in advance. The notifications should at least consist of the followings:

- Purpose of planned activities
- Shutdown period and its impact period
- Types and level of impact
- Mitigation Measures of impact e.g., keep low inventory, refine low sulfur feed, install temporary control equipment, etc.

The above notifications shall be completed in the form EHS-FO-QS-1010 Plant Shutdown Startup Notification.doc. PA is responsible for notification to concerned communities, local authorities and industries. For details, refer to the AM-WI-PA-006 Notification on Refinery's Operation Emergency Response Exercise.doc

2.5 Environment, Health and Safety Performance Communications

Environment, Health and Safety Performance Communications

Monthly Environment, Health and Safety Performance reports are communicated to all staff via company Web and the boards located at the Refinery Main Gates and Marine Terminal Control Building.

2.6 Environment Health and Safety Handbook

Environment Health and Safety Handbook

Environment Health and Safety Handbook will be provided to new comer both staff and contractor after finish EHS induction and IIF orientation. Brief EHS policy is also available in this handbook.

2.7 Other Communications via e: mail

Other Communications via e: mail

Electronic mail called e: mail is widely used for internal communications. Messages are usually communicated to concerned persons/divisions/ departments or all staff in a form of EHS Alert / Instructions (e.g., Safety Flash).

2.8 Emergency Response Drill by External Organization

Emergency Response Drill by External Organization

Emergency response drill and alarm testing conducted by neighboring plants are communicated to concerned area by SPRC Emergency Response Coordinator group by e-mail or telephone and morning operation meeting.

For other internal communications, refer to the AM-SP-PA-002 Internal Communication.doc covers various communication channels, printing materials for staff, and internal communication survey.

Appendix**Definitions**

N/A

References

- RMS-SP-SPRC-007 Incident Investigation and Analysis.docx
- EHS-SP-QS-0008 EHS Supporting Committee.doc
- EHS-WI-QS-0002 EHS Meetings.doc
- AM-SP-PA-002 Internal Communication.doc
- AM-SP-PA-003 Corporate Communication.doc
- AM-WI-PA-006 Notification on Refinery's Operation Emergency Response Exercise.doc
- IEAT Notification No. 67/2014, Shutdown/Turnaround for Industries in IEAT and MTP Port

Amendment List

Below is a list of changes between the previous and the current revision of this document.

Revision	Date	Page/Section	Reason	By
0	06-Oct-08	All	First release	QS/1
1	21-Sep-09	P.2/2.1.1	Update Dealing with external complaints work flow and hyperlink	QS21
		P.4/2.1.2	Guidelines for Determination of Validated Complaints	
2	15-Oct-12	P.1,2/1,2.1	1. Add Community Disturbance and revised scope	QS/21
		P.5/2.2.2	2. Updated Documenting and Responding to External Communications	
		P.7/2.4.2	3. Updated Reporting Requirements.	
		P.8/3.1	4. Updated Internal Environmental Complaint Report Guideline	
3	15-Oct-14	P.9 /3.4	Revise Planning for Operation that may cause external impact to comply with the IEAT Notification 67/2014	QS/21
4	22-Dec-14	All	Change SPRC logo	Nipa N. (QS/21)
		P.6/2.3	Add work process for abnormal incident required clarification letter.	
5	12-Apr-16	P.3/2.1	Revised Complaint handling flowchart	Nipa N. (QS/21)
6	4-Jun-18	P.1/ 1	Revised by adding Environment, Health and Safety	Nipa N. (QS/21)
		P.3/2.1	Add Assigned Operator in Complaint handling flowchart	
		P.6/2.2	Revised from Environmental Specialist to EHS Specialist	
7	16-Oct-18	P. 5 / 2.1.2	Revised normal operation scope in Guidelines for Determination of Validated Complaints	Nipa N. (QS/21)
		P.8 /3.1	Revised Internal Environmental Complaint Guideline	
1	28-Feb-19	All	1. Convert from EDMS Procedure Number: EHS-SP-QS-0003 2. Start Revision 1 at SmartProcedures	Nipa N. (QS/21)

No changes specified in the current Revision of this Procedure.

Distribution List

Copy No.	Controller/Holder	Location
00	Electronic Controller	SmartProcedures

ภาคผนวก ข.18

การตรวจสอบระบบท่อขนส่งน้ำมัน และท่อน้ำมันดิบกลางทะเล

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STAR PETROLEUM REFINING COMPANY AND PTT GLOBAL CHEMICAL

Map Ta Phut 48" Subsea Crude Import Pipeline

Ocean Works Asia (Thailand) Co., Ltd.

Pipeline Survey by ROV Report

1	25-May-2023	Initial Submission	KS	CI	MAD
REV	DATE	DESCRIPTION	APRD	CHKD	PREP'D
Client Document No.			OWA Document No.		
N/A			53-66001-27-FIR-01		

OCEAN WORKS ASIA (OWA)
<https://www.owa.com.sg>

OCEAN WORKS ASIA (THAILAND) Co., Ltd.

54 B.B Building 9th Floor, Room No. 3909 Sukhumvit 21 (Asoke) Klongtoey Nua, Wattana,
Bangkok 10110 Thailand

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Final Inspection Report		

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STAR PETROLEUM REFINING COMPANY AND PTT GLOBAL CHEMICAL
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OCEAN WORKS ASIA
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Table 1. Document History

Revision	Date	Description of Change
1	25-May-2023	Initial submission

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1.0 General

1.1 Introduction

Ocean Works Asia (Thailand) Co., Ltd. has been requested by Star Petroleum Refining Company (SPRC) for the provision of ROV services, to carry out an inspection of the Map Ta Phut 48" Subsea Crude Import Pipeline. The inspection is part of the ongoing inspection, repair and maintenance (IRM) contract for the SPM off Map Ta Phut, Thailand.

The SPM is located approximately 19km Southeast of the Map Ta Phut Petrochemical Complex in Rayong, Thailand. The pipeline is approximately 19 kilometers long in a water depth of ranging from 0 to 30 meters.

ROV activities were carried out from the 10th to 24th of April 2023 using the Falcon ROV deployed from the SPM maintenance support vessel the Uniwise Rayong.

The inspection consists of a single camera general visual inspection and selected anode CP survey of the pipeline which was overseen by an attending client representative from Star Petroleum Refining Company (SPRC).

1.2 Executive Summary

The extent of the inspection of the 48" Subsea Crude Import Pipeline was from the Map Ta Phut SPM PLEM flange connection at KP0.007 to where the pipeline goes into burial South of the BLCP power station seawall, a distance of approximately 16km.

The flange connection of the pipeline to the PLEM was noted to be in good condition, with no signs of product leak and no damage noted to the flange or the bolts. CP readings recorded on the flange were within limits.

There was a significant amount of debris scattered along the pipeline however there was no associated damage to the pipeline. The debris noted consisted mainly of fishing debris. Other items of debris consisted of an assortment of metallic and non-metallic debris.

The pipeline was noted to be sitting on the seabed with burial ranging from 25% to 90% until the pipeline goes into full burial at KP15.999. There was no significant damage noted to the weight coat. Field joints appear to have degraded bitumastic wrap at the crown of the pipeline however there was no bare metal noted. Anodes inspected were noted to be approximately 25-50% depleted and CP readings taken on selected anode was found to be within limits.

2.0 Scope of Work

The scope of work comprises of the following:

- General Visual Inspection of the starting point of the pipeline from the SPM PLEM section including the 48" flange mating;
- General Visual Inspection of the pipeline from the SPM to as close to shore as reasonably allowed consisting of;
 - Visual inspection of the concrete weight coating, field joints, marine growth and sediment level;
 - Visual signs of any debris fouling damage, corrosion or deterioration of the pipeline;
- Visual inspection of anodes for depletion and damage;

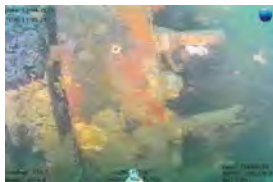
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- Cathodic Potential readings on visible anodes along the pipeline as required, utilizing a contact CP probe;

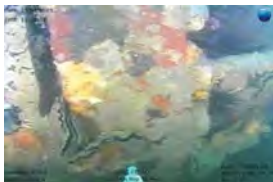
3.0 PLEM Flange General Visual Inspection

A General Visual Inspection was carried out on the PLEM to Pipeline Flange connection. During the inspection the following was noted:

- There was no signs of product leak and the flange appeared to be secure.
- All the bolts appeared to be secure with no damage or distortion.
- Flange gap appeared to be even all the way round.
- There were no signs of damage to the flange.
- Cathodic potential readings were taken at the flange connection between the PLEM and the pipeline. Readings recorded ranged between (-)969mV and (-)953mV.
- There was no debris on the flange.
- There was approximately 75% overall marine growth coverage on the flange.



PLEM to Pipeline Flange



PLEM to Pipeline Flange

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4.0 Pipeline Inspection

The ROV inspection of the 48" Subsea Crude Import Pipeline was carried out from the PLEM to pipeline flange to where the pipeline went into full burial at KP15.999 outside the South sea wall of the BLCF Power Station.

4.1 General Visual Inspection (GVI)

The pipeline was generally straight heading in a Northly direction. There were no sharp bends or any deviation of the pipeline from the as-laid route. Although there were numerous amounts of debris throughout the extent of the survey, there was no damage noted on the pipeline.

There were scattered sections of soft marine growth mainly along the sides of the pipeline with no marine growth on the crown of the pipeline. A layer of silt was over the pipeline which could obscure any damage however no significant damage was noted.

The field joints on the pipeline appeared to have degraded bitumastic wrap/coating. This was noted as cracking or general degrading predominantly at the crown of the field joint. There was however no bare metal noted at the field joints.



Typical Field Joint Condition – KP8.718



Typical Field Joint Condition – KP0.561

4.2 Anode Condition Survey

A total of 71 anodes were found and inspected. Anodes appeared to be in good condition and secure to the pipeline. Depletion of the anodes was noted to be approximately 25-50%. Oxide deposits on the anode would suggest that the anodes were active.



Typical Pipeline Anode – KP0.364



Typical Pipeline Anode – KP2.269

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Typical Pipeline Anode – KP10.110



Typical Pipeline Anode – KP8.626

4.3 Cathodic Potential Measurements (CP)

Cathodic potential readings were taken on selected anodes as a sampling of the performance of the anodes and a gauge of the cathodic protection offered to the pipeline. Cathodic potential readings recorded on selected anode was (-)987mV.

There were no cathodic potential readings taken on the pipeline as there were no areas of bare metal noted.

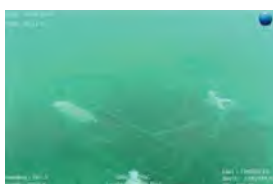
4.4 Burial & Span

The pipeline was exposed throughout the extent of the inspection. At the flange the pipeline was approximately fully exposed. From then on, the pipeline ranged in burial between 25% and 90% until the pipeline finally went into burial at KP 15.999.

4.5 Debris Survey

Debris was noted on the pipeline throughout the extent of the survey. This consisted mainly fishing nets and traps scattered along the length on both sides and across the pipeline. There were also various items of metallic and nonmetallic debris scattered throughout the extent of the survey.

Although there was a significant amount of debris, there was no associated damage noted to the pipeline.



Fish Trap Remains



Metallic Debris

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Fishing Net



Wire Rope

5.0 Conclusion

Although there was a significant amount of debris along the length of the pipeline there was no damage noted. The pipeline was sitting on the seabed with no span sections. Anodes inspected appear to be active and secure. CP readings taken were found to be within limits.

5.1 Recommendations

When suitable vessels with ability to hold station (DP vessel or 4pt mooring) to support underwater operations is available. Consider carrying out diving operations to;

1. investigate and confirm the condition of the anodes
2. investigate and confirm the condition of the field joints to identify if there are any areas with bare metal.
3. remove major items of debris

6.0 Technical Appraisal

The inspections of the 48" Subsea Crude Import pipeline from the PLEM flange to where the pipeline goes into burial was carried out safely and successfully using the Falcon ROV from onboard the Uniwise Rayong.

6.1 Restrictions and Complications

Complications encountered during the course of the inspection campaign were:

- Debris along the pipeline causing a potential fouling hazard to the ROV.
- Limited visibility affecting the rate of travel and the ability of the ROV to spot hazards.
- Vessels inability to hold station (non-DP vessel) pulling ROV off the pipeline and hindering operations.

Appendix A: Inspection Forms / Reports

- 1) 53-66001-27-PL-01 Photo Log
- 2) 53-66001-27-VI-01 Visual Inspection - Events List
- 3) 53-66001-27-VL-01-Video Log



Photo Log

Date	13 th April 2023	OWA Group	Thailand	Report No	53-66001-27-PL-01
Project No	53-66001	Dive/ROV Sys.	Falcon 12450	Dive No	Refer to dive log
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance - 48" Crude Import Pipeline Inspection				
Location	MAP TA PHUT SPM			Video Ref.	53-66001-27-VL-01
DATE	TIME	PHOTO FILE NAME	DESCRIPTION		
13/04/2023	11:35:32	2023-0413-113532-385-CH1	KP0.008 - PLEM to Pipeline flange connection		
13/04/2023	11:35:34	2023-0413-113534-394-CH1	KP0.008 - PLEM to Pipeline flange connection		
13/04/2023	11:35:44	2023-0413-113544-535-CH1	KP0.008 - Cathodic Protection - CP Steel		
13/04/2023	12:54:27	2023-0413-125427-666-CH1	KP0.008 - Cathodic Protection - CP Steel. PLEM side of flange connection CP(-)969mV		
13/04/2023	12:56:13	2023-0413-125613-120-CH1	KP0.009 - Cathodic Protection - CP Steel. Pipeline side of flange connection CP(-)966mV		
13/04/2023	13:06:41	2023-0413-130641-788-CH1	KP0.049- Debris - Netting.		
13/04/2023	13:06:43	2023-0413-130643-821-CH1	KP0.049- Debris - Netting.		
13/04/2023	13:10:50	2023-0413-131050-213-CH1	KP0.059- Debris - Fish Trap. Net		
13/04/2023	13:11:04	2023-0413-131104-409-CH1	KP0.059- Debris - Fish Trap. Net		
13/04/2023	14:45:28	2023-0413-144528-664-CH1	KP0.073- Debris - Netting.		
13/04/2023	14:48:26	2023-0413-144826-088-CH1	KP0.084- Pipeline - Good Condition.		
13/04/2023	14:51:28	2023-0413-145128-605-CH1	KP0.106- Pipeline - Good Condition.		
13/04/2023	14:51:30	2023-0413-145130-629-CH1	KP0.106- Pipeline - Good Condition.		
13/04/2023	15:00:01	2023-0413-150001-675-CH1	KP0.112- Field Joint - Good Condition.		
13/04/2023	15:00:08	2023-0413-150008-779-CH1	KP0.112- Field Joint - Good Condition.		
13/04/2023	15:06:34	2023-0413-150634-084-CH1	KP0.124- Debris - Netting.		
13/04/2023	15:06:36	2023-0413-150636-112-CH1	KP0.124- Debris - Netting.		
13/04/2023	15:09:49	2023-0413-150949-783-CH1	KP0.137- Debris - Netting.		
13/04/2023	15:10:31	2023-0413-151031-355-CH1	KP0.141- Debris - Other.		
13/04/2023	15:15:33	2023-0413-151533-519-CH1	KP0.171- Debris - Netting.		
13/04/2023	15:16:43	2023-0413-151643-483-CH1	KP0.180- Debris - Netting.		
13/04/2023	15:18:26	2023-0413-151826-912-CH1	KP0.186- Debris - Fishing Gear.		
14/04/2023	09:12:45	2023-0414-091245-653-CH1	KP0.186- Debris - Fishing Gear.		
14/04/2023	09:12:48	2023-0414-091248-693-CH1	KP0.186- Debris - Fishing Gear.		
14/04/2023	09:13:16	2023-0414-091316-071-CH1	KP0.186- Debris - Fishing Gear.		
15/04/2023	12:22:05	2023-0415-122205-498-CH1	KP0.188- Debris - Pipe.		
15/04/2023	12:24:37	2023-0415-122437-595-CH1	KP0.191- Debris - Other. Basket		
15/04/2023	12:26:55	2023-0415-122655-496-CH1	KP0.206- Debris - Other.		
15/04/2023	12:27:54	2023-0415-122754-305-CH1	KP0.210- Debris - Fishing Gear. Net		
15/04/2023	12:28:13	2023-0415-122813-574-CH1	KP0.210- Debris - Fishing Gear. Net		
15/04/2023	12:32:15	2023-0415-123215-912-CH1	KP0.246- Debris - Other.		
15/04/2023	12:34:20	2023-0415-123420-630-CH1	KP0.256- Debris - Other.		
15/04/2023	12:36:51	2023-0415-123651-714-CH1	KP0.271- Debris - Fishing Gear. Net		
15/04/2023	12:37:46	2023-0415-123746-469-CH1	KP0.274- Debris - Other.		
15/04/2023	12:39:03	2023-0415-123903-530-CH1	KP0.277- Debris - Fishing Gear. Net		
15/04/2023	13:42:25	2023-0415-134225-969-CH1	KP0.279- Debris - Fish Trap.		
15/04/2023	13:49:01	2023-0415-134901-391-CH1	KP0.280- Debris - Fish Trap.		
15/04/2023	13:50:04	2023-0415-135004-257-CH1	KP0.283- Debris - Fish Trap.		
15/04/2023	13:51:06	2023-0415-135106-111-CH1	KP0.287- Debris - Fish Trap.		



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DATE	TIME	PHOTO FILE NAME	DESCRIPTION
15/04/2023	13:52:40	2023-0415-135240-418-CH1	KP0.296- Field Joint - Bitumen Missing.
15/04/2023	13:54:37	2023-0415-135437-018-CH1	KP0.305- Debris - Fishing Gear.
15/04/2023	13:55:59	2023-0415-135559-149-CH1	KP0.309- Field Joint - Bitumen Missing.
15/04/2023	13:57:36	2023-0415-135736-491-CH1	KP0.321- Field Joint - Bitumen Missing.
15/04/2023	13:59:05	2023-0415-135905-725-CH1	KP0.334- Field Joint - Bitumen Missing.
15/04/2023	14:00:21	2023-0415-140021-786-CH1	KP0.345- Debris - Fishing Gear.
15/04/2023	14:02:48	2023-0415-140248-795-CH1	KP0.346- Field Joint - Bitumen Missing.
15/04/2023	14:03:21	2023-0415-140321-243-CH1	KP0.346- Field Joint - Bitumen Missing.
15/04/2023	14:03:43	2023-0415-140343-549-CH1	KP0.348- Debris - Fishing Gear.
15/04/2023	14:05:03	2023-0415-140503-659-CH1	KP0.353- Debris - Fishing Gear.
15/04/2023	14:06:44	2023-0415-140644-039-CH1	KP0.365- Anode Assessment - 25-50% Wasted.
15/04/2023	14:12:55	2023-0415-141255-152-CH1	KP0.401- Debris - Soft Rope.
15/04/2023	14:14:51	2023-0415-141451-759-CH1	KP0.422- Field Joint - Bitumen Missing.
15/04/2023	14:18:50	2023-0415-141850-044-CH1	KP0.458- Debris - Fishing Gear.
15/04/2023	14:19:52	2023-0415-141952-909-CH1	KP0.461- Debris - Debris Field.
15/04/2023	15:23:17	2023-0415-152317-364-CH1	KP0.496- Debris - Fishing Gear.
15/04/2023	15:23:50	2023-0415-152350-824-CH1	KP0.498- Field Joint - Bitumen Missing.
15/04/2023	15:26:50	2023-0415-152650-298-CH1	KP0.523- Field Joint - Bitumen Missing.
15/04/2023	15:28:03	2023-0415-152803-323-CH1	KP0.536- Field Joint - Bitumen Missing.
15/04/2023	15:29:25	2023-0415-152925-436-CH1	KP0.549- Field Joint - Bitumen Missing.
15/04/2023	15:30:45	2023-0415-153045-543-CH1	KP0.559- Debris - Fishing Gear.
15/04/2023	15:31:22	2023-0415-153122-056-CH1	KP0.561- Field Joint - Bitumen Missing.
15/04/2023	15:33:17	2023-0415-153317-637-CH1	KP0.574- Field Joint - Bitumen Missing.
15/04/2023	15:37:58	2023-0415-153758-506-CH1	KP0.600- Field Joint - Bitumen Missing.
15/04/2023	15:38:57	2023-0415-153857-319-CH1	KP0.613- Field Joint - Bitumen Missing.
15/04/2023	15:41:39	2023-0415-154139-553-CH1	KP0.618- Field Joint - Bitumen Missing.
15/04/2023	15:42:34	2023-0415-154234-322-CH1	KP0.625- Field Joint - Bitumen Missing.
15/04/2023	15:44:01	2023-0415-154401-514-CH1	KP0.638- Field Joint - Bitumen Missing.
15/04/2023	15:46:42	2023-0415-154642-729-CH1	KP0.652- Field Joint - Bitumen Missing.
17/04/2023	10:17:07	2023-0417-101707-885-CH1	KP0.652- Field Joint - Bitumen Missing.
17/04/2023	10:18:07	2023-0417-101807-709-CH1	KP0.655- Debris - Fishing Gear. Net
17/04/2023	10:19:07	2023-0417-101907-536-CH1	KP0.663- Debris - Fishing Gear. Net
17/04/2023	10:20:32	2023-0417-102032-708-CH1	KP0.672- Debris - Fishing Gear. Net
17/04/2023	10:21:22	2023-0417-102122-392-CH1	KP0.676- Debris - Fishing Gear. Net
17/04/2023	10:22:34	2023-0417-102234-386-CH1	KP0.690- Field Joint - Bitumen Missing.
17/04/2023	10:23:37	2023-0417-102337-266-CH1	KP0.702- Debris - Fishing Gear.
17/04/2023	10:24:30	2023-0417-102430-992-CH1	KP0.709- Debris - Fishing Gear.
17/04/2023	10:25:05	2023-0417-102505-470-CH1	KP0.712- Debris - Fishing Gear.
17/04/2023	10:25:42	2023-0417-102542-984-CH1	KP0.718- Debris - Fishing Gear.
17/04/2023	10:26:14	2023-0417-102614-419-CH1	KP0.721- Debris - Fishing Gear.
17/04/2023	10:27:39	2023-0417-102739-592-CH1	KP0.728- Field Joint - Bitumen Missing.
17/04/2023	10:27:49	2023-0417-102749-733-CH1	KP0.728- Field Joint - Bitumen Missing.
17/04/2023	10:28:18	2023-0417-102818-122-CH1	KP0.731- Debris - Fishing Gear.
17/04/2023	10:30:21	2023-0417-103021-829-CH1	KP0.766- Field Joint - Bitumen Missing.
17/04/2023	10:31:14	2023-0417-103114-555-CH1	KP0.775- Debris - Fishing Gear.
17/04/2023	10:31:40	2023-0417-103140-919-CH1	KP0.779- Field Joint - Bitumen Missing.



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17/04/2023	10:35:04	2023-0417-103504-730-CH1	KP0.817- Field Joint - Bitumen Missing.
17/04/2023	10:37:17	2023-0417-103717-574-CH1	KP0.837- Debris - Fishing Gear.
17/04/2023	10:38:05	2023-0417-103805-215-CH1	KP0.842- Field Joint - Bitumen Missing.
17/04/2023	10:39:41	2023-0417-103941-544-CH1	KP0.856- Field Joint - Bitumen Missing.
17/04/2023	10:58:14	2023-0417-105814-888-CH1	KP0.869- Field Joint - Bitumen Missing.
17/04/2023	11:00:11	2023-0417-110011-494-CH1	KP0.881- Field Joint - Bitumen Missing.
17/04/2023	11:15:07	2023-0417-111507-849-CH1	KP0.893- Field Joint - Bitumen Missing.
17/04/2023	11:16:09	2023-0417-111609-705-CH1	KP0.906- Field Joint - Bitumen Missing.
17/04/2023	11:17:10	2023-0417-111710-542-CH1	KP0.919- Field Joint - Bitumen Missing.
17/04/2023	11:18:53	2023-0417-111853-967-CH1	KP0.946- Field Joint - Bitumen Missing.
17/04/2023	11:19:52	2023-0417-111952-776-CH1	KP0.958- Field Joint - Bitumen Missing.
17/04/2023	11:20:06	2023-0417-112006-974-CH1	KP0.958- Field Joint - Bitumen Missing.
17/04/2023	11:20:59	2023-0417-112059-699-CH1	KP0.970- Field Joint - Bitumen Missing.
17/04/2023	11:22:09	2023-0417-112209-665-CH1	KP0.983- Field Joint - Bitumen Missing.
17/04/2023	11:23:02	2023-0417-112302-390-CH1	KP0.995- Field Joint - Bitumen Missing.
17/04/2023	11:24:06	2023-0417-112406-272-CH1	KP1.007- Field Joint - Bitumen Missing.
17/04/2023	11:25:08	2023-0417-112508-124-CH1	KP1.021- Field Joint - Bitumen Missing.
17/04/2023	11:26:07	2023-0417-112607-947-CH1	KP1.033- Field Joint - Bitumen Missing.
17/04/2023	11:26:55	2023-0417-112655-607-CH1	KP1.045- Field Joint - Bitumen Missing.
17/04/2023	11:27:47	2023-0417-112747-319-CH1	KP1.057- Field Joint - Bitumen Missing.
17/04/2023	11:28:50	2023-0417-112850-184-CH1	KP1.070- Field Joint - Bitumen Missing.
17/04/2023	11:29:38	2023-0417-112938-857-CH1	KP1.082- Field Joint - Bitumen Missing.
17/04/2023	11:30:38	2023-0417-113038-681-CH1	KP1.098- Field Joint - Bitumen Missing.
17/04/2023	11:31:33	2023-0417-113133-434-CH1	KP1.108- Field Joint - Bitumen Missing.
17/04/2023	11:32:25	2023-0417-113225-150-CH1	KP1.121- Field Joint - Bitumen Missing.
17/04/2023	11:33:39	2023-0417-113339-169-CH1	KP1.133- Field Joint - Bitumen Missing.
17/04/2023	11:34:41	2023-0417-113441-021-CH1	KP1.146- Field Joint - Bitumen Missing.
17/04/2023	11:35:33	2023-0417-113533-752-CH1	KP1.158- Field Joint - Bitumen Missing.
17/04/2023	11:37:03	2023-0417-113703-996-CH1	KP1.171- Field Joint - Bitumen Missing.
17/04/2023	11:37:57	2023-0417-113757-741-CH1	KP1.184- Field Joint - Bitumen Missing.
17/04/2023	11:39:12	2023-0417-113912-765-CH1	KP1.197- Field Joint - Bitumen Missing.
17/04/2023	11:40:05	2023-0417-114005-495-CH1	KP1.209- Field Joint - Bitumen Missing.
17/04/2023	11:41:01	2023-0417-114101-266-CH1	KP1.222- Field Joint - Bitumen Missing.
17/04/2023	11:41:35	2023-0417-114135-754-CH1	KP1.228- Debris - Fishing Gear.
17/04/2023	11:42:23	2023-0417-114223-396-CH1	KP1.234- Field Joint - Bitumen Missing.
17/04/2023	11:43:26	2023-0417-114326-268-CH1	KP1.247- Field Joint - Bitumen Missing.
17/04/2023	11:44:23	2023-0417-114423-041-CH1	KP1.256- Debris - Soft Debris.
17/04/2023	11:45:33	2023-0417-114533-006-CH1	KP1.272- Field Joint - Bitumen Missing.
17/04/2023	11:46:24	2023-0417-114624-720-CH1	KP1.283- Debris - Fishing Gear.
17/04/2023	11:47:20	2023-0417-114720-488-CH1	KP1.298- Field Joint - Bitumen Missing.
17/04/2023	11:48:50	2023-0417-114850-735-CH1	KP1.311- Field Joint - Bitumen Missing.
17/04/2023	11:49:34	2023-0417-114934-334-CH1	KP1.323- Field Joint - Bitumen Missing.
17/04/2023	11:50:18	2023-0417-115018-947-CH1	KP1.334- Field Joint - Bitumen Missing.
17/04/2023	11:51:13	2023-0417-115113-707-CH1	KP1.348- Field Joint - Bitumen Missing.
17/04/2023	11:51:39	2023-0417-115139-052-CH1	KP1.351- Debris - Fishing Gear.
17/04/2023	11:52:17	2023-0417-115217-583-CH1	KP1.360- Field Joint - Bitumen Missing.



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17/04/2023	11:52:58	2023-0417-115258-149-CH1	KP1.368- Debris - Fishing Gear.
17/04/2023	11:54:53	2023-0417-115453-737-CH1	KP1.374- Field Joint - Bitumen Missing.
17/04/2023	11:56:22	2023-0417-115622-967-CH1	KP1.385- Field Joint - Bitumen Missing.
17/04/2023	11:57:29	2023-0417-115729-886-CH1	KP1.399- Field Joint - Bitumen Missing.
17/04/2023	11:58:19	2023-0417-115819-575-CH1	KP1.411- Field Joint - Bitumen Missing.
17/04/2023	11:59:14	2023-0417-115914-332-CH1	KP1.424- Field Joint - Bitumen Missing.
17/04/2023	12:00:09	2023-0417-120009-084-CH1	KP1.438- Field Joint - Bitumen Missing.
17/04/2023	12:01:09	2023-0417-120109-920-CH1	KP1.450- Debris - Fishing Gear.
17/04/2023	12:01:59	2023-0417-120159-606-CH1	KP1.462- Field Joint - Bitumen Missing.
17/04/2023	12:02:30	2023-0417-120230-025-CH1	KP1.469- Debris - Fishing Gear.
17/04/2023	12:03:06	2023-0417-120306-528-CH1	KP1.476- Field Joint - Bitumen Missing.
17/04/2023	12:03:45	2023-0417-120345-060-CH1	KP1.488- Field Joint - Bitumen Missing.
17/04/2023	12:04:28	2023-0417-120428-663-CH1	KP1.500- Field Joint - Bitumen Missing.
17/04/2023	13:54:26	2023-0417-135426-600-CH1	KP1.525- Field Joint - Bitumen Missing.
17/04/2023	13:55:25	2023-0417-135525-411-CH1	KP1.538- Field Joint - Bitumen Missing.
17/04/2023	13:56:27	2023-0417-135627-264-CH1	KP1.550- Field Joint - Bitumen Missing.
17/04/2023	13:57:33	2023-0417-135733-176-CH1	KP1.562- Field Joint - Bitumen Missing.
17/04/2023	13:58:15	2023-0417-135815-758-CH1	KP1.569- Debris - Fishing Gear.
17/04/2023	14:15:43	2023-0417-141543-195-CH1	KP1.601- Field Joint - Bitumen Missing.
17/04/2023	14:16:52	2023-0417-141652-145-CH1	KP1.614- Field Joint - Bitumen Missing.
17/04/2023	14:20:45	2023-0417-142045-360-CH1	KP1.636- Debris - Soft Debris.
17/04/2023	14:22:35	2023-0417-142235-883-CH1	KP1.649- Debris - Netting.
17/04/2023	14:41:49	2023-0417-144149-787-CH1	KP1.673- Debris - Fishing Gear.
17/04/2023	14:43:13	2023-0417-144313-948-CH1	KP1.692- Debris - Soft Rope.
17/04/2023	14:44:28	2023-0417-144428-983-CH1	KP1.704- Debris - Soft Rope.
17/04/2023	14:45:47	2023-0417-144547-057-CH1	KP1.715- Field Joint - Bitumen Missing.
17/04/2023	14:48:20	2023-0417-144820-168-CH1	KP1.754- Field Joint - Bitumen Missing.
17/04/2023	14:50:14	2023-0417-145014-750-CH1	KP1.779- Field Joint - Bitumen Missing.
17/04/2023	14:51:24	2023-0417-145124-712-CH1	KP1.791- Field Joint - Bitumen Missing.
17/04/2023	14:53:25	2023-0417-145325-375-CH1	KP1.817- Field Joint - Bitumen Missing.
17/04/2023	14:56:32	2023-0417-145632-960-CH1	KP1.855- Field Joint - Bitumen Missing.
17/04/2023	14:57:23	2023-0417-145723-658-CH1	KP1.865- Field Joint - Bitumen Missing.
17/04/2023	14:59:11	2023-0417-145911-139-CH1	KP1.880- Field Joint - Bitumen Missing.
17/04/2023	15:00:51	2023-0417-150051-524-CH1	KP1.893- Field Joint - Bitumen Missing.
17/04/2023	15:19:43	2023-0417-151943-127-CH1	KP1.918- Field Joint - Bitumen Missing.
17/04/2023	15:20:43	2023-0417-152043-962-CH1	KP1.931- Field Joint - Bitumen Missing.
17/04/2023	15:21:55	2023-0417-152155-959-CH1	KP1.944- Field Joint - Bitumen Missing.
17/04/2023	15:23:14	2023-0417-152314-029-CH1	KP1.957- Field Joint - Bitumen Missing.
17/04/2023	15:39:07	2023-0417-153907-167-CH1	KP1.970- Field Joint - Bitumen Missing.
17/04/2023	15:40:55	2023-0417-154055-663-CH1	KP1.994- Field Joint - Bitumen Missing.
17/04/2023	15:42:04	2023-0417-154204-610-CH1	KP2.008- Field Joint - Bitumen Missing.
17/04/2023	15:43:19	2023-0417-154319-645-CH1	KP2.020- Field Joint - Bitumen Missing.
17/04/2023	15:44:27	2023-0417-154427-582-CH1	KP2.033- Field Joint - Bitumen Missing.
17/04/2023	15:45:40	2023-0417-154540-589-CH1	KP2.045- Field Joint - Bitumen Missing.
17/04/2023	15:50:29	2023-0417-155029-570-CH1	KP2.071- Field Joint - Bitumen Missing.
17/04/2023	15:51:28	2023-0417-155128-380-CH1	KP2.084- Field Joint - Bitumen Missing.

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17/04/2023	15:52:24	2023-0417-155224-156-CH1	KP2.097- Field Joint - Bitumen Missing.
17/04/2023	15:53:17	2023-0417-155317-889-CH1	KP2.110- Field Joint - Bitumen Missing.
17/04/2023	15:54:45	2023-0417-155445-093-CH1	KP2.123- Field Joint - Bitumen Missing.
17/04/2023	15:55:42	2023-0417-155542-889-CH1	KP2.135- Field Joint - Bitumen Missing.
17/04/2023	15:56:25	2023-0417-155625-477-CH1	KP2.140- Anode Assessment - 25-50% Wasted.
17/04/2023	15:57:25	2023-0417-155725-301-CH1	KP2.148- Field Joint - Bitumen Missing.
17/04/2023	15:58:20	2023-0417-155820-057-CH1	KP2.160- Field Joint - Bitumen Missing.
17/04/2023	15:59:01	2023-0417-155901-629-CH1	KP2.173- Debris - Fishing Gear.
17/04/2023	16:02:05	2023-0417-160205-157-CH1	KP2.186- Field Joint - Bitumen Missing.
18/04/2023	08:29:35	2023-0418-082935-718-CH1	KP2.212- Field Joint - Bitumen Missing.
18/04/2023	08:33:40	2023-0418-083340-088-CH1	KP2.262- Field Joint - Bitumen Missing.
18/04/2023	08:34:17	2023-0418-083417-606-CH1	KP2.268- Anode Assessment - 25-50% Wasted.
18/04/2023	08:34:30	2023-0418-083430-788-CH1	KP2.268- Anode Assessment - 25-50% Wasted.
18/04/2023	08:35:15	2023-0418-083515-402-CH1	KP2.272- Debris - Soft Rope.
18/04/2023	08:38:55	2023-0418-083855-433-CH1	KP2.326- Field Joint - Bitumen Missing.
18/04/2023	08:41:22	2023-0418-084122-463-CH1	KP2.351- Field Joint - Bitumen Missing.
18/04/2023	08:42:38	2023-0418-084238-512-CH1	KP2.364- Field Joint - Bitumen Missing.
18/04/2023	08:44:12	2023-0418-084412-808-CH1	KP2.376- Field Joint - Bitumen Missing.
18/04/2023	08:44:20	2023-0418-084420-934-CH1	KP2.376- Field Joint - Bitumen Missing.
18/04/2023	08:45:19	2023-0418-084519-731-CH1	KP2.388- Field Joint - Bitumen Missing.
18/04/2023	08:46:23	2023-0418-084623-615-CH1	KP2.393- Debris - Other.
18/04/2023	09:02:42	2023-0418-090242-116-CH1	KP2.402- Field Joint - Bitumen Missing.
18/04/2023	09:03:40	2023-0418-090340-926-CH1	KP2.414- Field Joint - Bitumen Missing.
18/04/2023	09:04:56	2023-0418-090456-975-CH1	KP2.427- Field Joint - Bitumen Missing.
18/04/2023	09:06:01	2023-0418-090601-869-CH1	KP2.439- Field Joint - Bitumen Missing.
18/04/2023	09:07:02	2023-0418-090702-707-CH1	KP2.452- Field Joint - Bitumen Missing.
18/04/2023	09:07:51	2023-0418-090751-380-CH1	KP2.463- Debris - Soft Rope.
18/04/2023	09:08:53	2023-0418-090853-233-CH1	KP2.478- Field Joint - Bitumen Missing.
18/04/2023	09:09:47	2023-0418-090947-988-CH1	KP2.490- Field Joint - Bitumen Missing.
18/04/2023	09:10:33	2023-0418-091033-617-CH1	KP2.502- Field Joint - Bitumen Missing.
18/04/2023	09:11:20	2023-0418-091120-259-CH1	KP2.515- Field Joint - Bitumen Missing.
18/04/2023	09:12:05	2023-0418-091205-887-CH1	KP2.521- Anode Assessment - 25-50% Wasted.
18/04/2023	09:36:20	2023-0418-093620-943-CH1	KP2.528- Field Joint - Bitumen Missing.
18/04/2023	09:37:20	2023-0418-093720-767-CH1	KP2.539- Debris - Fishing Gear.
18/04/2023	09:38:31	2023-0418-093831-746-CH1	KP2.553- Field Joint - Bitumen Missing.
18/04/2023	09:40:12	2023-0418-094012-128-CH1	KP2.579- Field Joint - Bitumen Missing.
18/04/2023	09:41:50	2023-0418-094150-485-CH1	KP2.605- Field Joint - Bitumen Missing.
18/04/2023	09:42:47	2023-0418-094247-267-CH1	KP2.618- Field Joint - Bitumen Missing.
18/04/2023	09:44:19	2023-0418-094419-538-CH1	KP2.643- Field Joint - Bitumen Missing.
18/04/2023	09:44:57	2023-0418-094457-058-CH1	KP2.649- Anode Assessment - 25-50% Wasted.
18/04/2023	09:46:13	2023-0418-094613-104-CH1	KP2.655- Field Joint - Bitumen Missing.
18/04/2023	09:46:58	2023-0418-094658-734-CH1	KP2.668- Field Joint - Bitumen Missing.
18/04/2023	09:47:49	2023-0418-094749-430-CH1	KP2.682- Field Joint - Bitumen Missing.
18/04/2023	09:48:47	2023-0418-094847-228-CH1	KP2.694- Field Joint - Bitumen Missing.
18/04/2023	09:49:38	2023-0418-094938-943-CH1	KP2.707- Field Joint - Bitumen Missing.
18/04/2023	09:50:14	2023-0418-095014-435-CH1	KP2.719- Field Joint - Bitumen Missing.

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18/04/2023	09:51:04	2023-0418-095104-115-CH1	KP2.733- Field Joint - Bitumen Missing.
18/04/2023	09:51:58	2023-0418-095158-875-CH1	KP2.745- Field Joint - Bitumen Missing.
18/04/2023	09:52:57	2023-0418-095257-679-CH1	KP2.758- Field Joint - Bitumen Missing.
18/04/2023	10:33:52	2023-0418-103352-515-CH1	KP2.768- Field Joint - Bitumen Missing.
18/04/2023	10:34:49	2023-0418-103449-306-CH1	KP2.775- Anode Assessment - 25-50% Wasted.
18/04/2023	10:36:29	2023-0418-103629-682-CH1	KP2.794- Field Joint - Bitumen Missing.
18/04/2023	10:38:03	2023-0418-103803-980-CH1	KP2.821- Field Joint - Bitumen Missing.
18/04/2023	10:38:52	2023-0418-103852-653-CH1	KP2.833- Field Joint - Bitumen Missing.
18/04/2023	10:39:44	2023-0418-103944-364-CH1	KP2.846- Field Joint - Bitumen Missing.
18/04/2023	10:40:14	2023-0418-104014-784-CH1	KP2.848- Debris - Fishing Gear.
18/04/2023	10:41:13	2023-0418-104113-594-CH1	KP2.858- Field Joint - Bitumen Missing.
18/04/2023	10:44:07	2023-0418-104407-897-CH1	KP2.903- Anode Assessment - 25-50% Wasted.
18/04/2023	10:44:39	2023-0418-104439-432-CH1	KP2.908- Field Joint - Bitumen Missing.
18/04/2023	10:45:38	2023-0418-104538-243-CH1	KP2.921- Field Joint - Bitumen Missing.
18/04/2023	10:46:23	2023-0418-104623-871-CH1	KP2.934- Field Joint - Bitumen Missing.
18/04/2023	10:47:13	2023-0418-104713-558-CH1	KP2.947- Field Joint - Bitumen Missing.
18/04/2023	10:48:00	2023-0418-104800-198-CH1	KP2.959- Field Joint - Bitumen Missing.
18/04/2023	10:48:48	2023-0418-104848-874-CH1	KP2.971- Field Joint - Bitumen Missing.
18/04/2023	10:50:17	2023-0418-105017-089-CH1	KP2.997- Field Joint - Bitumen Missing.
18/04/2023	10:51:04	2023-0418-105104-743-CH1	KP3.010- Field Joint - Bitumen Missing.
18/04/2023	10:51:53	2023-0418-105153-414-CH1	KP3.023- Field Joint - Bitumen Missing.
18/04/2023	10:52:32	2023-0418-105232-958-CH1	KP3.030- Anode Assessment - 25-50% Wasted.
18/04/2023	10:57:35	2023-0418-105735-125-CH1	KP3.035- Field Joint - Bitumen Missing.
18/04/2023	10:58:29	2023-0418-105829-879-CH1	KP3.047- Field Joint - Bitumen Missing.
18/04/2023	10:59:14	2023-0418-105914-487-CH1	KP3.060- Field Joint - Bitumen Missing.
18/04/2023	11:01:34	2023-0418-110134-424-CH1	KP3.100- Field Joint - Bitumen Missing.
18/04/2023	11:02:23	2023-0418-110223-092-CH1	KP3.112- Field Joint - Bitumen Missing.
18/04/2023	11:03:41	2023-0418-110341-167-CH1	KP3.131- Debris - Fishing Gear.
18/04/2023	11:04:29	2023-0418-110429-838-CH1	KP3.138- Field Joint - Bitumen Missing.
18/04/2023	11:05:28	2023-0418-110528-650-CH1	KP3.150- Field Joint - Bitumen Missing.
18/04/2023	11:06:07	2023-0418-110607-187-CH1	KP3.157- Anode Assessment - 25-50% Wasted.
18/04/2023	11:06:41	2023-0418-110641-655-CH1	KP3.163- Field Joint - Bitumen Missing.
18/04/2023	11:07:39	2023-0418-110739-452-CH1	KP3.176- Field Joint - Bitumen Missing.
18/04/2023	11:08:25	2023-0418-110825-081-CH1	KP3.188- Field Joint - Bitumen Missing.
18/04/2023	11:09:28	2023-0418-110928-961-CH1	KP3.200- Field Joint - Bitumen Missing.
18/04/2023	11:10:21	2023-0418-111021-689-CH1	KP3.212- Field Joint - Bitumen Missing.
18/04/2023	11:11:53	2023-0418-111153-961-CH1	KP3.239- Field Joint - Bitumen Missing.
18/04/2023	11:12:46	2023-0418-111246-689-CH1	KP3.252- Field Joint - Bitumen Missing.
18/04/2023	11:13:44	2023-0418-111344-484-CH1	KP3.264- Field Joint - Bitumen Missing.
18/04/2023	11:14:34	2023-0418-111434-168-CH1	KP3.276- Field Joint - Bitumen Missing.
18/04/2023	11:15:13	2023-0418-111513-713-CH1	KP3.282- Anode Assessment - 25-50% Wasted. CP1-987mV
18/04/2023	11:16:27	2023-0418-111627-733-CH1	KP3.282- Anode Assessment - 25-50% Wasted. CP1-987mV
18/04/2023	11:16:31	2023-0418-111631-789-CH1	KP3.282- Anode Assessment - 25-50% Wasted. CP1-987mV
18/04/2023	11:16:34	2023-0418-111634-830-CH1	KP3.288- Field Joint - Bitumen Missing.
18/04/2023	11:30:20	2023-0418-113020-207-CH1	KP3.288- Field Joint - Bitumen Missing.
18/04/2023	11:31:40	2023-0418-113140-311-CH1	KP3.312- Field Joint - Bitumen Missing.

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18/04/2023	11:32:34	2023-0418-113234-051-CH1	KP3.325- Field Joint - Bitumen Missing.
18/04/2023	11:33:26	2023-0418-113326-783-CH1	KP3.337- Field Joint - Bitumen Missing.
18/04/2023	11:34:21	2023-0418-113421-534-CH1	KP3.350- Field Joint - Bitumen Missing.
18/04/2023	11:35:00	2023-0418-113500-064-CH1	KP3.363- Field Joint - Bitumen Missing.
18/04/2023	11:35:44	2023-0418-113544-679-CH1	KP3.376- Field Joint - Bitumen Missing.
18/04/2023	11:36:32	2023-0418-113632-337-CH1	KP3.387- Debris - Fishing Gear.
18/04/2023	11:37:34	2023-0418-113734-189-CH1	KP3.401- Field Joint - Bitumen Missing.
18/04/2023	11:38:07	2023-0418-113807-652-CH1	KP3.410- Anode Assessment - 25-50% Wasted.
18/04/2023	11:40:01	2023-0418-114001-214-CH1	KP3.414- Field Joint - Bitumen Missing.
18/04/2023	11:40:44	2023-0418-114044-816-CH1	KP3.426- Field Joint - Bitumen Missing.
18/04/2023	11:41:42	2023-0418-114142-813-CH1	KP3.442- Debris - Fishing Gear.
18/04/2023	11:42:34	2023-0418-114234-325-CH1	KP3.452- Field Joint - Bitumen Missing.
18/04/2023	11:45:26	2023-0418-114526-702-CH1	KP3.502- Field Joint - Bitumen Missing.
18/04/2023	11:46:11	2023-0418-114611-316-CH1	KP3.516- Field Joint - Bitumen Missing.
18/04/2023	11:46:54	2023-0418-114654-919-CH1	KP3.527- Field Joint - Bitumen Missing.
18/04/2023	11:47:31	2023-0418-114731-423-CH1	KP3.533- Anode Assessment - 25-50% Wasted.
18/04/2023	11:50:51	2023-0418-115051-172-CH1	KP3.541- Field Joint - Bitumen Missing.
18/04/2023	11:52:25	2023-0418-115225-473-CH1	KP3.566- Field Joint - Bitumen Missing.
18/04/2023	11:53:12	2023-0418-115312-115-CH1	KP3.578- Field Joint - Bitumen Missing.
18/04/2023	11:53:55	2023-0418-115355-721-CH1	KP3.591- Field Joint - Bitumen Missing.
18/04/2023	11:55:03	2023-0418-115503-653-CH1	KP3.604- Field Joint - Bitumen Missing.
18/04/2023	11:55:51	2023-0418-115551-310-CH1	KP3.617- Field Joint - Bitumen Missing.
18/04/2023	11:56:35	2023-0418-115635-925-CH1	KP3.630- Field Joint - Bitumen Missing.
18/04/2023	11:57:12	2023-0418-115712-429-CH1	KP3.655- Field Joint - Bitumen Missing.
18/04/2023	11:57:54	2023-0418-115754-006-CH1	KP3.655- Field Joint - Bitumen Missing.
18/04/2023	11:58:27	2023-0418-115827-464-CH1	KP3.660- Anode Assessment - 25-50% Wasted.
18/04/2023	11:59:08	2023-0418-115908-021-CH1	KP3.667- Field Joint - Bitumen Missing.
18/04/2023	12:00:02	2023-0418-120002-774-CH1	KP3.680- Field Joint - Bitumen Missing.
18/04/2023	13:27:03	2023-0418-132703-786-CH1	KP3.690- Field Joint - Bitumen Missing.
18/04/2023	13:28:01	2023-0418-132801-583-CH1	KP3.703- Field Joint - Bitumen Missing.
18/04/2023	13:29:03	2023-0418-132903-434-CH1	KP3.716- Field Joint - Bitumen Missing.
18/04/2023	13:29:58	2023-0418-132958-193-CH1	KP3.729- Field Joint - Bitumen Missing.
18/04/2023	13:30:50	2023-0418-133050-917-CH1	KP3.742- Field Joint - Bitumen Missing.
18/04/2023	13:31:47	2023-0418-133147-709-CH1	KP3.754- Field Joint - Bitumen Missing.
18/04/2023	13:32:39	2023-0418-133239-414-CH1	KP3.766- Field Joint - Bitumen Missing.
18/04/2023	13:33:48	2023-0418-133348-368-CH1	KP3.785- Anode Assessment - 25-50% Wasted.
18/04/2023	13:35:42	2023-0418-133542-944-CH1	KP3.805- Field Joint - Bitumen Missing.
18/04/2023	13:36:24	2023-0418-133624-516-CH1	KP3.815- Debris - Fishing Gear.
18/04/2023	13:37:37	2023-0418-133737-521-CH1	KP3.831- Field Joint - Bitumen Missing.
18/04/2023	13:39:30	2023-0418-133930-073-CH1	KP3.869- Field Joint - Bitumen Missing.
18/04/2023	13:40:20	2023-0418-134020-771-CH1	KP3.882- Field Joint - Bitumen Missing.
18/04/2023	13:41:55	2023-0418-134155-072-CH1	KP3.907- Field Joint - Bitumen Missing.
18/04/2023	13:42:50	2023-0418-134250-843-CH1	KP3.913- Anode Assessment - 25-50% Wasted.
18/04/2023	13:43:35	2023-0418-134335-454-CH1	KP3.920- Field Joint - Bitumen Missing.
18/04/2023	13:45:09	2023-0418-134509-754-CH1	KP3.945- Field Joint - Bitumen Missing.
18/04/2023	13:46:49	2023-0418-134649-124-CH1	KP3.971- Field Joint - Bitumen Missing.



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18/04/2023	13:47:40	2023-0418-134740-836-CH1	KP3.983- Field Joint - Bitumen Missing.
18/04/2023	13:48:35	2023-0418-134835-595-CH1	KP3.996- Field Joint - Bitumen Missing.
18/04/2023	13:49:33	2023-0418-134933-388-CH1	KP4.008- Field Joint - Bitumen Missing.
18/04/2023	13:50:38	2023-0418-135038-284-CH1	KP4.020- Field Joint - Bitumen Missing.
18/04/2023	13:51:54	2023-0418-135154-331-CH1	KP4.039- Anode Assessment - 25-50% Wasted.
18/04/2023	13:53:47	2023-0418-135347-896-CH1	KP4.045- Field Joint - Bitumen Missing.
18/04/2023	13:54:44	2023-0418-135444-679-CH1	KP4.058- Field Joint - Bitumen Missing.
18/04/2023	13:55:28	2023-0418-135528-282-CH1	KP4.071- Field Joint - Bitumen Missing.
18/04/2023	13:56:12	2023-0418-135612-893-CH1	KP4.085- Field Joint - Bitumen Missing.
18/04/2023	13:57:02	2023-0418-135702-578-CH1	KP4.097- Field Joint - Bitumen Missing.
18/04/2023	13:58:37	2023-0418-135837-893-CH1	KP4.123- Field Joint - Bitumen Missing.
18/04/2023	13:59:25	2023-0418-135925-551-CH1	KP4.135- Field Joint - Bitumen Missing.
18/04/2023	14:00:16	2023-0418-140016-249-CH1	KP4.148- Field Joint - Bitumen Missing.
18/04/2023	14:01:05	2023-0418-140105-937-CH1	KP4.161- Field Joint - Bitumen Missing.
18/04/2023	14:01:49	2023-0418-140149-535-CH1	KP4.166- Anode Assessment - 25-50% Wasted.
18/04/2023	14:04:13	2023-0418-140413-520-CH1	KP4.173- Field Joint - Bitumen Missing.
18/04/2023	14:04:36	2023-0418-140436-841-CH1	KP4.173- Field Joint - Bitumen Missing.
18/04/2023	14:05:21	2023-0418-140521-456-CH1	KP4.185- Marine Life
18/04/2023	14:06:12	2023-0418-140612-157-CH1	KP4.198- Field Joint - Bitumen Missing.
18/04/2023	14:07:00	2023-0418-140700-827-CH1	KP4.211- Field Joint - Bitumen Missing.
18/04/2023	14:08:22	2023-0418-140822-960-CH1	KP4.235- Field Joint - Bitumen Missing.
18/04/2023	14:09:23	2023-0418-140923-798-CH1	KP4.248- Field Joint - Bitumen Missing.
18/04/2023	14:10:11	2023-0418-141011-453-CH1	KP4.261- Field Joint - Bitumen Missing.
18/04/2023	14:11:38	2023-0418-141138-656-CH1	KP4.287- Field Joint - Bitumen Missing.
18/04/2023	14:12:18	2023-0418-141218-200-CH1	KP4.293- Anode Assessment - 25-50% Wasted.
18/04/2023	14:20:08	2023-0418-142008-685-CH1	KP4.299- Field Joint - Bitumen Missing.
18/04/2023	14:20:58	2023-0418-142058-371-CH1	KP4.314- Field Joint - Bitumen Missing.
18/04/2023	14:21:51	2023-0418-142151-098-CH1	KP4.328- Field Joint - Bitumen Missing.
18/04/2023	14:22:42	2023-0418-142242-808-CH1	KP4.337- Field Joint - Bitumen Missing.
18/04/2023	14:23:31	2023-0418-142331-480-CH1	KP4.350- Field Joint - Bitumen Missing.
18/04/2023	14:24:23	2023-0418-142423-194-CH1	KP4.363- Field Joint - Bitumen Missing.
18/04/2023	14:25:47	2023-0418-142547-352-CH1	KP4.389- Field Joint - Bitumen Missing.
18/04/2023	14:26:39	2023-0418-142639-069-CH1	KP4.401- Field Joint - Bitumen Missing.
18/04/2023	14:27:27	2023-0418-142727-735-CH1	KP4.414- Field Joint - Bitumen Missing.
18/04/2023	14:28:06	2023-0418-142806-266-CH1	KP4.420- Anode Assessment - 25-50% Wasted.
18/04/2023	14:29:58	2023-0418-142958-818-CH1	KP4.439- Field Joint - Bitumen Missing.
18/04/2023	14:30:45	2023-0418-143045-460-CH1	KP4.445- Debris - Fishing Gear.
18/04/2023	14:31:42	2023-0418-143142-243-CH1	KP4.451- Field Joint - Bitumen Missing.
18/04/2023	14:33:20	2023-0418-143320-599-CH1	KP4.474- Debris - Fishing Gear.
18/04/2023	14:34:29	2023-0418-143429-549-CH1	KP4.489- Field Joint - Bitumen Missing.
18/04/2023	14:35:20	2023-0418-143520-249-CH1	KP4.501- Field Joint - Bitumen Missing.
18/04/2023	14:36:06	2023-0418-143606-897-CH1	KP4.514- Field Joint - Bitumen Missing.
18/04/2023	14:36:55	2023-0418-143655-561-CH1	KP4.527- Field Joint - Bitumen Missing.
18/04/2023	14:38:01	2023-0418-143801-471-CH1	KP4.538- Field Joint - Bitumen Missing.
18/04/2023	14:56:54	2023-0418-145654-080-CH1	KP4.545- Anode Assessment - 25-50% Wasted.
18/04/2023	14:57:33	2023-0418-145733-627-CH1	KP4.551- Field Joint - Bitumen Missing.

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18/04/2023	14:58:13	2023-0418-145813-172-CH1	KP4.559- Debris - Fishing Gear.
18/04/2023	14:58:48	2023-0418-145848-662-CH1	KP4.564- Field Joint - Bitumen Missing.
18/04/2023	14:59:37	2023-0418-145937-330-CH1	KP4.576- Field Joint - Bitumen Missing.
18/04/2023	15:00:19	2023-0418-150019-918-CH1	KP4.588- Field Joint - Bitumen Missing.
18/04/2023	15:00:59	2023-0418-150059-464-CH1	KP4.600- Field Joint - Bitumen Missing.
18/04/2023	15:01:52	2023-0418-150152-189-CH1	KP4.612- Field Joint - Bitumen Missing.
18/04/2023	15:02:53	2023-0418-150253-029-CH1	KP4.624- Field Joint - Bitumen Missing.
18/04/2023	15:03:38	2023-0418-150338-658-CH1	KP4.637- Field Joint - Bitumen Missing.
18/04/2023	15:04:24	2023-0418-150424-286-CH1	KP4.649- Field Joint - Bitumen Missing.
18/04/2023	15:05:26	2023-0418-150526-140-CH1	KP4.662- Field Joint - Bitumen Missing.
18/04/2023	15:06:17	2023-0418-150617-852-CH1	KP4.669- Anode Assessment - 25-50% Wasted.
18/04/2023	15:06:57	2023-0418-150657-397-CH1	KP4.674- Field Joint - Bitumen Missing.
18/04/2023	15:07:49	2023-0418-150749-109-CH1	KP4.686- Field Joint - Bitumen Missing.
18/04/2023	15:08:36	2023-0418-150836-766-CH1	KP4.697- Field Joint - Bitumen Missing.
18/04/2023	15:09:25	2023-0418-150925-437-CH1	KP4.710- Field Joint - Bitumen Missing.
18/04/2023	15:10:42	2023-0418-151042-501-CH1	KP4.722- Field Joint - Bitumen Missing.
18/04/2023	15:11:24	2023-0418-151124-072-CH1	KP4.733- Debris - Soft Rope.
18/04/2023	15:11:57	2023-0418-151157-533-CH1	KP4.735- Field Joint - Bitumen Missing.
18/04/2023	15:12:44	2023-0418-151244-177-CH1	KP4.748- Field Joint - Bitumen Missing.
18/04/2023	15:13:30	2023-0418-151330-819-CH1	KP4.760- Field Joint - Bitumen Missing.
18/04/2023	15:14:23	2023-0418-151423-546-CH1	KP4.773- Field Joint - Bitumen Missing.
18/04/2023	15:15:10	2023-0418-151510-189-CH1	KP4.785- Field Joint - Bitumen Missing.
18/04/2023	15:15:41	2023-0418-151541-623-CH1	KP4.793- Anode Assessment - 25-50% Wasted.
18/04/2023	15:16:46	2023-0418-151646-519-CH1	KP4.797- Field Joint - Bitumen Missing.
18/04/2023	15:17:41	2023-0418-151741-279-CH1	KP4.810- Field Joint - Bitumen Missing.
18/04/2023	15:18:15	2023-0418-151815-748-CH1	KP4.817- Debris - Fishing Gear.
18/04/2023	15:18:45	2023-0418-151845-157-CH1	KP4.822- Field Joint - Bitumen Missing.
18/04/2023	15:19:39	2023-0418-151939-907-CH1	KP4.835- Field Joint - Bitumen Missing.
18/04/2023	15:20:31	2023-0418-152031-621-CH1	KP4.848- Field Joint - Bitumen Missing.
18/04/2023	15:21:23	2023-0418-152123-331-CH1	KP4.860- Field Joint - Bitumen Missing.
18/04/2023	15:22:21	2023-0418-152221-129-CH1	KP4.873- Field Joint - Bitumen Missing.
18/04/2023	15:23:05	2023-0418-152305-746-CH1	KP4.885- Field Joint - Bitumen Missing.
18/04/2023	15:23:48	2023-0418-152348-331-CH1	KP4.897- Field Joint - Bitumen Missing.
18/04/2023	15:24:33	2023-0418-152433-959-CH1	KP4.909- Field Joint - Bitumen Missing.
18/04/2023	15:25:03	2023-0418-152503-366-CH1	KP4.914- Debris - Fish Trap. Sitting on pipeline
18/04/2023	15:25:30	2023-0418-152530-744-CH1	KP4.914- Debris - Fish Trap. Sitting on pipeline
18/04/2023	15:25:48	2023-0418-152548-995-CH1	KP4.914- Debris - Fish Trap. Sitting on pipeline
18/04/2023	15:25:58	2023-0418-152558-120-CH1	KP4.914- Debris - Fish Trap. Sitting on pipeline
18/04/2023	15:28:36	2023-0418-152836-300-CH1	KP4.935- Field Joint - Bitumen Missing.
18/04/2023	15:29:24	2023-0418-152924-970-CH1	KP4.949- Field Joint - Bitumen Missing.
18/04/2023	15:30:17	2023-0418-153017-697-CH1	KP4.959- Field Joint - Bitumen Missing.
18/04/2023	15:31:02	2023-0418-153102-311-CH1	KP4.971- Field Joint - Bitumen Missing.
18/04/2023	15:32:34	2023-0418-153234-584-CH1	KP4.997- Field Joint - Bitumen Missing.
18/04/2023	15:34:29	2023-0418-153429-163-CH1	KP5.020- Field Joint - Bitumen Missing.
18/04/2023	15:35:30	2023-0418-153530-006-CH1	KP5.032- Field Joint - Bitumen Missing.
18/04/2023	15:36:27	2023-0418-153627-798-CH1	KP5.045- Field Joint - Bitumen Missing.

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18/04/2023	15:37:19	2023-0418-153719-512-CH1	KP5.057- Field Joint - Bitumen Missing.
18/04/2023	15:39:39	2023-0418-153939-440-CH1	KP5.094- Debris - Soft Rope.
18/04/2023	15:41:21	2023-0418-154121-852-CH1	KP5.119- Field Joint - Bitumen Missing.
18/04/2023	15:43:19	2023-0418-154319-474-CH1	KP5.152- Debris - Fishing Gear.
18/04/2023	15:44:44	2023-0418-154444-647-CH1	KP5.169- Field Joint - Bitumen Missing.
18/04/2023	15:45:32	2023-0418-154532-305-CH1	KP5.181- Field Joint - Bitumen Missing.
19/04/2023	08:09:33	2023-0419-080933-872-CH1	KP5.206- Field Joint - Bitumen Missing.
19/04/2023	08:11:54	2023-0419-081154-816-CH1	KP5.243- Field Joint - Bitumen Missing.
19/04/2023	08:12:37	2023-0419-081237-400-CH1	KP5.255- Field Joint - Bitumen Missing.
19/04/2023	08:13:22	2023-0419-081322-018-CH1	KP5.268- Field Joint - Bitumen Missing.
19/04/2023	08:14:12	2023-0419-081412-716-CH1	KP5.280- Field Joint - Bitumen Missing.
19/04/2023	08:14:45	2023-0419-081445-163-CH1	KP5.287- Anode Assessment - 25-50% Wasted.
19/04/2023	08:15:04	2023-0419-081504-432-CH1	KP5.292- Field Joint - Bitumen Missing.
19/04/2023	08:15:20	2023-0419-081520-654-CH1	KP5.292- Field Joint - Bitumen Missing.
19/04/2023	08:16:26	2023-0419-081626-561-CH1	KP5.304- Debris - Fishing Gear.
19/04/2023	08:18:24	2023-0419-081824-185-CH1	KP5.330- Field Joint - Bitumen Missing.
19/04/2023	08:19:25	2023-0419-081925-020-CH1	KP5.344- Field Joint - Bitumen Missing.
19/04/2023	08:22:35	2023-0419-082235-650-CH1	KP5.380- Field Joint - Bitumen Missing.
19/04/2023	08:23:32	2023-0419-082332-431-CH1	KP5.380- Field Joint - Bitumen Missing.
19/04/2023	08:39:24	2023-0419-083924-557-CH1	KP5.392- Field Joint - Bitumen Missing.
19/04/2023	08:40:07	2023-0419-084007-149-CH1	KP5.405- Field Joint - Bitumen Missing.
19/04/2023	08:40:37	2023-0419-084037-558-CH1	KP5.413- Anode Assessment - 25-50% Wasted
19/04/2023	08:46:11	2023-0419-084611-156-CH1	KP5.417- Field Joint - Bitumen Missing.
19/04/2023	08:46:47	2023-0419-084647-659-CH1	KP5.430- Field Joint - Bitumen Missing.
19/04/2023	08:47:27	2023-0419-084727-204-CH1	KP5.442- Field Joint - Bitumen Missing.
19/04/2023	08:48:42	2023-0419-084842-242-CH1	KP5.466- Field Joint - Bitumen Missing.
19/04/2023	08:50:21	2023-0419-085021-608-CH1	KP5.480- Field Joint - Bitumen Missing.
19/04/2023	08:51:12	2023-0419-085112-306-CH1	KP5.491- Field Joint - Bitumen Missing.
19/04/2023	08:52:05	2023-0419-085205-035-CH1	KP5.503- Field Joint - Bitumen Missing.
19/04/2023	08:52:45	2023-0419-085245-598-CH1	KP5.516- Field Joint - Bitumen Missing.
19/04/2023	08:54:14	2023-0419-085414-825-CH1	KP5.534- Anode Assessment - 25-50% Wasted.
19/04/2023	08:56:14	2023-0419-085614-471-CH1	KP5.552- Field Joint - Bitumen Missing.
19/04/2023	08:56:49	2023-0419-085649-963-CH1	KP5.559- Debris - Soft Rope.
19/04/2023	08:57:44	2023-0419-085744-719-CH1	KP5.565- Field Joint - Bitumen Missing.
19/04/2023	08:58:41	2023-0419-085841-500-CH1	KP5.578- Field Joint - Bitumen Missing.
19/04/2023	08:59:23	2023-0419-085923-070-CH1	KP5.589- Field Joint - Bitumen Missing.
19/04/2023	09:00:01	2023-0419-090001-603-CH1	KP5.603- Field Joint - Bitumen Missing.
19/04/2023	09:00:35	2023-0419-090035-063-CH1	KP5.615- Field Joint - Bitumen Missing.
19/04/2023	09:01:10	2023-0419-090110-553-CH1	KP5.627- Field Joint - Bitumen Missing.
19/04/2023	09:01:46	2023-0419-090146-047-CH1	KP5.639- Field Joint - Bitumen Missing.
19/04/2023	09:01:49	2023-0419-090149-084-CH1	KP5.639- Field Joint - Bitumen Missing.
19/04/2023	09:02:26	2023-0419-090226-606-CH1	KP5.652- Field Joint - Bitumen Missing.
19/04/2023	09:14:15	2023-0419-091415-369-CH1	KP5.664- Field Joint - Bitumen Missing.
19/04/2023	09:15:07	2023-0419-091507-082-CH1	KP5.677- Field Joint - Bitumen Missing.
19/04/2023	09:15:49	2023-0419-091549-668-CH1	KP5.689- Field Joint - Bitumen Missing.
19/04/2023	09:16:28	2023-0419-091628-200-CH1	KP5.702- Field Joint - Bitumen Missing.

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19/04/2023	09:17:06	2023-0419-091706-738-CH1	KP5.714- Field Joint - Bitumen Missing.
19/04/2023	09:17:36	2023-0419-091736-142-CH1	KP5.726- Field Joint - Bitumen Missing.
19/04/2023	09:18:18	2023-0419-091818-727-CH1	KP5.738- Field Joint - Bitumen Missing.
19/04/2023	09:19:43	2023-0419-091943-897-CH1	KP5.750- Field Joint - Bitumen Missing.
19/04/2023	09:20:23	2023-0419-092023-441-CH1	KP5.762- Field Joint - Bitumen Missing.
19/04/2023	09:21:01	2023-0419-092101-974-CH1	KP5.775- Field Joint - Bitumen Missing.
19/04/2023	09:21:32	2023-0419-092132-393-CH1	KP5.781- Anode Assessment - 25-50% Wasted.
19/04/2023	09:22:25	2023-0419-092225-120-CH1	KP5.786- Field Joint - Bitumen Missing.
19/04/2023	09:23:02	2023-0419-092302-638-CH1	KP5.799- Field Joint



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19/04/2023	09:52:27	2023-0419-095227-969-CH1	KP6.269- Field Joint - Bitumen Missing.
19/04/2023	09:52:54	2023-0419-095254-334-CH1	KP6.276- Anode Assessment - 25-50% Wasted.
19/04/2023	09:53:49	2023-0419-095349-089-CH1	KP6.282- Field Joint - Bitumen Missing.
19/04/2023	09:54:32	2023-0419-095432-686-CH1	KP6.294- Field Joint - Bitumen Missing.
19/04/2023	09:55:16	2023-0419-095516-289-CH1	KP6.306- Field Joint - Bitumen Missing.
19/04/2023	09:55:56	2023-0419-095556-848-CH1	KP6.319- Field Joint - Bitumen Missing.
19/04/2023	09:56:39	2023-0419-095639-435-CH1	KP6.331- Field Joint - Bitumen Missing.
19/04/2023	09:57:16	2023-0419-095716-951-CH1	KP6.344- Field Joint - Bitumen Missing.
19/04/2023	09:57:55	2023-0419-095755-485-CH1	KP6.356- Field Joint - Bitumen Missing.
19/04/2023	09:58:29	2023-0419-095829-959-CH1	KP6.369- Field Joint - Bitumen Missing.
19/04/2023	10:00:35	2023-0419-100035-694-CH1	KP6.400- Anode Assessment - 25-50% Wasted.
19/04/2023	10:01:14	2023-0419-100114-222-CH1	KP6.405- Field Joint - Bitumen Missing.
19/04/2023	10:01:53	2023-0419-100153-766-CH1	KP6.418- Field Joint - Bitumen Missing.
19/04/2023	10:02:57	2023-0419-100257-646-CH1	KP6.442- Field Joint - Bitumen Missing.
19/04/2023	10:03:35	2023-0419-100335-165-CH1	KP6.455- Field Joint - Bitumen Missing.
19/04/2023	10:04:06	2023-0419-100406-598-CH1	KP6.467- Field Joint - Bitumen Missing.
19/04/2023	10:05:13	2023-0419-100513-523-CH1	KP6.492- Field Joint - Bitumen Missing.
19/04/2023	10:07:07	2023-0419-100707-084-CH1	KP6.526- Field Joint - Bitumen Missing.
19/04/2023	10:08:03	2023-0419-100803-868-CH1	KP6.533- Debris - Other. Canvas Sheet
19/04/2023	10:09:38	2023-0419-100938-172-CH1	KP6.554- Field Joint - Bitumen Missing.
19/04/2023	10:10:16	2023-0419-101016-700-CH1	KP6.568- Field Joint - Bitumen Missing.
19/04/2023	10:26:08	2023-0419-102608-821-CH1	KP6.578- Field Joint - Bitumen Missing.
19/04/2023	10:26:46	2023-0419-102646-340-CH1	KP6.590- Field Joint - Bitumen Missing.
19/04/2023	10:27:23	2023-0419-102723-855-CH1	KP6.602- Field Joint - Bitumen Missing.
19/04/2023	10:28:01	2023-0419-102801-374-CH1	KP6.614- Field Joint - Bitumen Missing.
19/04/2023	10:28:38	2023-0419-102838-890-CH1	KP6.626- Field Joint - Bitumen Missing.
19/04/2023	10:29:17	2023-0419-102917-424-CH1	KP6.639- Field Joint - Bitumen Missing.
19/04/2023	10:29:45	2023-0419-102945-820-CH1	KP6.645- Anode Assessment - 25-50% Wasted.
19/04/2023	10:30:17	2023-0419-103017-245-CH1	KP6.651- Field Joint - Bitumen Missing.
19/04/2023	10:30:50	2023-0419-103050-708-CH1	KP6.663- Field Joint - Bitumen Missing.
19/04/2023	10:31:20	2023-0419-103120-113-CH1	KP6.675- Field Joint - Bitumen Missing.
19/04/2023	10:31:57	2023-0419-103157-631-CH1	KP6.688- Field Joint - Bitumen Missing.
19/04/2023	10:32:34	2023-0419-103234-132-CH1	KP6.700- Field Joint - Bitumen Missing.
19/04/2023	10:33:07	2023-0419-103307-596-CH1	KP6.713- Field Joint - Bitumen Missing.
19/04/2023	10:33:45	2023-0419-103345-110-CH1	KP6.725- Field Joint - Bitumen Missing.
19/04/2023	10:34:24	2023-0419-103424-656-CH1	KP6.737- Field Joint - Bitumen Missing.
19/04/2023	10:34:59	2023-0419-103459-132-CH1	KP6.750- Field Joint - Bitumen Missing.
19/04/2023	10:35:32	2023-0419-103532-591-CH1	KP6.762- Field Joint - Bitumen Missing.
19/04/2023	10:36:07	2023-0419-103607-069-CH1	KP6.769- Anode Assessment - 25-50% Wasted.
19/04/2023	10:36:40	2023-0419-103640-528-CH1	KP6.775- Field Joint - Bitumen Missing.
19/04/2023	10:37:18	2023-0419-103718-048-CH1	KP6.786- Field Joint - Bitumen Missing.
19/04/2023	10:37:53	2023-0419-103753-545-CH1	KP6.799- Field Joint - Bitumen Missing.
19/04/2023	10:38:31	2023-0419-103831-054-CH1	KP6.810- Field Joint - Bitumen Missing.
19/04/2023	10:39:12	2023-0419-103912-625-CH1	KP6.823- Field Joint - Bitumen Missing.
19/04/2023	10:39:44	2023-0419-103944-061-CH1	KP6.836- Field Joint - Bitumen Missing.
19/04/2023	10:58:26	2023-0419-105826-529-CH1	KP6.848- Field Joint - Bitumen Missing.

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19/04/2023	10:58:54	2023-0419-105854-923-CH1	KP6.849- Debris - Fishing Gear. Net
19/04/2023	11:00:38	2023-0419-110038-347-CH1	KP6.873- Field Joint - Bitumen Missing.
19/04/2023	11:01:14	2023-0419-110114-850-CH1	KP6.885- Field Joint - Bitumen Missing.
19/04/2023	11:01:42	2023-0419-110142-227-CH1	KP6.893- Anode Assessment - 25-50% Wasted.
19/04/2023	11:02:06	2023-0419-110206-564-CH1	KP6.897- Field Joint - Bitumen Missing.
19/04/2023	11:02:29	2023-0419-110229-883-CH1	KP6.902- Debris - Soft Rope.
19/04/2023	11:03:07	2023-0419-110307-400-CH1	KP6.910- Field Joint - Bitumen Missing.
19/04/2023	11:03:45	2023-0419-110345-931-CH1	KP6.922- Field Joint - Bitumen Missing.
19/04/2023	11:04:24	2023-0419-110424-464-CH1	KP6.947- Field Joint - Bitumen Missing.
19/04/2023	11:05:05	2023-0419-110505-025-CH1	KP6.946- Field Joint - Bitumen Missing.
19/04/2023	11:05:32	2023-0419-110532-401-CH1	KP6.953- Debris - Soft Rope.
19/04/2023	11:06:01	2023-0419-110601-806-CH1	KP6.959- Field Joint - Bitumen Missing.
19/04/2023	11:06:40	2023-0419-110640-336-CH1	KP6.970- Field Joint - Bitumen Missing.
19/04/2023	11:07:21	2023-0419-110721-909-CH1	KP6.984- Field Joint - Bitumen Missing.
19/04/2023	11:07:59	2023-0419-110759-426-CH1	KP6.996- Field Joint - Bitumen Missing.
19/04/2023	11:08:36	2023-0419-110836-951-CH1	KP7.017- Field Joint - Bitumen Missing.
19/04/2023	11:09:04	2023-0419-110904-326-CH1	KP7.016- Anode Assessment - 25-50% Wasted.
19/04/2023	11:10:09	2023-0419-111009-215-CH1	KP7.021- Field Joint - Bitumen Missing.
19/04/2023	11:10:53	2023-0419-111053-831-CH1	KP7.033- Field Joint - Bitumen Missing.
19/04/2023	11:11:41	2023-0419-111141-489-CH1	KP7.045- Field Joint - Bitumen Missing.
19/04/2023	11:12:24	2023-0419-111224-075-CH1	KP7.058- Field Joint - Bitumen Missing.
19/04/2023	11:13:04	2023-0419-111304-635-CH1	KP7.070- Field Joint - Bitumen Missing.
19/04/2023	11:13:43	2023-0419-111343-167-CH1	KP7.082- Field Joint - Bitumen Missing.
19/04/2023	11:14:17	2023-0419-111417-639-CH1	KP7.091- Field Joint - Bitumen Missing.
19/04/2023	11:14:39	2023-0419-111439-950-CH1	KP7.095- Field Joint - Bitumen Missing.
19/04/2023	11:15:26	2023-0419-111526-589-CH1	KP7.108- Field Joint - Bitumen Missing.
19/04/2023	11:16:35	2023-0419-111635-543-CH1	KP7.132- Field Joint - Bitumen Missing.
19/04/2023	11:22:30	2023-0419-112230-431-CH1	KP7.140- Anode Assessment - 25-50% Wasted.
19/04/2023	11:22:34	2023-0419-112234-490-CH1	KP7.144- Field Joint - Bitumen Missing.
19/04/2023	11:34:02	2023-0419-113402-978-CH1	KP7.144- Field Joint - Bitumen Missing.
19/04/2023	11:34:59	2023-0419-113459-760-CH1	KP7.157- Field Joint - Bitumen Missing.
19/04/2023	11:35:38	2023-0419-113538-290-CH1	KP7.177- Field Joint - Bitumen Missing.
19/04/2023	11:36:19	2023-0419-113619-864-CH1	KP7.181- Field Joint - Bitumen Missing.
19/04/2023	11:36:58	2023-0419-113658-398-CH1	KP7.196- Field Joint - Bitumen Missing.
19/04/2023	11:37:43	2023-0419-113743-010-CH1	KP7.207- Field Joint - Bitumen Missing.
19/04/2023	11:38:22	2023-0419-113822-554-CH1	KP7.219- Field Joint - Bitumen Missing.
19/04/2023	13:14:14	2023-0419-131414-840-CH1	KP7.241- Field Joint - Bitumen Missing.
19/04/2023	13:14:51	2023-0419-131451-344-CH1	KP7.244- Field Joint - Bitumen Missing.
19/04/2023	13:15:33	2023-0419-131533-932-CH1	KP7.257- Field Joint - Bitumen Missing.
19/04/2023	13:15:59	2023-0419-131559-281-CH1	KP7.264- Anode Assessment - 25-50% Wasted.
19/04/2023	13:16:24	2023-0419-131624-632-CH1	KP7.269- Field Joint - Bitumen Missing.
19/04/2023	13:17:01	2023-0419-131701-132-CH1	KP7.281- Field Joint - Bitumen Missing.
19/04/2023	13:17:39	2023-0419-131739-663-CH1	KP7.295- Field Joint - Bitumen Missing.
19/04/2023	13:18:17	2023-0419-131817-183-CH1	KP7.306- Field Joint - Bitumen Missing.
19/04/2023	13:18:48	2023-0419-131848-616-CH1	KP7.318- Field Joint - Bitumen Missing.
19/04/2023	13:19:23	2023-0419-131923-090-CH1	KP7.331- Field Joint - Bitumen Missing.

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19/04/2023	13:19:57	2023-0419-131957-564-CH1	KP7.343- Field Joint - Bitumen Missing.
19/04/2023	13:20:30	2023-0419-132030-012-CH1	KP7.356- Field Joint - Bitumen Missing.
19/04/2023	13:21:06	2023-0419-132106-516-CH1	KP7.368- Field Joint - Bitumen Missing.
19/04/2023	13:21:37	2023-0419-132137-949-CH1	KP7.381- Field Joint - Bitumen Missing.
19/04/2023	13:22:00	2023-0419-132200-256-CH1	KP7.387- Anode Assessment - 25-50% Wasted.
19/04/2023	13:22:27	2023-0419-132227-632-CH1	KP7.393- Field Joint - Bitumen Missing.
19/04/2023	13:23:03	2023-0419-132303-123-CH1	KP7.405- Field Joint - Bitumen Missing.
19/04/2023	13:24:15	2023-0419-132415-115-CH1	KP7.430- Field Joint - Bitumen Missing.
19/04/2023	13:24:53	2023-0419-132453-646-CH1	KP7.442- Field Joint - Bitumen Missing.
19/04/2023	13:25:33	2023-0419-132533-191-CH1	KP7.454- Field Joint - Bitumen Missing.
19/04/2023	13:26:20	2023-0419-132620-848-CH1	KP7.466- Field Joint - Bitumen Missing.
19/04/2023	13:27:04	2023-0419-132704-455-CH1	KP7.479- Field Joint - Bitumen Missing.
19/04/2023	13:27:42	2023-0419-132742-981-CH1	KP7.491- Field Joint - Bitumen Missing.
19/04/2023	13:28:21	2023-0419-132821-511-CH1	KP7.504- Field Joint - Bitumen Missing.
19/04/2023	13:28:48	2023-0419-132848-888-CH1	KP7.511- Anode Assessment - 25-50% Wasted.
19/04/2023	13:29:33	2023-0419-132933-520-CH1	KP7.516- Field Joint - Bitumen Missing.
19/04/2023	13:30:18	2023-0419-133018-119-CH1	KP7.529- Field Joint - Bitumen Missing.
19/04/2023	13:30:58	2023-0419-133058-679-CH1	KP7.541- Field Joint - Bitumen Missing.
19/04/2023	13:31:38	2023-0419-133138-224-CH1	KP7.554- Field Joint - Bitumen Missing.
19/04/2023	13:32:09	2023-0419-133209-658-CH1	KP7.562- Debris - Soft Rope.
19/04/2023	13:32:40	2023-0419-133240-076-CH1	KP7.567- Field Joint - Bitumen Missing.
19/04/2023	13:33:20	2023-0419-133320-634-CH1	KP7.578- Field Joint - Bitumen Missing.
19/04/2023	13:33:58	2023-0419-133358-150-CH1	KP7.591- Field Joint - Bitumen Missing.
19/04/2023	13:34:36	2023-0419-133436-662-CH1	KP7.604- Field Joint - Bitumen Missing.
19/04/2023	13:35:12	2023-0419-133512-171-CH1	KP7.616- Field Joint - Bitumen Missing.
19/04/2023	13:35:54	2023-0419-133554-757-CH1	KP7.629- Field Joint - Bitumen Missing.
19/04/2023	13:36:28	2023-0419-133628-225-CH1	KP7.636- Anode Assessment - 25-50% Wasted.
19/04/2023	13:37:04	2023-0419-133704-724-CH1	KP7.641- Field Joint - Bitumen Missing.
19/04/2023	13:37:39	2023-0419-133739-198-CH1	KP7.653- Field Joint - Bitumen Missing.
19/04/2023	13:39:09	2023-0419-133909-448-CH1	KP7.678- Field Joint - Bitumen Missing.
19/04/2023	13:39:59	2023-0419-133959-126-CH1	KP7.690- Field Joint - Bitumen Missing.
19/04/2023	13:40:37	2023-0419-134037-661-CH1	KP7.702- Field Joint - Bitumen Missing.
19/04/2023	13:41:18	2023-0419-134118-217-CH1	KP7.715- Field Joint - Bitumen Missing.
19/04/2023	13:41:57	2023-0419-134157-761-CH1	KP7.727- Field Joint - Bitumen Missing.
19/04/2023	13:42:41	2023-0419-134241-363-CH1	KP7.740- Field Joint - Bitumen Missing.
19/04/2023	13:43:13	2023-0419-134313-811-CH1	KP7.745- Debris - Soft Rope.
19/04/2023	13:43:58	2023-0419-134358-424-CH1	KP7.754- Field Joint - Bitumen Missing.
19/04/2023	13:44:32	2023-0419-134432-902-CH1	KP7.759- Anode Assessment - 25-50% Wasted.
19/04/2023	13:49:21	2023-0419-134921-885-CH1	KP7.764- Field Joint - Bitumen Missing.
19/04/2023	13:50:03	2023-0419-135003-455-CH1	KP7.777- Field Joint - Bitumen Missing.
19/04/2023	13:50:40	2023-0419-135040-974-CH1	KP7.788- Field Joint - Bitumen Missing.
19/04/2023	13:51:16	2023-0419-135116-466-CH1	KP7.801- Field Joint - Bitumen Missing.
19/04/2023	13:51:50	2023-0419-135150-937-CH1	KP7.813- Field Joint - Bitumen Missing.
19/04/2023	13:52:22	2023-0419-135222-371-CH1	KP7.826- Field Joint - Bitumen Missing.
19/04/2023	14:07:12	2023-0419-140712-643-CH1	KP7.835- Debris - Fishing Gear.
19/04/2023	14:08:25	2023-0419-140825-651-CH1	KP7.850- Field Joint - Bitumen Missing.

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DATE	TIME	PHOTO FILE NAME	DESCRIPTION
19/04/2023	14:08:54	2023-0419-140854-039-CH1	KP7.857- Debris - Fishing Gear.
19/04/2023	14:09:54	2023-0419-140954-891-CH1	KP7.876- Field Joint - Bitumen Missing.
19/04/2023	14:10:23	2023-0419-141023-270-CH1	KP7.882- Anode Assessment - 25-50% Wasted.
19/04/2023	14:10:53	2023-0419-141053-693-CH1	KP7.888- Field Joint - Bitumen Missing.
19/04/2023	14:11:32	2023-0419-141132-221-CH1	KP7.900- Field Joint - Bitumen Missing.
19/04/2023	14:12:11	2023-0419-141211-767-CH1	KP7.913- Field Joint - Bitumen Missing.
19/04/2023	14:12:51	2023-0419-141251-310-CH1	KP7.926- Field Joint - Bitumen Missing.
19/04/2023	14:13:24	2023-0419-141324-773-CH1	KP7.938- Field Joint - Bitumen Missing.
19/04/2023	14:13:57	2023-0419-141357-219-CH1	KP7.950- Field Joint - Bitumen Missing.
19/04/2023	14:14:27	2023-0419-141427-639-CH1	KP7.962- Field Joint - Bitumen Missing.
19/04/2023	14:15:02	2023-0419-141502-111-CH1	KP7.975- Field Joint - Bitumen Missing.
19/04/2023	14:15:36	2023-0419-141536-590-CH1	KP7.987- Field Joint - Bitumen Missing.
19/04/2023	14:16:08	2023-0419-141608-027-CH1	KP8.000- Field Joint - Bitumen Missing.
19/04/2023	14:16:38	2023-0419-141638-442-CH1	KP8.008- Anode Assessment - 25-50% Wasted.
19/04/2023	14:23:46	2023-0419-142346-340-CH1	KP8.037- Field Joint - Bitumen Missing.
19/04/2023	14:24:28	2023-0419-142428-826-CH1	KP8.050- Field Joint - Bitumen Missing.
19/04/2023	14:25:06	2023-0419-142506-442-CH1	KP8.062- Field Joint - Bitumen Missing.
19/04/2023	14:25:50	2023-0419-142550-045-CH1	KP8.075- Field Joint - Bitumen Missing.
19/04/2023	14:38:22	2023-0419-143822-415-CH1	KP8.088- Field Joint - Bitumen Missing.
19/04/2023	14:38:59	2023-0419-143859-932-CH1	KP8.100- Field Joint - Bitumen Missing.
19/04/2023	14:39:49	2023-0419-143949-614-CH1	KP8.113- Field Joint - Bitumen Missing.
19/04/2023	14:40:26	2023-0419-144026-120-CH1	KP8.126- Field Joint - Bitumen Missing.
19/04/2023	14:40:55	2023-0419-144055-525-CH1	KP8.132- Anode Assessment - 25-50% Wasted.
19/04/2023	14:41:40	2023-0419-144140-140-CH1	KP8.137- Field Joint - Bitumen Missing.
19/04/2023	14:42:00	2023-0419-144200-419-CH1	KP8.137- Field Joint - Bitumen Missing.
19/04/2023	14:42:30	2023-0419-144230-838-CH1	KP8.150- Field Joint - Bitumen Missing.
19/04/2023	14:43:10	2023-0419-144310-392-CH1	KP8.162- Field Joint - Bitumen Missing.
19/04/2023	14:43:43	2023-0419-144343-843-CH1	KP8.174- Field Joint - Bitumen Missing.
19/04/2023	14:44:04	2023-0419-144404-126-CH1	KP8.175- Debris - Fishing Gear.
19/04/2023	14:45:02	2023-0419-144502-934-CH1	KP8.186- Field Joint - Bitumen Missing.
19/04/2023	14:45:54	2023-0419-144554-660-CH1	KP8.199- Field Joint - Bitumen Missing.
19/04/2023	14:46:39	2023-0419-144639-263-CH1	KP8.213- Field Joint - Bitumen Missing.
19/04/2023	14:47:29	2023-0419-144729-960-CH1	KP8.224- Field Joint - Bitumen Missing.
19/04/2023	14:48:07	2023-0419-144807-478-CH1	KP8.233- Debris - Soft Rope.
19/04/2023	14:48:34	2023-0419-144834-855-CH1	KP8.233- Debris - Soft Rope.
19/04/2023	14:49:19	2023-0419-144919-470-CH1	KP8.249- Field Joint - Bitumen Missing.
19/04/2023	14:49:46	2023-0419-144946-949-CH1	KP8.253- Debris - Fishing Gear.
19/04/2023	14:50:12	2023-0419-145012-198-CH1	KP8.258- Anode Assessment - 25-50% Wasted.
19/04/2023	14:50:51	2023-0419-145051-743-CH1	KP8.260- Field Joint - Bitumen Missing.
19/04/2023	14:51:47	2023-0419-145147-513-CH1	KP8.273- Field Joint - Bitumen Missing.
19/04/2023	14:52:52	2023-0419-145252-406-CH1	KP8.285- Field Joint - Bitumen Missing.
19/04/2023	14:53:39	2023-0419-145339-049-CH1	KP8.298- Field Joint - Bitumen Missing.
19/04/2023	14:54:16	2023-0419-145416-566-CH1	KP8.311- Field Joint - Bitumen Missing.
19/04/2023	14:55:07	2023-0419-145507-269-CH1	KP8.323- Field Joint - Bitumen Missing.
19/04/2023	14:55:56	2023-0419-145556-952-CH1	KP8.335- Field Joint - Bitumen Missing.
19/04/2023	14:56:32	2023-0419-145632-440-CH1	KP8.348- Field Joint - Bitumen Missing.



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19/04/2023	14:57:18	2023-0419-145718-068-CH1	KP8.354- Debris - Fishing Gear.
19/04/2023	14:57:33	2023-0419-145733-277-CH1	KP8.354- Debris - Fishing Gear.
19/04/2023	15:04:17	2023-0419-150417-853-CH1	KP8.373- Field Joint - Bitumen Missing.
19/04/2023	15:04:59	2023-0419-150459-428-CH1	KP8.380- Anode Assessment - 25-50% Wasted.
19/04/2023	15:05:34	2023-0419-150534-916-CH1	KP8.385- Field Joint - Bitumen Missing.
19/04/2023	15:05:42	2023-0419-150542-030-CH1	KP8.385- Field Joint - Bitumen Missing.
19/04/2023	15:06:21	2023-0419-150621-558-CH1	KP8.397- Field Joint - Bitumen Missing.
19/04/2023	15:07:01	2023-0419-150701-108-CH1	KP8.410- Field Joint - Bitumen Missing.
19/04/2023	15:07:48	2023-0419-150748-762-CH1	KP8.422- Field Joint - Bitumen Missing.
19/04/2023	15:08:34	2023-0419-150834-390-CH1	KP8.435- Field Joint - Bitumen Missing.
19/04/2023	15:09:13	2023-0419-150913-934-CH1	KP8.447- Field Joint - Bitumen Missing.
19/04/2023	15:10:13	2023-0419-151013-758-CH1	KP8.461- Field Joint - Bitumen Missing.
19/04/2023	15:11:04	2023-0419-151104-456-CH1	KP8.472- Field Joint - Bitumen Missing.
19/04/2023	15:11:51	2023-0419-151151-101-CH1	KP8.484- Field Joint - Bitumen Missing.
19/04/2023	15:12:27	2023-0419-151227-605-CH1	KP8.497- Field Joint - Bitumen Missing.
19/04/2023	15:12:54	2023-0419-151254-983-CH1	KP8.501- Anode Assessment - 25-50% Wasted.
19/04/2023	15:16:43	2023-0419-151643-126-CH1	KP8.508- Field Joint - Bitumen Missing.
19/04/2023	15:17:24	2023-0419-151724-699-CH1	KP8.521- Field Joint - Bitumen Missing.
19/04/2023	15:18:19	2023-0419-151819-453-CH1	KP8.545- Field Joint - Bitumen Missing.
19/04/2023	15:19:18	2023-0419-151918-266-CH1	KP8.547- Field Joint - Bitumen Missing.
19/04/2023	15:20:01	2023-0419-152001-870-CH1	KP8.559- Field Joint - Bitumen Missing.
19/04/2023	15:20:58	2023-0419-152058-649-CH1	KP8.571- Field Joint - Bitumen Missing.
19/04/2023	15:21:47	2023-0419-152147-321-CH1	KP8.585- Field Joint - Bitumen Missing.
19/04/2023	15:22:29	2023-0419-152229-906-CH1	KP8.609- Field Joint - Bitumen Missing.
19/04/2023	15:23:12	2023-0419-152312-492-CH1	KP8.609- Field Joint - Bitumen Missing.
19/04/2023	15:23:33	2023-0419-152333-787-CH1	KP8.609- Debris - Fishing Gear.
19/04/2023	15:24:39	2023-0419-152439-694-CH1	KP8.621- Field Joint - Bitumen Missing.
19/04/2023	15:25:09	2023-0419-152509-100-CH1	KP8.627- Anode Assessment - 25-50% Wasted.
19/04/2023	15:25:46	2023-0419-152546-619-CH1	KP8.633- Field Joint - Bitumen Missing.
19/04/2023	15:26:26	2023-0419-152626-162-CH1	KP8.645- Field Joint - Bitumen Missing.
19/04/2023	15:29:18	2023-0419-152918-538-CH1	KP8.657- Field Joint - Bitumen Missing.
19/04/2023	15:30:14	2023-0419-153014-312-CH1	KP8.670- Field Joint - Bitumen Missing.
19/04/2023	15:30:55	2023-0419-153055-880-CH1	KP8.682- Field Joint - Bitumen Missing.
19/04/2023	15:31:39	2023-0419-153139-480-CH1	KP8.695- Field Joint - Bitumen Missing.
19/04/2023	15:32:22	2023-0419-153222-067-CH1	KP8.707- Field Joint - Bitumen Missing.
19/04/2023	15:32:59	2023-0419-153259-588-CH1	KP8.719- Field Joint - Bitumen Missing.
19/04/2023	15:33:51	2023-0419-153351-298-CH1	KP8.731- Field Joint - Bitumen Missing.
19/04/2023	15:34:34	2023-0419-153434-899-CH1	KP8.742- Field Joint - Bitumen Missing.
19/04/2023	15:35:12	2023-0419-153512-417-CH1	KP8.749- Anode Assessment - 25-50% Wasted.
19/04/2023	15:35:50	2023-0419-153550-947-CH1	KP8.754- Field Joint - Bitumen Missing.
19/04/2023	15:54:28	2023-0419-155428-350-CH1	KP8.779- Field Joint - Bitumen Missing.
19/04/2023	15:55:00	2023-0419-155500-795-CH1	KP8.791- Field Joint - Bitumen Missing.
19/04/2023	15:55:43	2023-0419-155543-384-CH1	KP8.803- Field Joint - Bitumen Missing.
19/04/2023	15:56:16	2023-0419-155616-852-CH1	KP8.817- Field Joint - Bitumen Missing.
19/04/2023	15:56:48	2023-0419-155648-278-CH1	KP8.830- Field Joint - Bitumen Missing.
19/04/2023	15:57:19	2023-0419-155719-714-CH1	KP8.840- Field Joint - Bitumen Missing.

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19/04/2023	15:57:59	2023-0419-155759-256-CH1	KP8.854- Field Joint - Bitumen Missing.
19/04/2023	16:07:44	2023-0419-160744-322-CH1	KP8.854- Field Joint - Bitumen Missing.
19/04/2023	16:08:31	2023-0419-160831-987-CH1	KP8.865- Field Joint - Bitumen Missing.
19/04/2023	16:06:52	2023-0419-160652-264-CH1	KP8.871- Anode Assessment - 25-50% Wasted.
19/04/2023	16:09:15	2023-0419-160915-585-CH1	KP8.877- Field Joint - Bitumen Missing.
19/04/2023	16:09:47	2023-0419-160947-010-CH1	KP8.889- Field Joint - Bitumen Missing.
19/04/2023	16:10:17	2023-0419-161017-430-CH1	KP8.902- Field Joint - Bitumen Missing.
19/04/2023	16:10:48	2023-0419-161048-866-CH1	KP8.914- Field Joint - Bitumen Missing.
19/04/2023	16:11:25	2023-0419-161125-368-CH1	KP8.931- Field Joint - Bitumen Missing.
19/04/2023	16:12:09	2023-0419-161209-982-CH1	KP8.940- Field Joint - Bitumen Missing.
19/04/2023	16:13:11	2023-0419-161311-836-CH1	KP8.951- Field Joint - Bitumen Missing.
19/04/2023	16:14:01	2023-0419-161401-519-CH1	KP8.964- Field Joint - Bitumen Missing.
19/04/2023	16:14:41	2023-0419-161441-067-CH1	KP8.976- Field Joint - Bitumen Missing.
19/04/2023	16:15:15	2023-0419-161515-540-CH1	KP8.988- Field Joint - Bitumen Missing.
19/04/2023	16:15:43	2023-0419-161543-930-CH1	KP8.995- Anode Assessment - 25-50% Wasted.
19/04/2023	16:16:03	2023-0419-161603-196-CH1	KP9.001- Field Joint - Bitumen Missing.
19/04/2023	16:16:48	2023-0419-161648-832-CH1	KP9.010- Debris - Hard Debris.
19/04/2023	16:17:09	2023-0419-161709-107-CH1	KP9.010- Debris - Hard Debris.
19/04/2023	16:19:16	2023-0419-161916-871-CH1	KP9.036- Debris - Wire Rope.
19/04/2023	16:19:33	2023-0419-161933-091-CH1	KP9.036- Debris - Wire Rope.
19/04/2023	16:20:48	2023-0419-162048-125-CH1	KP9.050- Field Joint - Bitumen Missing.
22/04/2023	09:12:40	2023-0422-091240-050-CH1	KP9.064- Field Joint - Bitumen Missing.
22/04/2023	09:13:41	2023-0422-091341-905-CH1	KP9.073- Debris - Fishing Gear.
22/04/2023	09:14:09	2023-0422-091409-287-CH1	KP9.076- Field Joint - Bitumen Missing.
22/04/2023	09:15:09	2023-0422-091509-105-CH1	KP9.088- Field Joint - Bitumen Missing.
22/04/2023	09:15:52	2023-0422-091552-706-CH1	KP9.101- Field Joint - Bitumen Missing.
22/04/2023	09:16:54	2023-0422-091654-561-CH1	KP9.114- Field Joint - Bitumen Missing.
22/04/2023	09:17:29	2023-0422-091729-034-CH1	KP9.121- Anode Assessment - 25-50% Wasted.
22/04/2023	09:18:13	2023-0422-091813-648-CH1	KP9.125- Field Joint - Bitumen Missing.
22/04/2023	09:19:05	2023-0422-091905-361-CH1	KP9.138- Field Joint - Bitumen Missing.
22/04/2023	09:20:02	2023-0422-092002-145-CH1	KP9.150- Field Joint - Bitumen Missing.
22/04/2023	09:20:55	2023-0422-092055-885-CH1	KP9.162- Field Joint - Bitumen Missing.
22/04/2023	09:21:41	2023-0422-092141-511-CH1	KP9.175- Field Joint - Bitumen Missing.
22/04/2023	09:22:26	2023-0422-092226-127-CH1	KP9.187- Field Joint - Bitumen Missing.
22/04/2023	09:23:13	2023-0422-092313-797-CH1	KP9.199- Field Joint - Bitumen Missing.
22/04/2023	09:23:36	2023-0422-092336-095-CH1	KP9.204- Debris - Fishing Gear.
22/04/2023	09:24:05	2023-0422-092405-498-CH1	KP9.211- Field Joint - Bitumen Missing.
22/04/2023	09:25:07	2023-0422-092507-349-CH1	KP9.225- Field Joint - Bitumen Missing.
22/04/2023	09:25:58	2023-0422-092558-050-CH1	KP9.237- Field Joint - Bitumen Missing.
22/04/2023	09:26:34	2023-0422-092634-550-CH1	KP9.244- Anode Assessment - 25-50% Wasted.
22/04/2023	09:27:12	2023-0422-092712-069-CH1	KP9.247- Debris - Wire Rope.
22/04/2023	09:27:37	2023-0422-092737-418-CH1	KP9.250- Field Joint - Bitumen Missing.
22/04/2023	09:28:14	2023-0422-092814-934-CH1	KP9.255- Debris - Fishing Gear.
22/04/2023	09:28:50	2023-0422-092850-422-CH1	KP9.261- Field Joint - Bitumen Missing.
22/04/2023	09:29:40	2023-0422-092940-108-CH1	KP9.274- Field Joint - Bitumen Missing.
22/04/2023	09:30:24	2023-0422-093024-723-CH1	KP9.286- Field Joint - Bitumen Missing.

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22/04/2023	09:31:06	2023-0422-093106-297-CH1	KP9.298- Field Joint - Bitumen Missing.
22/04/2023	09:32:01	2023-0422-093201-301-CH1	KP9.311- Field Joint - Bitumen Missing.
22/04/2023	09:32:52	2023-0422-093252-000-CH1	KP9.324- Field Joint - Bitumen Missing.
22/04/2023	09:33:43	2023-0422-093343-715-CH1	KP9.336- Field Joint - Bitumen Missing.
22/04/2023	09:34:29	2023-0422-093429-340-CH1	KP9.349- Field Joint - Bitumen Missing.
22/04/2023	09:35:09	2023-0422-093509-897-CH1	KP9.361- Field Joint - Bitumen Missing.
22/04/2023	09:35:38	2023-0422-093538-295-CH1	KP9.369- Anode Assessment - 25-50% Wasted.
22/04/2023	09:36:04	2023-0422-093604-654-CH1	KP9.374- Field Joint - Bitumen Missing.
22/04/2023	09:36:44	2023-0422-093644-198-CH1	KP9.386- Field Joint - Bitumen Missing.
22/04/2023	09:37:27	2023-0422-093727-800-CH1	KP9.398- Field Joint - Bitumen Missing.
22/04/2023	09:38:12	2023-0422-093812-414-CH1	KP9.410- Field Joint - Bitumen Missing.
22/04/2023	09:38:46	2023-0422-093846-890-CH1	KP9.417- Debris - Soft Rope.
22/04/2023	09:39:09	2023-0422-093909-198-CH1	KP9.423- Field Joint - Bitumen Missing.
22/04/2023	09:39:49	2023-0422-093949-755-CH1	KP9.435- Field Joint - Bitumen Missing.
22/04/2023	09:40:38	2023-0422-094038-427-CH1	KP9.448- Field Joint - Bitumen Missing.
22/04/2023	09:41:21	2023-0422-094121-013-CH1	KP9.460- Field Joint - Bitumen Missing.
22/04/2023	09:42:04	2023-0422-094204-615-CH1	KP9.472- Field Joint - Bitumen Missing.
22/04/2023	09:42:49	2023-0422-094249-230-CH1	KP9.484- Field Joint - Bitumen Missing.
22/04/2023	09:43:14	2023-0422-094314-580-CH1	KP9.491- Anode Assessment - 25-50% Wasted.
22/04/2023	09:43:40	2023-0422-094340-943-CH1	KP9.496- Field Joint - Bitumen Missing.
22/04/2023	09:44:28	2023-0422-094428-598-CH1	KP9.509- Field Joint - Bitumen Missing.
22/04/2023	09:45:12	2023-0422-094512-199-CH1	KP9.521- Field Joint - Bitumen Missing.
22/04/2023	09:45:45	2023-0422-094545-667-CH1	KP9.533- Field Joint - Bitumen Missing.
22/04/2023	09:46:19	2023-0422-094619-122-CH1	KP9.546- Field Joint - Bitumen Missing.
22/04/2023	09:46:50	2023-0422-094650-555-CH1	KP9.559- Field Joint - Bitumen Missing.
22/04/2023	09:47:20	2023-0422-094720-974-CH1	KP9.571- Field Joint - Bitumen Missing.
22/04/2023	09:47:34	2023-0422-094734-155-CH1	KP9.571- Field Joint - Bitumen Missing.
22/04/2023	09:48:18	2023-0422-094818-770-CH1	KP9.583- Field Joint - Bitumen Missing.
22/04/2023	09:48:52	2023-0422-094852-231-CH1	KP9.596- Field Joint - Bitumen Missing.
22/04/2023	09:49:32	2023-0422-094932-791-CH1	KP9.609- Field Joint - Bitumen Missing.
22/04/2023	09:50:37	2023-0422-095037-684-CH1	KP9.633- Field Joint - Bitumen Missing.
22/04/2023	09:51:13	2023-0422-095113-175-CH1	KP9.646- Field Joint - Bitumen Missing.
22/04/2023	09:51:45	2023-0422-095145-622-CH1	KP9.658- Field Joint - Bitumen Missing.
22/04/2023	09:52:33	2023-0422-095233-277-CH1	KP9.674- Debris - Fishing Gear.
22/04/2023	09:53:12	2023-0422-095312-824-CH1	KP9.682- Debris - Fishing Gear.
22/04/2023	09:53:55	2023-0422-095355-411-CH1	KP9.695- Field Joint - Bitumen Missing.
22/04/2023	09:54:35	2023-0422-095435-969-CH1	KP9.708- Field Joint - Bitumen Missing.
22/04/2023	09:55:14	2023-0422-095514-500-CH1	KP9.720- Field Joint - Bitumen Missing.
22/04/2023	09:55:56	2023-0422-095556-073-CH1	KP9.732- Debris - Fishing Gear.
22/04/2023	09:56:15	2023-0422-095615-339-CH1	KP9.736- Debris - Fishing Gear.
22/04/2023	09:56:51	2023-0422-095651-842-CH1	KP9.744- Field Joint - Bitumen Missing.
22/04/2023	09:57:09	2023-0422-095709-078-CH1	KP9.749- Debris - Fishing Gear.
22/04/2023	09:57:34	2023-0422-095734-428-CH1	KP9.757- Field Joint - Bitumen Missing.
22/04/2023	09:58:49	2023-0422-095849-465-CH1	KP9.782- Field Joint - Bitumen Missing.
22/04/2023	09:59:27	2023-0422-095927-994-CH1	KP9.794- Field Joint - Bitumen Missing.
22/04/2023	10:00:05	2023-0422-100005-510-CH1	KP9.806- Field Joint - Bitumen Missing.

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DATE	TIME	PHOTO FILE NAME	DESCRIPTION
22/04/2023	10:00:45	2023-0422-100045-056-CH1	KP9.818- Field Joint - Bitumen Missing.
22/04/2023	10:01:23	2023-0422-100123-588-CH1	KP9.831- Field Joint - Bitumen Missing.
22/04/2023	10:02:00	2023-0422-100200-090-CH1	KP9.844- Field Joint - Bitumen Missing.
22/04/2023	10:02:34	2023-0422-100234-565-CH1	KP9.856- Field Joint - Bitumen Missing.
22/04/2023	10:03:10	2023-0422-100310-054-CH1	KP9.863- Anode Assessment - 25-50% Wasted.
22/04/2023	10:04:03	2023-0422-100403-794-CH1	KP9.881- Field Joint - Bitumen Missing.
22/04/2023	10:04:36	2023-0422-100436-244-CH1	KP9.893- Field Joint - Bitumen Missing.
22/04/2023	10:05:05	2023-0422-100505-647-CH1	KP9.902- Debris - Fishing Gear.
22/04/2023	10:05:21	2023-0422-100521-871-CH1	KP9.902- Debris - Fishing Gear.
22/04/2023	10:05:53	2023-0422-100553-304-CH1	KP9.917- Field Joint - Bitumen Missing.
22/04/2023	10:06:25	2023-0422-100625-750-CH1	KP9.930- Field Joint - Bitumen Missing.
22/04/2023	10:06:57	2023-0422-100657-185-CH1	KP9.942- Field Joint - Bitumen Missing.
22/04/2023	10:07:36	2023-0422-100736-729-CH1	KP9.955- Field Joint - Bitumen Missing.
22/04/2023	10:08:15	2023-0422-100815-260-CH1	KP9.966- Debris - Soft Rope.
22/04/2023	10:08:28	2023-0422-100828-442-CH1	KP9.966- Debris - Soft Rope.
22/04/2023	10:09:04	2023-0422-100904-944-CH1	KP9.980- Field Joint - Bitumen Missing.
22/04/2023	10:09:26	2023-0422-100926-238-CH1	KP9.987- Anode Assessment - 25-50% Wasted.
22/04/2023	10:09:46	2023-0422-100946-519-CH1	KP9.987- Anode Assessment - 25-50% Wasted.
22/04/2023	10:10:34	2023-0422-101034-175-CH1	KP10.04- Field Joint - Bitumen Missing.
22/04/2023	10:11:21	2023-0422-101121-832-CH1	KP10.017- Field Joint - Bitumen Missing.
22/04/2023	10:12:03	2023-0422-101203-407-CH1	KP10.029- Field Joint - Bitumen Missing.
22/04/2023	10:12:44	2023-0422-101244-977-CH1	KP10.041- Field Joint - Bitumen Missing.
22/04/2023	10:13:21	2023-0422-101321-482-CH1	KP10.054- Field Joint - Bitumen Missing.
22/04/2023	10:13:54	2023-0422-101354-943-CH1	KP10.066- Field Joint - Bitumen Missing.
22/04/2023	10:14:27	2023-0422-101427-389-CH1	KP10.079- Field Joint - Bitumen Missing.
22/04/2023	10:15:06	2023-0422-101506-936-CH1	KP10.091- Field Joint - Bitumen Missing.
22/04/2023	10:15:43	2023-0422-101543-438-CH1	KP10.104- Field Joint - Bitumen Missing.
22/04/2023	10:16:12	2023-0422-101612-843-CH1	KP10.111- Anode Assessment - 25-50% Wasted.
22/04/2023	10:16:58	2023-0422-101658-471-CH1	KP10.116- Field Joint - Bitumen Missing.
22/04/2023	10:17:34	2023-0422-101734-975-CH1	KP10.129- Field Joint - Bitumen Missing.
22/04/2023	10:18:23	2023-0422-101823-846-CH1	KP10.142- Field Joint - Bitumen Missing.
22/04/2023	10:19:05	2023-0422-101905-220-CH1	KP10.154- Field Joint - Bitumen Missing.
22/04/2023	10:19:43	2023-0422-101943-751-CH1	KP10.166- Field Joint - Bitumen Missing.
22/04/2023	10:20:31	2023-0422-102031-406-CH1	KP10.179- Field Joint - Bitumen Missing.
22/04/2023	10:21:13	2023-0422-102113-995-CH1	KP10.192- Field Joint - Bitumen Missing.
22/04/2023	10:21:56	2023-0422-102156-579-CH1	KP10.204- Field Joint - Bitumen Missing.
22/04/2023	10:22:38	2023-0422-102238-154-CH1	KP10.217- Field Joint - Bitumen Missing.
22/04/2023	10:23:19	2023-0422-102319-726-CH1	KP10.229- Field Joint - Bitumen Missing.
22/04/2023	10:23:46	2023-0422-102346-090-CH1	KP10.236- Anode Assessment - 25-50% Wasted.
22/04/2023	10:24:36	2023-0422-102436-787-CH1	KP10.241- Field Joint - Bitumen Missing.
22/04/2023	10:25:20	2023-0422-102520-389-CH1	KP10.254- Field Joint - Bitumen Missing.
22/04/2023	10:26:01	2023-0422-102601-961-CH1	KP10.270- Field Joint - Bitumen Missing.
22/04/2023	10:26:42	2023-0422-102642-522-CH1	KP10.273- Debris - Fishing Gear.
22/04/2023	10:28:19	2023-0422-102819-863-CH1	KP10.279- Field Joint - Bitumen Missing.
22/04/2023	10:29:09	2023-0422-102909-551-CH1	KP10.291- Field Joint - Bitumen Missing.
22/04/2023	10:29:54	2023-0422-102954-162-CH1	KP10.303- Field Joint - Bitumen Missing.



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22/04/2023	10:30:39	2023-0422-103039-791-CH1	KP10.316- Field Joint - Bitumen Missing.
22/04/2023	10:31:01	2023-0422-103101-084-CH1	KP10.319- Debris - Fishing Gear.
22/04/2023	10:31:35	2023-0422-103135-561-CH1	KP10.329- Field Joint - Bitumen Missing.
22/04/2023	10:32:24	2023-0422-103224-230-CH1	KP10.340- Field Joint - Bitumen Missing.
22/04/2023	10:33:10	2023-0422-103310-874-CH1	KP10.353- Field Joint - Bitumen Missing.
22/04/2023	10:33:40	2023-0422-103340-278-CH1	KP10.360- Anode Assessment - 25-50% Wasted.
22/04/2023	10:34:06	2023-0422-103406-647-CH1	KP10.365- Field Joint - Bitumen Missing.
22/04/2023	10:34:45	2023-0422-103445-177-CH1	KP10.378- Field Joint - Bitumen Missing.
22/04/2023	10:35:27	2023-0422-103527-760-CH1	KP10.390- Field Joint - Bitumen Missing.
22/04/2023	10:36:06	2023-0422-103606-291-CH1	KP10.403- Field Joint - Bitumen Missing.
22/04/2023	10:37:12	2023-0422-103712-199-CH1	KP10.427- Field Joint - Bitumen Missing.
22/04/2023	10:37:42	2023-0422-103742-618-CH1	KP10.439- Field Joint - Bitumen Missing.
22/04/2023	10:38:14	2023-0422-103814-053-CH1	KP10.452- Field Joint - Bitumen Missing.
22/04/2023	10:38:45	2023-0422-103845-486-CH1	KP10.465- Field Joint - Bitumen Missing.
22/04/2023	10:39:17	2023-0422-103917-932-CH1	KP10.476- Field Joint - Bitumen Missing.
22/04/2023	10:39:42	2023-0422-103942-268-CH1	KP10.484- Anode Assessment - 25-50% Wasted.
22/04/2023	10:40:00	2023-0422-104000-520-CH1	KP10.489- Field Joint - Bitumen Missing.
22/04/2023	10:40:32	2023-0422-104032-966-CH1	KP10.502- Field Joint - Bitumen Missing.
22/04/2023	10:41:08	2023-0422-104108-455-CH1	KP10.514- Field Joint - Bitumen Missing.
22/04/2023	10:41:45	2023-0422-104145-972-CH1	KP10.526- Field Joint - Bitumen Missing.
22/04/2023	10:42:21	2023-0422-104221-463-CH1	KP10.538- Field Joint - Bitumen Missing.
22/04/2023	10:42:56	2023-0422-104256-951-CH1	KP10.551- Field Joint - Bitumen Missing.
22/04/2023	10:43:58	2023-0422-104358-804-CH1	KP10.563- Field Joint - Bitumen Missing.
22/04/2023	10:44:42	2023-0422-104442-403-CH1	KP10.575- Field Joint - Bitumen Missing.
22/04/2023	10:45:20	2023-0422-104520-933-CH1	KP10.588- Field Joint - Bitumen Missing.
22/04/2023	10:45:53	2023-0422-104553-383-CH1	KP10.597- Debris - Wire Rope.
22/04/2023	10:46:15	2023-0422-104615-688-CH1	KP10.600- Field Joint - Bitumen Missing.
22/04/2023	10:46:49	2023-0422-104649-149-CH1	KP10.607- Anode Assessment - 25-50% Wasted.
22/04/2023	10:47:13	2023-0422-104713-485-CH1	KP10.612- Field Joint - Bitumen Missing.
22/04/2023	10:48:20	2023-0422-104820-409-CH1	KP10.638- Field Joint - Bitumen Missing.
22/04/2023	10:48:56	2023-0422-104856-913-CH1	KP10.650- Field Joint - Bitumen Missing.
22/04/2023	10:49:38	2023-0422-104938-482-CH1	KP10.663- Field Joint - Bitumen Missing.
22/04/2023	10:50:19	2023-0422-105019-043-CH1	KP10.675- Field Joint - Bitumen Missing.
22/04/2023	10:51:04	2023-0422-105104-672-CH1	KP10.687- Field Joint - Bitumen Missing.
22/04/2023	10:51:43	2023-0422-105143-203-CH1	KP10.700- Field Joint - Bitumen Missing.
22/04/2023	10:52:29	2023-0422-105229-845-CH1	KP10.713- Field Joint - Bitumen Missing.
22/04/2023	10:52:32	2023-0422-105232-888-CH1	KP10.713- Field Joint - Bitumen Missing.
22/04/2023	10:53:18	2023-0422-105318-516-CH1	KP10.726- Field Joint - Bitumen Missing.
22/04/2023	10:53:46	2023-0422-105346-908-CH1	KP10.733- Anode Assessment - 25-50% Wasted.
22/04/2023	10:54:19	2023-0422-105419-355-CH1	KP10.738- Field Joint - Bitumen Missing.
22/04/2023	10:54:53	2023-0422-105453-830-CH1	KP10.750- Field Joint - Bitumen Missing.
22/04/2023	10:55:32	2023-0422-105532-367-CH1	KP10.762- Field Joint - Bitumen Missing.
22/04/2023	10:56:10	2023-0422-105610-893-CH1	KP10.777- Field Joint - Bitumen Missing.
22/04/2023	10:57:01	2023-0422-105701-591-CH1	KP10.788- Field Joint - Bitumen Missing.
22/04/2023	10:57:35	2023-0422-105735-053-CH1	KP10.801- Field Joint - Bitumen Missing.
22/04/2023	10:58:08	2023-0422-105808-513-CH1	KP10.813- Field Joint - Bitumen Missing.

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22/04/2023	12:52:31	2023-0422-125231-095-CH1	KP11.517- Field Joint - Bitumen Missing.
22/04/2023	12:53:14	2023-0422-125314-699-CH1	KP11.529- Field Joint - Bitumen Missing.
22/04/2023	12:54:36	2023-0422-125436-828-CH1	KP11.534- Debris - Fish Trap.
22/04/2023	12:54:46	2023-0422-125446-969-CH1	KP11.534- Debris - Fish Trap.
22/04/2023	12:55:19	2023-0422-125519-417-CH1	KP11.541- Field Joint - Bitumen Missing.
22/04/2023	12:57:46	2023-0422-125746-445-CH1	KP11.554- Field Joint - Bitumen Missing.
22/04/2023	12:58:35	2023-0422-125835-114-CH1	KP11.566- Field Joint - Bitumen Missing.
22/04/2023	12:59:24	2023-0422-125924-799-CH1	KP11.579- Field Joint - Bitumen Missing.
22/04/2023	13:00:09	2023-0422-130009-414-CH1	KP11.591- Field Joint - Bitumen Missing.
22/04/2023	13:00:36	2023-0422-130036-793-CH1	KP11.598- Anode Assessment - 25-50% Wasted.
22/04/2023	13:01:46	2023-0422-130146-755-CH1	KP11.616- Field Joint - Bitumen Missing.
22/04/2023	13:02:29	2023-0422-130229-342-CH1	KP11.628- Field Joint - Bitumen Missing.
22/04/2023	13:03:14	2023-0422-130314-971-CH1	KP11.641- Field Joint - Bitumen Missing.
22/04/2023	13:03:59	2023-0422-130359-587-CH1	KP11.652- Field Joint - Bitumen Missing.
22/04/2023	13:04:47	2023-0422-130447-242-CH1	KP11.664- Field Joint - Bitumen Missing.
22/04/2023	13:05:38	2023-0422-130538-957-CH1	KP11.677- Field Joint - Bitumen Missing.
22/04/2023	13:06:23	2023-0422-130623-570-CH1	KP11.689- Field Joint - Bitumen Missing.
22/04/2023	13:07:10	2023-0422-130710-213-CH1	KP11.702- Field Joint - Bitumen Missing.
22/04/2023	13:07:56	2023-0422-130756-856-CH1	KP11.714- Field Joint - Bitumen Missing.
22/04/2023	13:08:22	2023-0422-130822-205-CH1	KP11.722- Anode Assessment - 25-50% Wasted.
22/04/2023	13:08:43	2023-0422-130843-499-CH1	KP11.722- Anode Assessment - 25-50% Wasted.
22/04/2023	13:09:31	2023-0422-130931-157-CH1	KP11.739- Field Joint - Bitumen Missing.
22/04/2023	13:10:13	2023-0422-131013-744-CH1	KP11.752- Field Joint - Bitumen Missing.
22/04/2023	13:11:03	2023-0422-131103-426-CH1	KP11.765- Field Joint - Bitumen Missing.
22/04/2023	13:11:49	2023-0422-131149-058-CH1	KP11.778- Field Joint - Bitumen Missing.
22/04/2023	13:12:31	2023-0422-131231-643-CH1	KP11.789- Field Joint - Bitumen Missing.
22/04/2023	13:14:00	2023-0422-131400-874-CH1	KP11.814- Field Joint - Bitumen Missing.
22/04/2023	13:14:49	2023-0422-131449-544-CH1	KP11.825- Field Joint - Bitumen Missing.
22/04/2023	13:15:36	2023-0422-131536-186-CH1	KP11.837- Field Joint - Bitumen Missing.
22/04/2023	13:15:58	2023-0422-131558-495-CH1	KP11.844- Anode Assessment - 25-50% Wasted.
22/04/2023	13:16:22	2023-0422-131622-830-CH1	KP11.850- Field Joint - Bitumen Missing.
22/04/2023	13:17:00	2023-0422-131700-347-CH1	KP11.861- Field Joint - Bitumen Missing.
22/04/2023	13:18:22	2023-0422-131822-477-CH1	KP11.887- Field Joint - Bitumen Missing.
22/04/2023	13:19:04	2023-0422-131904-053-CH1	KP11.900- Field Joint - Bitumen Missing.
22/04/2023	13:19:45	2023-0422-131945-625-CH1	KP11.911- Field Joint - Bitumen Missing.
22/04/2023	13:20:30	2023-0422-132030-239-CH1	KP11.924- Field Joint - Bitumen Missing.
22/04/2023	13:21:15	2023-0422-132115-869-CH1	KP11.937- Field Joint - Bitumen Missing.
22/04/2023	13:21:58	2023-0422-132158-456-CH1	KP11.948- Field Joint - Bitumen Missing.
22/04/2023	13:22:46	2023-0422-132246-113-CH1	KP11.961- Field Joint - Bitumen Missing.
22/04/2023	13:23:36	2023-0422-132336-809-CH1	KP11.974- Field Joint - Bitumen Missing.
22/04/2023	13:24:20	2023-0422-132420-413-CH1	KP11.986- Field Joint - Bitumen Missing.
22/04/2023	13:24:27	2023-0422-132427-510-CH1	KP11.986- Field Joint - Bitumen Missing.
22/04/2023	13:25:24	2023-0422-132524-292-CH1	KP11.998- Field Joint - Bitumen Missing.
22/04/2023	13:26:21	2023-0422-132621-077-CH1	KP12.010- Field Joint - Bitumen Missing.
22/04/2023	13:27:45	2023-0422-132745-235-CH1	KP12.022- Field Joint - Bitumen Missing.
22/04/2023	13:27:52	2023-0422-132752-333-CH1	KP12.023- Debris - Soft Debris, Hose section

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22/04/2023	10:59:23	2023-0422-105923-549-CH1	KP10.838- Field Joint - Bitumen Missing.
22/04/2023	10:59:57	2023-0422-105957-008-CH1	KP10.850- Field Joint - Bitumen Missing.
22/04/2023	11:00:24	2023-0422-110024-386-CH1	KP10.857- Anode Assessment - 25-50% Wasted.
22/04/2023	11:03:38	2023-0422-110338-055-CH1	KP10.863- Field Joint - Bitumen Missing.
22/04/2023	11:04:09	2023-0422-110409-488-CH1	KP10.876- Field Joint - Bitumen Missing.
22/04/2023	11:04:47	2023-0422-110447-006-CH1	KP10.888- Field Joint - Bitumen Missing.
22/04/2023	11:05:25	2023-0422-110525-536-CH1	KP10.899- Field Joint - Bitumen Missing.
22/04/2023	11:05:55	2023-0422-110555-954-CH1	KP10.913- Field Joint - Bitumen Missing.
22/04/2023	11:06:29	2023-0422-110629-417-CH1	KP10.924- Field Joint - Bitumen Missing.
22/04/2023	11:07:01	2023-0422-110701-865-CH1	KP10.937- Field Joint - Bitumen Missing.
22/04/2023	11:07:33	2023-0422-110733-296-CH1	KP10.950- Field Joint - Bitumen Missing.
22/04/2023	11:08:13	2023-0422-110813-858-CH1	KP10.962- Field Joint - Bitumen Missing.
22/04/2023	11:08:47	2023-0422-110847-316-CH1	KP10.974- Field Joint - Bitumen Missing.
22/04/2023	11:09:07	2023-0422-110907-598-CH1	KP10.981- Anode Assessment - 25-50% Wasted.
22/04/2023	11:09:30	2023-0422-110930-920-CH1	KP10.986- Field Joint - Bitumen Missing.
22/04/2023	11:10:00	2023-0422-111000-323-CH1	KP10.999- Field Joint - Bitumen Missing.
22/04/2023	11:10:41	2023-0422-111041-896-CH1	KP11.011- Field Joint - Bitumen Missing.
22/04/2023	11:11:13	2023-0422-111113-329-CH1	KP11.024- Field Joint - Bitumen Missing.
22/04/2023	11:11:42	2023-0422-111142-734-CH1	KP11.033- Debris - Wire Rope.
22/04/2023	11:11:58	2023-0422-111158-958-CH1	KP11.033- Debris - Wire Rope.
22/04/2023	11:12:32	2023-0422-111232-419-CH1	KP11.048- Field Joint - Bitumen Missing.
22/04/2023	11:15:03	2023-0422-111503-503-CH1	KP11.105- Anode Assessment - 25-50% Wasted.
22/04/2023	11:15:20	2023-0422-111520-740-CH1	KP11.105- Anode Assessment - 25-50% Wasted.
22/04/2023	11:16:17	2023-0422-111617-536-CH1	KP11.135- Field Joint - Bitumen Missing.
22/04/2023	11:17:24	2023-0422-111724-444-CH1	KP11.160- Field Joint - Bitumen Missing.
22/04/2023	11:17:58	2023-0422-111758-920-CH1	KP11.173- Field Joint - Bitumen Missing.
22/04/2023	11:18:35	2023-0422-111835-424-CH1	KP11.185- Field Joint - Bitumen Missing.
22/04/2023	11:19:13	2023-0422-111913-954-CH1	KP11.198- Field Joint - Bitumen Missing.
22/04/2023	11:19:54	2023-0422-111954-513-CH1	KP11.210- Field Joint - Bitumen Missing.
22/04/2023	11:20:27	2023-0422-112027-973-CH1	KP11.219- Debris - Soft Rope.
22/04/2023	11:20:52	2023-0422-112052-309-CH1	KP11.219- Debris - Soft Rope.
22/04/2023	11:21:19	2023-0422-112119-686-CH1	KP11.229- Anode Assessment - 25-50% Wasted.
22/04/2023	11:21:51	2023-0422-112151-120-CH1	KP11.235- Field Joint - Bitumen Missing.
22/04/2023	11:22:23	2023-0422-112223-566-CH1	KP11.247- Field Joint - Bitumen Missing.
22/04/2023	11:23:03	2023-0422-112303-112-CH1	KP11.259- Field Joint - Bitumen Missing.
22/04/2023	11:24:18	2023-0422-112418-146-CH1	KP11.285- Field Joint - Bitumen Missing.
22/04/2023	11:24:51	2023-0422-112451-608-CH1	KP11.296- Field Joint - Bitumen Missing.
22/04/2023	12:40:27	2023-0422-124027-118-CH1	KP11.320- Field Joint - Bitumen Missing.
22/04/2023	12:42:21	2023-0422-124221-698-CH1	KP11.352- Anode Assessment - 25-50% Wasted.
22/04/2023	12:43:18	2023-0422-124318-480-CH1	KP11.370- Field Joint - Bitumen Missing.
22/04/2023	12:43:59	2023-0422-124359-039-CH1	KP11.382- Field Joint - Bitumen Missing.
22/04/2023	12:45:53	2023-0422-124553-619-CH1	KP11.418- Field Joint - Bitumen Missing.
22/04/2023	12:46:36	2023-0422-124636-205-CH1	KP11.430- Field Joint - Bitumen Missing.
22/04/2023	12:47:22	2023-0422-124722-847-CH1	KP11.296- Field Joint - Bitumen Missing.
22/04/2023	12:48:12	2023-0422-124812-535-CH1	KP11.454- Field Joint - Bitumen Missing.
22/04/2023	12:49:32	2023-0422-124932-636-CH1	KP11.474- Anode Assessment - 25-50% Wasted.

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Photo Log

DATE	TIME	PHOTO FILE NAME	DESCRIPTION
22/04/2023	13:28:26	2023-0422-132826-808-CH1	KP12.035- Field Joint - Bitumen Missing.
22/04/2023	13:29:05	2023-0422-132905-338-CH1	KP12.049- Field Joint - Bitumen Missing.
22/04/2023	13:29:55	2023-0422-132955-024-CH1	KP12.062- Debris - Fishing Gear.
22/04/2023	13:30:34	2023-0422-133034-574-CH1	KP12.074- Field Joint - Bitumen Missing.
22/04/2023	13:31:14	2023-0422-133114-113-CH1	KP12.085- Field Joint - Bitumen Missing.
22/04/2023	13:31:37	2023-0422-133137-434-CH1	KP12.092- Anode Assessment - 25-50% Wasted.
22/04/2023	13:31:54	2023-0422-133154-674-CH1	KP12.095- Debris - Fish Trap. Sitting on top of pipeline
22/04/2023	13:33:34	2023-0422-133334-043-CH1	KP12.110- Field Joint - Bitumen Missing.
22/04/2023	13:34:17	2023-0422-133417-644-CH1	KP12.123- Field Joint - Bitumen Missing.
22/04/2023	13:35:06	2023-0422-133506-315-CH1	KP12.134- Field Joint - Bitumen Missing.
22/04/2023	13:35:50	2023-0422-133550-930-CH1	KP12.147- Field Joint - Bitumen Missing.
22/04/2023	13:36:34	2023-0422-133634-531-CH1	KP12.159- Field Joint - Bitumen Missing.
22/04/2023	13:37:18	2023-0422-133718-132-CH1	KP12.172- Field Joint - Bitumen Missing.
22/04/2023	13:38:07	2023-0422-133807-817-CH1	KP12.185- Field Joint - Bitumen Missing.
22/04/2023	13:38:01	2023-0422-133901-566-CH1	KP12.197- Field Joint - Bitumen Missing.
22/04/2023	13:39:42	2023-0422-133942-115-CH1	KP12.206- Field Joint - Bitumen Missing.
22/04/2023	13:40:48	2023-0422-134048-024-CH1	KP12.215- Field Joint - Bitumen Missing.
22/04/2023	13:44:44	2023-0422-134444-281-CH1	KP12.234- Field Joint - Bitumen Missing.
22/04/2023	13:46:54	2023-0422-134654-070-CH1	KP12.270- Debris - Fishing Gear.
22/04/2023	13:47:51	2023-0422-134751-867-CH1	KP12.284- Field Joint - Bitumen Missing.
22/04/2023	13:49:20	2023-0422-134920-081-CH1	KP12.308- Field Joint - Bitumen Missing.
22/04/2023	13:50:07	2023-0422-135007-739-CH1	KP12.320- Field Joint - Bitumen Missing.
22/04/2023	13:51:19	2023-0422-135119-730-CH1	KP12.333- Field Joint - Bitumen Missing.
22/04/2023	13:52:08	2023-0422-135208-405-CH1	KP12.347- Field Joint - Bitumen Missing.
22/04/2023	13:52:27	2023-0422-135227-666-CH1	KP12.347- Field Joint - Bitumen Missing.
22/04/2023	13:53:24	2023-0422-135324-451-CH1	KP12.359- Field Joint - Bitumen Missing.
23/04/2023	11:45:34	2023-0423-114534-723-CH1	KP12.419- Field Joint - Bitumen Missing.
23/04/2023	11:46:36	2023-0423-114636-576-CH1	KP12.431- Field Joint - Bitumen Missing.
23/04/2023	11:47:12	2023-0423-114712-065-CH1	KP12.443- Field Joint - Bitumen Missing.
23/04/2023	11:47:46	2023-0423-114746-540-CH1	KP12.456- Field Joint - Bitumen Missing.



Visual Inspection

Date	13 th April 2023		OWA Group		Thailand		Report No	53-66001-27-VI-01	
Project No	53-66001		Dive/ROV Sys.		Falcon 12450		Dive No	Refer to dive log	
Client	Star Petroleum Refining and PTT Global Chemical						Vessel	Uniwise Rayong	
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance - 48" Crude Import Pipeline Inspection								
Location	MAP TA PHUT SPM						Video Ref.	53-66001-27-VL-01	
NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT		
1	13	12:51:40	Feature	0.007	Feature - Flange	25.7	Start of Survey Section at PLEM to Pipeline flange connection		
2	13	12:54:29	Cathodic Protection	0.008	Cathodic Protection - CP Steel	26.9	PLEM side of flange connection CP(-)969mV		
3	13	12:56:08	Cathodic Protection	0.009	Cathodic Protection - CP Steel	26.9	Pipeline side of flange connection CP(-)966mV		
4	13	13:06:22	Debris	0.049	Debris - Netting	26.5			
5	13	13:08:23	Debris	0.049	Debris - Fish Trap	25.7			
6	13	13:10:41	Debris	0.059	Debris - Fish Trap	25.4	Net		
7	13	14:45:23	Debris	0.073	Debris - Netting	25.3			
8	13	14:47:02	Debris	0.078	Debris - Soft Debris	26.1			
9	13	15:00:02	Field Joint	0.112	Field Joint - Good Condition	26.1			
10	13	15:06:24	Debris	0.124	Debris - Netting	26.0			
11	13	15:09:49	Debris	0.137	Debris - Netting	25.5			
12	13	15:10:32	Debris	0.141	Debris - Other	25.9			
13	13	15:15:20	Debris	0.171	Debris - Netting	25.7			
14	13	15:16:43	Debris	0.180	Debris - Netting	25.9			
15	14	09:12:42	Debris	0.186	Debris - Fishing Gear	26.6			
16	15	12:22:18	Debris	0.188	Debris - Pipe	26.6			
17	15	12:24:17	Debris	0.191	Debris - Other	26.6	Basket		
18	15	12:26:52	Debris	0.206	Debris - Other	26.6			
19	15	12:28:01	Debris	0.210	Debris - Fishing Gear	26.6	Net		
20	15	12:32:25	Debris	0.246	Debris - Other	26.6			
21	15	12:34:21	Debris	0.256	Debris - Other	26.6			
22	15	12:36:58	Debris	0.271	Debris - Fishing Gear	26.6	Net		
23	15	12:37:53	Debris	0.274	Debris - Other	26.6			
24	15	12:39:04	Debris	0.277	Debris - Fishing Gear	26.6	Net		
25	15	13:42:28	Debris	0.279	Debris - Fish Trap	26.1			
26	15	13:49:10	Debris	0.280	Debris - Fish Trap	25.3			
27	15	13:50:10	Debris	0.283	Debris - Fish Trap	25.3			
28	15	13:51:15	Debris	0.287	Debris - Fish Trap	25.4			
29	15	13:52:43	Field Joint	0.296	Field Joint - Bitumen Missing	25.3			
30	15	13:54:48	Debris	0.305	Debris - Fishing Gear	25.4			
31	15	13:56:17	Damage	0.309	Field Joint - Bitumen Missing	25.4			
32	15	13:57:44	Damage	0.321	Field Joint - Bitumen Missing	25.4			
33	15	13:59:12	Damage	0.334	Field Joint - Bitumen Missing	25.4			



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
34	15	14:00:34	Debris	0.345	Debris - Fishing Gear	25.4	
35	15	14:03:11	Damage	0.346	Field Joint - Bitumen Missing	25.4	
36	15	14:03:49	Debris	0.348	Debris - Fishing Gear	25.4	
37	15	14:05:09	Debris	0.353	Debris - Fishing Gear	25.4	
38	15	14:09:06	Anode Assessment	0.365	Anode Assessment - 25-50% Wasted	25.3	
39	15	14:13:09	Debris	0.401	Debris - Soft Rope	25.3	
40	15	14:15:01	Damage	0.422	Field Joint - Bitumen Missing	25.2	
41	15	14:18:57	Debris	0.458	Debris - Fishing Gear	25.2	
42	15	14:20:01	Debris	0.461	Debris - Debris Field	25.2	
43	15	15:23:23	Debris	0.496	Debris - Fishing Gear	25.2	
44	15	15:23:54	Damage	0.498	Field Joint - Bitumen Missing	25.1	
45	15	15:26:52	Damage	0.523	Field Joint - Bitumen Missing	25.0	
46	15	15:28:06	Damage	0.536	Field Joint - Bitumen Missing	25.1	
47	15	15:29:31	Damage	0.549	Field Joint - Bitumen Missing	25.1	
48	15	15:30:53	Debris	0.559	Debris - Fishing Gear	25.0	
49	15	15:31:35	Damage	0.561	Field Joint - Bitumen Missing	25.1	
50	15	15:33:18	Damage	0.574	Field Joint - Bitumen Missing	25.1	
51	15	15:37:48	Field Joint	0.600	Field Joint - Bitumen Missing	25.2	
52	15	15:39:06	Damage	0.613	Field Joint - Bitumen Missing	25.0	
53	15	15:41:41	Damage	0.618	Field Joint - Bitumen Missing	25.3	
54	15	15:42:40	Damage	0.625	Field Joint - Bitumen Missing	25.0	
55	15	15:44:08	Damage	0.638	Field Joint - Bitumen Missing	25.0	
56	17	10:17:11	Damage	0.652	Field Joint - Bitumen Missing	26.1	
57	17	10:18:16	Debris	0.655	Debris - Fishing Gear	26.2	Net
58	17	10:19:09	Debris	0.663	Debris - Fishing Gear	26.1	Net
59	17	10:20:33	Debris	0.672	Debris - Fishing Gear	26.2	Net
60	17	10:21:28	Debris	0.676	Debris - Fishing Gear	26.2	Net
61	17	10:22:43	Damage	0.690	Field Joint - Bitumen Missing	26.2	
62	17	10:23:43	Debris	0.702	Debris - Fishing Gear	26.2	
63	17	10:24:32	Debris	0.709	Debris - Fishing Gear	26.2	
64	17	10:25:06	Debris	0.712	Debris - Fishing Gear	26.2	
65	17	10:25:44	Debris	0.718	Debris - Fishing Gear	26.2	
66	17	10:26:15	Debris	0.721	Debris - Fishing Gear	26.2	
67	17	10:27:40	Damage	0.728	Field Joint - Bitumen Missing	26.1	
68	17	10:28:24	Debris	0.731	Debris - Fishing Gear	26.1	
69	17	10:30:30	Damage	0.766	Field Joint - Bitumen Missing	26.1	
70	17	10:31:17	Debris	0.775	Debris - Fishing Gear	26.1	
71	17	10:31:44	Damage	0.779	Field Joint - Bitumen Missing	26.1	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
72	17	10:35:05	Damage	0.817	Field Joint - Bitumen Missing	26.1	
73	17	10:36:29	Field Joint	0.830	Field Joint - Bitumen Missing	26.1	
74	17	10:37:21	Debris	0.837	Debris - Fishing Gear	26.1	
75	17	10:38:11	Damage	0.842	Field Joint - Bitumen Missing	26.2	
76	17	10:39:42	Damage	0.856	Field Joint - Bitumen Missing	26.2	
77	17	10:58:41	Field Joint	0.869	Field Joint - Bitumen Missing	26.1	
78	17	10:58:41	Debris	0.869	Debris - Netting	26.1	
79	17	11:00:08	Damage	0.881	Field Joint - Bitumen Missing	26.2	
80	17	11:15:10	Damage	0.893	Field Joint - Bitumen Missing	26.2	
81	17	11:16:11	Damage	0.906	Field Joint - Bitumen Missing	26.2	
82	17	11:17:13	Damage	0.919	Field Joint - Bitumen Missing	26.2	
83	17	11:18:54	Damage	0.946	Field Joint - Bitumen Missing	26.1	
84	17	11:19:58	Damage	0.958	Field Joint - Bitumen Missing	26.2	
85	17	11:21:03	Damage	0.970	Field Joint - Bitumen Missing	26.0	
86	17	11:22:01	Field Joint	0.983	Field Joint - Bitumen Missing	26.1	
87	17	11:23:05	Damage	0.995	Field Joint - Bitumen Missing	26.0	
88	17	11:24:09	Damage	1.007	Field Joint - Bitumen Missing	26.0	
89	17	11:25:14	Damage	1.021	Field Joint - Bitumen Missing	25.9	
90	17	11:26:10	Damage	1.033	Field Joint - Bitumen Missing	25.9	
91	17	11:26:57	Damage	1.045	Field Joint - Bitumen Missing	25.9	
92	17	11:27:51	Damage	1.057	Field Joint - Bitumen Missing	25.9	
93	17	11:28:52	Damage	1.070	Field Joint - Bitumen Missing	25.9	
94	17	11:29:39	Damage	1.082	Field Joint - Bitumen Missing	25.8	
95	17	11:30:41	Damage	1.098	Field Joint - Bitumen Missing	25.9	
96	17	11:31:35	Damage	1.108	Field Joint - Bitumen Missing	25.9	
97	17	11:32:27	Damage	1.121	Field Joint - Bitumen Missing	25.9	
98	17	11:33:41	Damage	1.133	Field Joint - Bitumen Missing	25.9	
99	17	11:34:42	Damage	1.146	Field Joint - Bitumen Missing	25.8	
100	17	11:35:34	Damage	1.158	Field Joint - Bitumen Missing	25.8	
101	17	11:37:05	Damage	1.171	Field Joint - Bitumen Missing	25.8	
102	17	11:37:59	Damage	1.184	Field Joint - Bitumen Missing	25.7	
103	17	11:39:14	Damage	1.197	Field Joint - Bitumen Missing	25.7	
104	17	11:40:07	Damage	1.209	Field Joint - Bitumen Missing	25.7	
105	17	11:41:03	Damage	1.222	Field Joint - Bitumen Missing	25.7	
106	17	11:41:38	Debris	1.228	Debris - Fishing Gear	25.7	
107	17	11:42:24	Damage	1.234	Field Joint - Bitumen Missing	25.7	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
108	17	11:43:27	Damage	1.247	Field Joint - Bitumen Missing	25.6	
109	17	11:44:33	Debris	1.256	Debris - Soft Debris	25.6	
110	17	11:45:35	Damage	1.272	Field Joint - Bitumen Missing	25.7	
111	17	11:46:27	Debris	1.283	Debris - Fishing Gear	25.7	
112	17	11:47:26	Damage	1.298	Field Joint - Bitumen Missing	25.8	
113	17	11:48:51	Damage	1.311	Field Joint - Bitumen Missing	25.8	
114	17	11:49:35	Damage	1.323	Field Joint - Bitumen Missing	25.8	
115	17	11:50:20	Damage	1.334	Field Joint - Bitumen Missing	25.8	
116	17	11:51:15	Damage	1.348	Field Joint - Bitumen Missing	25.7	
117	17	11:51:45	Debris	1.351	Debris - Fishing Gear	25.7	
118	17	11:52:18	Damage	1.360	Field Joint - Bitumen Missing	25.7	
119	17	11:53:01	Debris	1.369	Debris - Fishing Gear	25.7	
120	17	11:54:55	Damage	1.374	Field Joint - Bitumen Missing	25.8	
121	17	11:56:23	Damage	1.385	Field Joint - Bitumen Missing	25.8	
122	17	11:57:30	Damage	1.399	Field Joint - Bitumen Missing	25.8	
123	17	11:58:24	Damage	1.411	Field Joint - Bitumen Missing	25.8	
124	17	11:59:15	Damage	1.424	Field Joint - Bitumen Missing	25.8	
125	17	12:00:10	Damage	1.438	Field Joint - Bitumen Missing	25.8	
126	17	12:01:14	Debris	1.450	Debris - Fishing Gear	25.8	
127	17	12:02:01	Damage	1.462	Field Joint - Bitumen Missing	25.8	
128	17	12:02:34	Debris	1.469	Debris - Fishing Gear	25.8	
129	17	12:03:07	Damage	1.476	Field Joint - Bitumen Missing	25.9	
130	17	12:03:47	Damage	1.488	Field Joint - Bitumen Missing	25.9	
131	17	12:04:29	Damage	1.500	Field Joint - Bitumen Missing	25.9	
132	17	13:54:27	Damage	1.525	Field Joint - Bitumen Missing	25.6	
133	17	13:55:27	Damage	1.538	Field Joint - Bitumen Missing	25.6	
134	17	13:56:29	Damage	1.550	Field Joint - Bitumen Missing	25.7	
135	17	13:57:34	Damage	1.562	Field Joint - Bitumen Missing	25.6	
136	17	13:58:21	Debris	1.569	Debris - Fishing Gear	26.0	
137	17	14:15:40	Field Joint	1.601	Field Joint - Bitumen Missing	25.6	
138	17	14:16:46	Field Joint	1.614	Field Joint - Bitumen Missing	25.6	
139	17	14:20:42	Debris	1.636	Debris - Soft Debris	25.6	
140	17	14:22:34	Debris	1.649	Debris - Netting	25.5	
141	17	14:41:57	Debris	1.673	Debris - Fishing Gear	25.5	
142	17	14:43:19	Debris	1.692	Debris - Soft Rope	25.4	
143	17	14:44:35	Debris	1.704	Debris - Soft Rope	25.3	
144	17	14:45:45	Damage	1.715	Field Joint - Bitumen Missing	25.3	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
145	17	14:48:20	Damage	1.754	Field Joint - Bitumen Missing	25.0	
146	17	14:50:16	Damage	1.779	Field Joint - Bitumen Missing	24.6	
147	17	14:51:26	Damage	1.791	Field Joint - Bitumen Missing	24.3	
148	17	14:53:30	Damage	1.817	Field Joint - Bitumen Missing	24.0	
149	17	14:56:33	Damage	1.855	Field Joint - Bitumen Missing	23.7	
150	17	15:00:55	Damage	1.893	Field Joint - Bitumen Missing	23.8	
151	17	15:19:44	Damage	1.918	Field Joint - Bitumen Missing	23.8	
152	17	15:20:44	Damage	1.931	Field Joint - Bitumen Missing	23.7	
153	17	15:21:56	Damage	1.944	Field Joint - Bitumen Missing	23.9	
154	17	15:23:16	Damage	1.957	Field Joint - Bitumen Missing	23.8	
155	17	15:39:11	Damage	1.970	Field Joint - Bitumen Missing	23.9	
156	17	15:40:56	Damage	1.994	Field Joint - Bitumen Missing	23.7	
157	17	15:42:06	Damage	2.008	Field Joint - Bitumen Missing	23.7	
158	17	15:43:20	Damage	2.020	Field Joint - Bitumen Missing	23.8	
159	17	15:44:28	Damage	2.033	Field Joint - Bitumen Missing	23.7	
160	17	15:45:43	Damage	2.045	Field Joint - Bitumen Missing	23.8	
161	17	15:50:30	Damage	2.071	Field Joint - Bitumen Missing	23.8	
162	17	15:51:29	Damage	2.084	Field Joint - Bitumen Missing	23.8	
163	17	15:52:25	Damage	2.097	Field Joint - Bitumen Missing	23.8	
164	17	15:53:19	Damage	2.110	Field Joint - Bitumen Missing	23.9	
165	17	15:54:47	Damage	2.123	Field Joint - Bitumen Missing	23.8	
166	17	15:55:44	Damage	2.135	Field Joint - Bitumen Missing	23.8	
167	17	15:56:33	Anode Assessment	2.140	Anode Assessment - 25-50% Wasted	23.8	
168	17	15:57:29	Damage	2.148	Field Joint - Bitumen Missing	23.9	
169	17	15:58:22	Damage	2.160	Field Joint - Bitumen Missing	23.8	
170	17	15:59:07	Debris	2.173	Debris - Fishing Gear	23.7	
171	17	16:02:07	Damage	2.186	Field Joint - Bitumen Missing	24.1	
172	18	08:29:41	Damage	2.212	Field Joint - Bitumen Missing	23.9	
173	18	08:33:41	Damage	2.262	Field Joint - Bitumen Missing	24.0	
174	18	08:34:20	Anode Assessment	2.268	Anode Assessment - 25-50% Wasted	24.0	
175	18	08:35:25	Debris	2.272	Debris - Soft Rope	23.9	
176	18	08:38:57	Damage	2.326	Field Joint - Bitumen Missing	23.7	
177	18	08:41:26	Damage	2.351	Field Joint - Bitumen Missing	23.7	
178	18	08:42:40	Damage	2.364	Field Joint - Bitumen Missing	23.7	
179	18	08:44:14	Damage	2.376	Field Joint - Bitumen Missing	23.7	
180	18	08:45:22	Damage	2.388	Field Joint - Bitumen Missing	23.7	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
181	18	08:46:35	Debris	2.393	Debris - Other	23.6	
182	18	09:02:45	Damage	2.402	Field Joint - Bitumen Missing	23.4	
183	18	09:03:42	Damage	2.414	Field Joint - Bitumen Missing	23.4	
184	18	09:05:00	Damage	2.427	Field Joint - Bitumen Missing	23.3	
185	18	09:06:03	Damage	2.439	Field Joint - Bitumen Missing	23.5	
186	18	09:07:04	Damage	2.452	Field Joint - Bitumen Missing	23.5	
187	18	09:07:55	Debris	2.463	Debris - Soft Rope	23.5	
188	18	09:08:57	Damage	2.478	Field Joint - Bitumen Missing	23.6	
189	18	09:09:49	Damage	2.490	Field Joint - Bitumen Missing	23.6	
190	18	09:10:34	Damage	2.502	Field Joint - Bitumen Missing	23.5	
191	18	09:11:23	Damage	2.515	Field Joint - Bitumen Missing	23.6	
192	18	09:35:47	Anode Assessment	2.521	Anode Assessment - 25-50% Wasted	23.6	
193	18	09:36:25	Damage	2.528	Field Joint - Bitumen Missing	23.5	
194	18	09:37:25	Debris	2.539	Debris - Fishing Gear	23.4	
195	18	09:38:36	Damage	2.553	Field Joint - Bitumen Missing	23.4	
196	18	09:40:15	Damage	2.579	Field Joint - Bitumen Missing	23.2	
197	18	09:41:51	Damage	2.605	Field Joint - Bitumen Missing	23.2	
198	18	09:42:50	Damage	2.618	Field Joint - Bitumen Missing	23.2	
199	18	09:44:21	Damage	2.643	Field Joint - Bitumen Missing	23.3	
200	18	09:45:05	Anode Assessment	2.649	Anode Assessment - 25-50% Wasted	23.2	
201	18	09:46:17	Damage	2.655	Field Joint - Bitumen Missing	23.3	
202	18	09:47:00	Damage	2.668	Field Joint - Bitumen Missing	23.2	
203	18	09:47:50	Damage	2.682	Field Joint - Bitumen Missing	23.3	
204	18	09:48:48	Damage	2.694	Field Joint - Bitumen Missing	23.4	
205	18	09:49:39	Damage	2.707	Field Joint - Bitumen Missing	23.4	
206	18	09:50:16	Damage	2.719	Field Joint - Bitumen Missing	23.3	
207	18	09:51:05	Damage	2.733	Field Joint - Bitumen Missing	23.1	
208	18	09:51:59	Damage	2.745	Field Joint - Bitumen Missing	23.2	
209	18	10:33:58	Damage	2.768	Field Joint - Bitumen Missing	23.2	
210	18	10:35:16	Anode Assessment	2.775	Anode Assessment - 25-50% Wasted	23.2	
211	18	10:36:34	Damage	2.794	Field Joint - Bitumen Missing	23.2	
212	18	10:38:04	Damage	2.821	Field Joint - Bitumen Missing	23.5	
213	18	10:38:53	Damage	2.833	Field Joint - Bitumen Missing	23.5	
214	18	10:39:45	Damage	2.846	Field Joint - Bitumen Missing	23.5	
215	18	10:40:20	Debris	2.848	Debris - Fishing Gear	23.5	
216	18	10:41:17	Damage	2.858	Field Joint - Bitumen Missing	23.5	
217	18	10:44:12	Anode Assessment	2.903	Anode Assessment - 25-50% Wasted	23.4	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
218	18	10:44:43	Damage	2.908	Field Joint - Bitumen Missing	23.4	
219	18	10:45:39	Damage	2.921	Field Joint - Bitumen Missing	23.5	
220	18	10:46:25	Damage	2.934	Field Joint - Bitumen Missing	23.5	
221	18	10:47:14	Damage	2.947	Field Joint - Bitumen Missing	23.5	
222	18	10:48:04	Damage	2.959	Field Joint - Bitumen Missing	23.4	
223	18	10:48:49	Damage	2.971	Field Joint - Bitumen Missing	23.3	
224	18	10:50:19	Damage	2.997	Field Joint - Bitumen Missing	23.2	
225	18	10:51:06	Damage	3.010	Field Joint - Bitumen Missing	23.2	
226	18	10:51:54	Damage	3.023	Field Joint - Bitumen Missing	23.3	
227	18	10:52:39	Anode Assessment	3.030	Anode Assessment - 25-50% Wasted	23.2	
228	18	10:57:41	Damage	3.035	Field Joint - Bitumen Missing	23.3	
229	18	10:58:31	Damage	3.047	Field Joint - Bitumen Missing	23.1	
230	18	10:59:16	Damage	3.060	Field Joint - Bitumen Missing	23.1	
231	18	11:01:37	Damage	3.100	Field Joint - Bitumen Missing	23.0	
232	18	11:02:25	Damage	3.112	Field Joint - Bitumen Missing	23.0	
233	18	11:03:45	Debris	3.131	Debris - Fishing Gear	22.9	
234	18	11:04:32	Damage	3.138	Field Joint - Bitumen Missing	22.9	
235	18	11:05:29	Damage	3.150	Field Joint - Bitumen Missing	22.8	
236	18	11:06:11	Anode Assessment	3.157	Anode Assessment - 25-50% Wasted	22.8	
237	18	11:06:43	Damage	3.163	Field Joint - Bitumen Missing	22.9	
238	18	11:07:42	Damage	3.176	Field Joint - Bitumen Missing	22.7	
239	18	11:08:26	Damage	3.188	Field Joint - Bitumen Missing	22.7	
240	18	11:09:29	Damage	3.200	Field Joint - Bitumen Missing	22.7	
241	18	11:10:22	Damage	3.212	Field Joint - Bitumen Missing	22.7	
242	18	11:11:57	Damage	3.239	Field Joint - Bitumen Missing	22.8	
243	18	11:12:48	Damage	3.252	Field Joint - Bitumen Missing	22.8	
244	18	11:13:45	Damage	3.264	Field Joint - Bitumen Missing	22.8	
245	18	11:14:35	Damage	3.276	Field Joint - Bitumen Missing	22.8	
246	18	11:15:19	Anode Assessment	3.282	Anode Assessment - 25-50% Wasted	22.7	CP(-)967mV
247	18	11:30:25	Damage	3.288	Field Joint - Bitumen Missing	22.3	
248	18	11:31:41	Damage	3.312	Field Joint - Bitumen Missing	22.1	
249	18	11:32:36	Damage	3.325	Field Joint - Bitumen Missing	22.0	
250	18	11:33:28	Damage	3.337	Field Joint - Bitumen Missing	21.9	
251	18	11:34:22	Damage	3.350	Field Joint - Bitumen Missing	21.9	
252	18	11:35:01	Damage	3.363	Field Joint - Bitumen Missing	21.7	
253	18	11:35:46	Damage	3.376	Field Joint - Bitumen Missing	21.7	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
254	18	11:36:40	Debris	3.387	Debris - Fishing Gear	21.8	
255	18	11:37:36	Damage	3.401	Field Joint - Bitumen Missing	21.7	
256	18	11:39:39	Anode Assessment	3.410	Anode Assessment - 25-50% Wasted	21.6	
257	18	11:40:05	Damage	3.414	Field Joint - Bitumen Missing	21.7	
258	18	11:40:46	Damage	3.426	Field Joint - Bitumen Missing	21.6	
259	18	11:41:46	Debris	3.442	Debris - Fishing Gear	21.5	
260	18	11:42:37	Damage	3.452	Field Joint - Bitumen Missing	21.5	
261	18	11:45:27	Damage	3.502	Field Joint - Bitumen Missing	21.4	
262	18	11:46:13	Damage	3.516	Field Joint - Bitumen Missing	21.4	
263	18	11:46:55	Damage	3.527	Field Joint - Bitumen Missing	21.4	
264	18	11:50:18	Anode Assessment	3.533	Anode Assessment - 25-50% Wasted	21.3	
265	18	11:50:54	Damage	3.541	Field Joint - Bitumen Missing	21.4	
266	18	11:52:26	Damage	3.566	Field Joint - Bitumen Missing	21.3	
267	18	11:53:13	Damage	3.578	Field Joint - Bitumen Missing	21.3	
268	18	11:54:05	Damage	3.591	Field Joint - Bitumen Missing	21.3	
269	18	11:55:04	Damage	3.604	Field Joint - Bitumen Missing	21.4	
270	18	11:55:52	Damage	3.617	Field Joint - Bitumen Missing	21.3	
271	18	11:56:36	Damage	3.630	Field Joint - Bitumen Missing	21.2	
272	18	11:57:14	Damage	3.655	Field Joint - Bitumen Missing	21.4	
273	18	11:57:55	Damage	3.655	Field Joint - Bitumen Missing	21.3	
274	18	11:58:33	Anode Assessment	3.660	Anode Assessment - 25-50% Wasted	21.4	
275	18	11:59:12	Damage	3.667	Field Joint - Bitumen Missing	21.3	
276	18	12:00:05	Damage	3.680	Field Joint - Bitumen Missing	21.3	
277	18	13:27:05	Damage	3.690	Field Joint - Bitumen Missing	21.4	
278	18	13:28:06	Damage	3.703	Field Joint - Bitumen Missing	21.3	
279	18	13:29:05	Damage	3.716	Field Joint - Bitumen Missing	21.3	
280	18	13:30:00	Damage	3.729	Field Joint - Bitumen Missing	21.2	
281	18	13:30:52	Damage	3.742	Field Joint - Bitumen Missing	21.2	
282	18	13:31:48	Damage	3.754	Field Joint - Bitumen Missing	21.1	
283	18	13:32:41	Damage	3.766	Field Joint - Bitumen Missing	21.1	
284	18	13:34:31	Anode Assessment	3.785	Anode Assessment - 25-50% Wasted	21.2	
285	18	13:35:45	Damage	3.805	Field Joint - Bitumen Missing	21.2	
286	18	13:36:31	Debris	3.815	Debris - Fishing Gear	21.3	
287	18	13:37:41	Damage	3.831	Field Joint - Bitumen Missing	21.2	
288	18	13:39:32	Damage	3.869	Field Joint - Bitumen Missing	21.3	
289	18	13:40:21	Damage	3.882	Field Joint - Bitumen Missing	21.3	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
290	18	13:41:59	Damage	3.907	Field Joint - Bitumen Missing	21.3	
291	18	13:42:56	Anode Assessment	3.913	Anode Assessment - 25-50% Wasted	21.3	
292	18	13:43:39	Damage	3.920	Field Joint - Bitumen Missing	21.3	
293	18	13:45:11	Damage	3.945	Field Joint - Bitumen Missing	21.3	
294	18	13:46:51	Damage	3.971	Field Joint - Bitumen Missing	21.3	
295	18	13:47:41	Damage	3.983	Field Joint - Bitumen Missing	21.2	
296	18	13:48:36	Damage	3.996	Field Joint - Bitumen Missing	21.1	
297	18	13:49:36	Damage	4.008	Field Joint - Bitumen Missing	21.2	
298	18	13:50:39	Damage	4.020	Field Joint - Bitumen Missing	21.0	
299	18	13:52:48	Anode Assessment	4.039	Anode Assessment - 25-50% Wasted	21.4	
300	18	13:53:56	Damage	4.045	Field Joint - Bitumen Missing	21.0	
301	18	13:54:45	Damage	4.058	Field Joint - Bitumen Missing	21.0	
302	18	13:55:29	Damage	4.071	Field Joint - Bitumen Missing	20.8	
303	18	13:56:14	Damage	4.085	Field Joint - Bitumen Missing	20.9	
304	18	13:57:04	Damage	4.097	Field Joint - Bitumen Missing	20.9	
305	18	13:58:38	Damage	4.123	Field Joint - Bitumen Missing	20.8	
306	18	13:59:26	Damage	4.135	Field Joint - Bitumen Missing	20.8	
307	18	14:00:17	Damage	4.148	Field Joint - Bitumen Missing	20.7	
308	18	14:01:06	Damage	4.161	Field Joint - Bitumen Missing	20.8	
309	18	14:03:36	Anode Assessment	4.166	Anode Assessment - 25-50% Wasted	20.8	
310	18	14:04:21	Damage	4.173	Field Joint - Bitumen Missing	20.7	
311	18	14:06:13	Damage	4.198	Field Joint - Bitumen Missing	20.6	
312	18	14:07:02	Damage	4.211	Field Joint - Bitumen Missing	20.5	
313	18	14:08:23	Damage	4.235	Field Joint - Bitumen Missing	20.3	
314	18	14:09:25	Damage	4.248	Field Joint - Bitumen Missing	20.2	
315	18	14:10:12	Damage	4.261	Field Joint - Bitumen Missing	20.0	
316	18	14:11:39	Damage	4.287	Field Joint - Bitumen Missing	19.7	
317	18	14:19:40	Anode Assessment	4.293	Anode Assessment - 25-50% Wasted	19.6	
318	18	14:20:12	Damage	4.299	Field Joint - Bitumen Missing	19.6	
319	18	14:21:00	Damage	4.314	Field Joint - Bitumen Missing	19.6	
320	18	14:21:53	Damage	4.328	Field Joint - Bitumen Missing	19.7	
321	18	14:22:44	Damage	4.337	Field Joint - Bitumen Missing	19.7	
322	18	14:23:32	Damage	4.350	Field Joint - Bitumen Missing	19.7	
323	18	14:24:26	Damage	4.363	Field Joint - Bitumen Missing	19.8	
324	18	14:25:49	Damage	4.389	Field Joint - Bitumen Missing	19.7	
325	18	14:26:40	Damage	4.401	Field Joint - Bitumen Missing	19.6	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
363	18	15:16:50	Damage	4.797	Field Joint - Bitumen Missing	19.4	
364	18	15:17:43	Damage	4.810	Field Joint - Bitumen Missing	19.4	
365	18	15:18:20	Debris	4.817	Debris - Fishing Gear	19.4	
366	18	15:18:49	Damage	4.822	Field Joint - Bitumen Missing	19.3	
367	18	15:19:40	Damage	4.835	Field Joint - Bitumen Missing	19.4	
368	18	15:20:33	Damage	4.848	Field Joint - Bitumen Missing	19.3	
369	18	15:21:25	Damage	4.860	Field Joint - Bitumen Missing	19.4	
370	18	15:22:22	Damage	4.873	Field Joint - Bitumen Missing	19.3	
371	18	15:23:06	Damage	4.885	Field Joint - Bitumen Missing	19.3	
372	18	15:23:50	Damage	4.897	Field Joint - Bitumen Missing	19.3	
373	18	15:24:35	Damage	4.909	Field Joint - Bitumen Missing	19.3	
374	18	15:25:09	Debris	4.914	Debris - Fish Trap	19.3	Sitting on pipeline
375	18	15:28:39	Damage	4.935	Field Joint - Bitumen Missing	19.3	
376	18	15:29:25	Damage	4.949	Field Joint - Bitumen Missing	19.4	
377	18	15:30:18	Damage	4.959	Field Joint - Bitumen Missing	19.3	
378	18	15:31:03	Damage	4.971	Field Joint - Bitumen Missing	19.4	
379	18	15:32:35	Damage	4.997	Field Joint - Bitumen Missing	19.4	
380	18	15:34:30	Damage	5.020	Field Joint - Bitumen Missing	19.5	
381	18	15:35:31	Damage	5.032	Field Joint - Bitumen Missing	19.4	
382	18	15:36:28	Damage	5.045	Field Joint - Bitumen Missing	19.5	
383	18	15:37:20	Damage	5.057	Field Joint - Bitumen Missing	19.5	
384	18	15:39:50	Debris	5.094	Debris - Soft Rope	19.4	
385	18	15:41:24	Damage	5.119	Field Joint - Bitumen Missing	19.4	
386	18	15:43:27	Debris	5.152	Debris - Fishing Gear	19.5	
387	18	15:44:46	Damage	5.169	Field Joint - Bitumen Missing	19.5	
388	18	15:45:33	Damage	5.181	Field Joint - Bitumen Missing	19.6	
389	19	08:09:38	Damage	5.206	Field Joint - Bitumen Missing	19.5	
390	19	08:11:57	Damage	5.243	Field Joint - Bitumen Missing	19.4	
391	19	08:12:38	Damage	5.255	Field Joint - Bitumen Missing	19.4	
392	19	08:13:23	Damage	5.268	Field Joint - Bitumen Missing	19.4	
393	19	08:14:13	Damage	5.280	Field Joint - Bitumen Missing	19.3	
394	19	08:14:54	Anode Assessment	5.287	Anode Assessment - 25-50% Wasted	19.3	
395	19	08:15:25	Damage	5.292	Field Joint - Bitumen Missing	19.2	
396	19	08:16:34	Debris	5.304	Debris - Fishing Gear	19.2	
397	19	08:16:39	Damage	5.305	Field Joint - Bitumen Missing	19.3	
398	19	08:18:25	Damage	5.330	Field Joint - Bitumen Missing	19.3	
399	19	08:19:26	Damage	5.344	Field Joint - Bitumen Missing	19.2	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
326	18	14:27:29	Damage	4.414	Field Joint - Bitumen Missing	19.6	
327	18	14:28:09	Anode Assessment	4.420	Anode Assessment - 25-50% Wasted	19.6	
328	18	14:30:01	Damage	4.439	Field Joint - Bitumen Missing	19.5	
329	18	14:31:01	Debris	4.445	Debris - Fishing Gear	19.4	
330	18	14:31:56	Damage	4.451	Field Joint - Bitumen Missing	19.4	
331	18	14:33:26	Debris	4.474	Debris - Fishing Gear	19.5	
332	18	14:34:33	Damage	4.489	Field Joint - Bitumen Missing	19.7	
333	18	14:35:22	Damage	4.501	Field Joint - Bitumen Missing	19.7	
334	18	14:36:09	Damage	4.514	Field Joint - Bitumen Missing	19.7	
335	18	14:36:57	Damage	4.527	Field Joint - Bitumen Missing	19.7	
336	18	14:38:03	Damage	4.538	Field Joint - Bitumen Missing	19.8	
337	18	14:38:05	Damage	4.538	Field Joint - Bitumen Missing	19.8	Net
338	18	14:57:01	Anode Assessment	4.545	Anode Assessment - 25-50% Wasted	19.8	
339	18	14:57:38	Damage	4.551	Field Joint - Bitumen Missing	19.7	
340	18	14:58:20	Debris	4.559	Debris - Fishing Gear	19.8	
341	18	14:58:52	Damage	4.564	Field Joint - Bitumen Missing	19.8	
342	18	14:59:38	Damage	4.576	Field Joint - Bitumen Missing	19.7	
343	18	15:00:20	Damage	4.588	Field Joint - Bitumen Missing	19.7	
344	18	15:01:01	Damage	4.600	Field Joint - Bitumen Missing	19.7	
345	18	15:01:54	Damage	4.612	Field Joint - Bitumen Missing	19.7	
346	18	15:02:54	Damage	4.624	Field Joint - Bitumen Missing	19.7	
347	18	15:03:39	Damage	4.637	Field Joint - Bitumen Missing	19.7	
348	18	15:04:26	Damage	4.649	Field Joint - Bitumen Missing	19.6	
349	18	15:05:28	Damage	4.662	Field Joint - Bitumen Missing	19.6	
350	18	15:06:21	Anode Assessment	4.669	Anode Assessment - 25-50% Wasted	19.5	
351	18	15:07:00	Damage	4.674	Field Joint - Bitumen Missing	19.6	
352	18	15:07:51	Damage	4.686	Field Joint - Bitumen Missing	19.5	
353	18	15:08:38	Damage	4.697	Field Joint - Bitumen Missing	19.5	
354	18	15:09:26	Damage	4.710	Field Joint - Bitumen Missing	19.4	
355	18	15:10:44	Damage	4.722	Field Joint - Bitumen Missing	19.4	
356	18	15:11:35	Debris	4.733	Debris - Soft Rope	19.3	
357	18	15:11:59	Damage	4.735	Field Joint - Bitumen Missing	19.3	
358	18	15:12:45	Damage	4.748	Field Joint - Bitumen Missing	19.3	
359	18	15:13:31	Damage	4.760	Field Joint - Bitumen Missing	19.4	
360	18	15:14:24	Damage	4.773	Field Joint - Bitumen Missing	19.3	
361	18	15:15:11	Damage	4.785	Field Joint - Bitumen Missing	19.4	
362	18	15:15:44	Anode Assessment	4.793	Anode Assessment - 25-50% Wasted	19.4	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
400	19	08:22:36	Damage	5.380	Field Joint - Bitumen Missing	19.1	
401	19	08:23:33	Damage	5.380	Field Joint - Bitumen Missing	19.2	
402	19	08:39:26	Damage	5.392	Field Joint - Bitumen Missing	19.0	
403	19	08:40:09	Damage	5.405	Field Joint - Bitumen Missing	19.0	
404	19	08:42:16	Anode Assessment	5.413	Anode Assessment - 25-50% Wasted	19.3	
405	19	08:46:15	Damage	5.417	Field Joint - Bitumen Missing	18.9	
406	19	08:46:49	Damage	5.430	Field Joint - Bitumen Missing	19.0	
407	19	08:47:28	Damage	5.442	Field Joint - Bitumen Missing	19.0	
408	19	08:48:43	Damage	5.466	Field Joint - Bitumen Missing	18.9	
409	19	08:50:22	Damage	5.480	Field Joint - Bitumen Missing	18.9	
410	19	08:51:13	Damage	5.491	Field Joint - Bitumen Missing	18.9	
411	19	08:52:06	Damage	5.503	Field Joint - Bitumen Missing	18.7	
412	19	08:52:48	Damage	5.516	Field Joint - Bitumen Missing	18.8	
413	19	08:55:18	Anode Assessment	5.534	Anode Assessment - 25-50% Wasted	18.8	
414	19	08:56:19	Damage	5.552	Field Joint - Bitumen Missing	18.8	
415	19	08:56:58	Debris	5.559	Debris - Soft Rope	18.8	
416	19	08:57:50	Damage	5.565	Field Joint - Bitumen Missing	18.8	
417	19	08:58:42	Damage	5.578	Field Joint - Bitumen Missing	18.7	
418	19	08:59:24	Damage	5.589	Field Joint - Bitumen Missing	18.7	
419	19	09:00:02	Damage	5.603	Field Joint - Bitumen Missing	18.6	
420	19	09:00:36	Damage	5.615	Field Joint - Bitumen Missing	18.7	
421	19	09:01:11	Damage	5.627	Field Joint - Bitumen Missing	18.6	
422	19	09:01:50	Damage	5.639	Field Joint - Bitumen Missing	18.5	
423	19	09:02:28	Damage	5.652	Field Joint - Bitumen Missing	18.5	
424	19	09:14:19	Damage	5.664	Field Joint - Bitumen Missing	18.5	
425	19	09:15:08	Damage	5.677	Field Joint - Bitumen Missing	18.5	
426	19	09:15:50	Damage	5.689	Field Joint - Bitumen Missing	18.4	
427	19	09:16:29	Damage	5.702	Field Joint - Bitumen Missing	18.4	
428	19	09:17:06	Damage	5.714	Field Joint - Bitumen Missing	18.4	
429	19	09:17:42	Damage	5.726	Field Joint - Bitumen Missing	18.4	
430	19	09:18:20	Damage	5.738	Field Joint - Bitumen Missing	18.5	
431	19	09:19:44	Damage	5.750	Field Joint - Bitumen Missing	18.4	
432	19	09:20:25	Damage	5.762	Field Joint - Bitumen Missing	18.3	
433	19	09:21:02	Damage	5.775	Field Joint - Bitumen Missing	18.4	
434	19	09:22:02	Anode Assessment	5.781	Anode Assessment - 25-50% Wasted	18.3	
435	19	09:22:30	Damage	5.786	Field Joint - Bitumen Missing	18.4	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
436	19	09:23:03	Damage	5.799	Field Joint - Bitumen Missing	18.3	
437	19	09:23:37	Damage	5.811	Field Joint - Bitumen Missing	18.3	
438	19	09:24:12	Damage	5.823	Field Joint - Bitumen Missing	18.3	
439	19	09:25:49	Damage	5.848	Field Joint - Bitumen Missing	18.3	
440	19	09:27:05	Damage	5.873	Field Joint - Bitumen Missing	18.2	
441	19	09:27:42	Damage	5.884	Field Joint - Bitumen Missing	18.2	
442	19	09:28:57	Damage	5.910	Field Joint - Bitumen Missing	18.2	
443	19	09:30:20	Damage	5.946	Field Joint - Bitumen Missing	18.2	
444	19	09:31:01	Damage	5.958	Field Joint - Bitumen Missing	18.2	
445	19	09:31:39	Damage	5.974	Field Joint - Bitumen Missing	18.2	
446	19	09:32:15	Damage	5.983	Field Joint - Bitumen Missing	18.2	
447	19	09:32:46	Damage	5.996	Field Joint - Bitumen Missing	18.3	
448	19	09:33:40	Damage	6.009	Field Joint - Bitumen Missing	18.2	
449	19	09:34:25	Damage	6.021	Field Joint - Bitumen Missing	18.2	
450	19	09:35:22	Anode Assessment	6.033	Anode Assessment - 25-50% Wasted	18.3	
451	19	09:35:59	Damage	6.059	Field Joint - Bitumen Missing	18.2	
452	19	09:36:31	Damage	6.058	Field Joint - Bitumen Missing	18.0	
453	19	09:37:27	Debris	6.067	Debris - Other	18.1	Metal Rod
454	19	09:37:56	Damage	6.071	Field Joint - Bitumen Missing	18.2	
455	19	09:38:39	Damage	6.083	Field Joint - Bitumen Missing	18.1	
456	19	09:39:22	Damage	6.097	Field Joint - Bitumen Missing	18.1	
457	19	09:40:02	Debris	6.108	Debris - Fishing Gear	18.1	
458	19	09:40:54	Damage	6.121	Field Joint - Bitumen Missing	18.0	
459	19	09:41:32	Damage	6.133	Field Joint - Bitumen Missing	18.1	
460	19	09:42:08	Damage	6.145	Field Joint - Bitumen Missing	18.0	
461	19	09:42:38	Anode Assessment	6.152	Anode Assessment - 25-50% Wasted	18.0	
462	19	09:45:17	Damage	6.157	Field Joint - Bitumen Missing	17.9	
463	19	09:46:01	Damage	6.170	Field Joint - Bitumen Missing	18.0	
464	19	09:46:43	Damage	6.183	Field Joint - Bitumen Missing	17.9	
465	19	09:47:20	Damage	6.194	Field Joint - Bitumen Missing	17.9	
466	19	09:48:04	Damage	6.207	Field Joint - Bitumen Missing	17.9	
467	19	09:48:51	Damage	6.219	Field Joint - Bitumen Missing	17.9	
468	19	09:49:22	Debris	6.221	Debris - Soft Rope	18.0	
469	19	09:50:31	Damage	6.231	Field Joint - Bitumen Missing	17.9	
470	19	09:51:14	Damage	6.244	Field Joint - Bitumen Missing	17.8	
471	19	09:51:50	Damage	6.256	Field Joint - Bitumen Missing	17.8	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
472	19	09:52:28	Damage	6.269	Field Joint - Bitumen Missing	17.8	
473	19	09:52:57	Anode Assessment	6.276	Anode Assessment - 25-50% Wasted	17.8	
474	19	09:53:53	Damage	6.282	Field Joint - Bitumen Missing	17.7	
475	19	09:54:33	Damage	6.294	Field Joint - Bitumen Missing	17.8	
476	19	09:55:17	Damage	6.306	Field Joint - Bitumen Missing	17.7	
477	19	09:55:57	Damage	6.319	Field Joint - Bitumen Missing	17.7	
478	19	09:56:39	Damage	6.331	Field Joint - Bitumen Missing	17.7	
479	19	09:57:18	Damage	6.344	Field Joint - Bitumen Missing	17.7	
480	19	09:57:56	Damage	6.356	Field Joint - Bitumen Missing	17.7	
481	19	09:58:31	Damage	6.369	Field Joint - Bitumen Missing	17.6	
482	19	10:00:51	Anode Assessment	6.400	Anode Assessment - 25-50% Wasted	17.5	
483	19	10:01:19	Damage	6.405	Field Joint - Bitumen Missing	17.5	
484	19	10:01:55	Damage	6.418	Field Joint - Bitumen Missing	17.5	
485	19	10:02:59	Damage	6.442	Field Joint - Bitumen Missing	17.5	
486	19	10:03:36	Damage	6.455	Field Joint - Bitumen Missing	17.5	
487	19	10:04:07	Damage	6.467	Field Joint - Bitumen Missing	17.4	
488	19	10:05:14	Damage	6.492	Field Joint - Bitumen Missing	17.3	
489	19	10:07:09	Damage	6.526	Field Joint - Bitumen Missing	17.3	
490	19	10:08:16	Debris	6.533	Debris - Other	17.3	Canvas Sheet
491	19	10:09:42	Damage	6.554	Field Joint - Bitumen Missing	17.4	
492	19	10:10:17	Damage	6.568	Field Joint - Bitumen Missing	17.3	
493	19	10:26:09	Damage	6.578	Field Joint - Bitumen Missing	17.3	
494	19	10:26:48	Damage	6.590	Field Joint - Bitumen Missing	17.3	
495	19	10:27:24	Damage	6.602	Field Joint - Bitumen Missing	17.3	
496	19	10:28:01	Damage	6.614	Field Joint - Bitumen Missing	17.2	
497	19	10:28:40	Damage	6.626	Field Joint - Bitumen Missing	17.2	
498	19	10:29:18	Damage	6.639	Field Joint - Bitumen Missing	17.2	
499	19	10:29:52	Anode Assessment	6.645	Anode Assessment - 25-50% Wasted	17.2	
500	19	10:30:21	Damage	6.651	Field Joint - Bitumen Missing	17.2	
501	19	10:30:51	Damage	6.663	Field Joint - Bitumen Missing	17.2	
502	19	10:31:21	Damage	6.675	Field Joint - Bitumen Missing	17.1	
503	19	10:31:59	Damage	6.688	Field Joint - Bitumen Missing	17.1	
504	19	10:32:36	Damage	6.700	Field Joint - Bitumen Missing	17.0	
505	19	10:33:09	Damage	6.713	Field Joint - Bitumen Missing	17.1	
506	19	10:33:46	Damage	6.725	Field Joint - Bitumen Missing	16.9	
507	19	10:34:26	Damage	6.737	Field Joint - Bitumen Missing	17.0	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
508	19	10:35:00	Damage	6.750	Field Joint - Bitumen Missing	17.0	
509	19	10:35:33	Damage	6.762	Field Joint - Bitumen Missing	17.0	
510	19	10:36:10	Anode Assessment	6.769	Anode Assessment - 25-50% Wasted	17.0	
511	19	10:36:44	Damage	6.775	Field Joint - Bitumen Missing	16.9	
512	19	10:37:19	Damage	6.786	Field Joint - Bitumen Missing	17.0	
513	19	10:37:54	Damage	6.799	Field Joint - Bitumen Missing	17.0	
514	19	10:38:32	Damage	6.810	Field Joint - Bitumen Missing	16.9	
515	19	10:39:14	Damage	6.823	Field Joint - Bitumen Missing	17.0	
516	19	10:39:46	Damage	6.836	Field Joint - Bitumen Missing	16.9	
517	19	10:58:28	Damage	6.848	Field Joint - Bitumen Missing	17.0	
518	19	10:59:04	Debris	6.849	Debris - Fishing Gear	17.0	Net
519	19	11:00:41	Damage	6.873	Field Joint - Bitumen Missing	16.9	
520	19	11:01:15	Damage	6.885	Field Joint - Bitumen Missing	16.9	
521	19	11:01:45	Anode Assessment	6.893	Anode Assessment - 25-50% Wasted	16.9	
522	19	11:02:09	Damage	6.897	Field Joint - Bitumen Missing	16.8	
523	19	11:02:35	Debris	6.902	Debris - Soft Rope	16.9	
524	19	11:03:08	Damage	6.910	Field Joint - Bitumen Missing	16.8	
525	19	11:03:46	Damage	6.922	Field Joint - Bitumen Missing	16.8	
526	19	11:04:25	Damage	6.947	Field Joint - Bitumen Missing	16.8	
527	19	11:05:07	Damage	6.946	Field Joint - Bitumen Missing	16.9	
528	19	11:05:40	Debris	6.953	Debris - Soft Rope	16.8	
529	19	11:06:02	Damage	6.959	Field Joint - Bitumen Missing	16.9	
530	19	11:06:42	Damage	6.970	Field Joint - Bitumen Missing	16.9	
531	19	11:07:22	Damage	6.984	Field Joint - Bitumen Missing	16.9	
532	19	11:08:00	Damage	6.996	Field Joint - Bitumen Missing	16.9	
533	19	11:08:37	Damage	7.017	Field Joint - Bitumen Missing	16.7	
534	19	11:09:50	Anode Assessment	7.016	Anode Assessment - 25-50% Wasted	16.7	
535	19	11:10:12	Damage	7.021	Field Joint - Bitumen Missing	16.6	
536	19	11:10:55	Damage	7.033	Field Joint - Bitumen Missing	16.6	
537	19	11:11:43	Damage	7.045	Field Joint - Bitumen Missing	16.6	
538	19	11:12:25	Damage	7.058	Field Joint - Bitumen Missing	16.5	
539	19	11:13:05	Damage	7.070	Field Joint - Bitumen Missing	16.5	
540	19	11:13:44	Damage	7.082	Field Joint - Bitumen Missing	16.4	
541	19	11:14:18	Damage	7.091	Field Joint - Bitumen Missing	16.5	
542	19	11:14:40	Damage	7.095	Field Joint - Bitumen Missing	16.4	
543	19	11:15:27	Damage	7.108	Field Joint - Bitumen Missing	16.5	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
544	19	11:16:37	Damage	7.132	Field Joint - Bitumen Missing	16.5	
545	19	11:17:06	Anode Assessment	7.140	Anode Assessment - 25-50% Wasted	16.4	
546	19	11:34:07	Damage	7.144	Field Joint - Bitumen Missing	16.4	
547	19	11:35:07	Damage	7.157	Field Joint - Bitumen Missing	16.5	
548	19	11:35:39	Damage	7.177	Field Joint - Bitumen Missing	16.5	
549	19	11:36:20	Damage	7.181	Field Joint - Bitumen Missing	16.5	
550	19	11:37:00	Damage	7.196	Field Joint - Bitumen Missing	16.5	
551	19	11:37:44	Damage	7.207	Field Joint - Bitumen Missing	16.6	
552	19	11:38:23	Damage	7.219	Field Joint - Bitumen Missing	16.6	
553	19	13:14:15	Damage	7.241	Field Joint - Bitumen Missing	16.7	
554	19	13:14:53	Damage	7.244	Field Joint - Bitumen Missing	16.8	
555	19	13:15:35	Damage	7.257	Field Joint - Bitumen Missing	16.8	
556	19	13:16:03	Anode Assessment	7.264	Anode Assessment - 25-50% Wasted	16.8	
557	19	13:16:28	Damage	7.269	Field Joint - Bitumen Missing	16.8	
558	19	13:17:02	Damage	7.281	Field Joint - Bitumen Missing	16.8	
559	19	13:17:41	Damage	7.295	Field Joint - Bitumen Missing	16.8	
560	19	13:18:18	Damage	7.306	Field Joint - Bitumen Missing	16.8	
561	19	13:18:50	Damage	7.318	Field Joint - Bitumen Missing	16.8	
562	19	13:19:25	Damage	7.331	Field Joint - Bitumen Missing	16.8	
563	19	13:19:58	Damage	7.343	Field Joint - Bitumen Missing	16.7	
564	19	13:20:31	Damage	7.356	Field Joint - Bitumen Missing	16.8	
565	19	13:21:08	Damage	7.368	Field Joint - Bitumen Missing	16.7	
566	19	13:21:39	Damage	7.381	Field Joint - Bitumen Missing	16.7	
567	19	13:22:04	Anode Assessment	7.387	Anode Assessment - 25-50% Wasted	16.7	
568	19	13:22:30	Damage	7.393	Field Joint - Bitumen Missing	16.7	
569	19	13:23:05	Damage	7.405	Field Joint - Bitumen Missing	16.7	
570	19	13:24:16	Damage	7.430	Field Joint - Bitumen Missing	16.6	
571	19	13:24:54	Damage	7.442	Field Joint - Bitumen Missing	16.8	
572	19	13:25:34	Damage	7.454	Field Joint - Bitumen Missing	16.6	
573	19	13:26:22	Damage	7.466	Field Joint - Bitumen Missing	16.4	
574	19	13:27:07	Damage	7.479	Field Joint - Bitumen Missing	16.4	
575	19	13:27:45	Damage	7.491	Field Joint - Bitumen Missing	16.3	
576	19	13:28:23	Damage	7.504	Field Joint - Bitumen Missing	16.2	
577	19	13:28:52	Anode Assessment	7.511	Anode Assessment - 25-50% Wasted	16.2	
578	19	13:29:42	Damage	7.516	Field Joint - Bitumen Missing	16.2	
579	19	13:30:19	Damage	7.529	Field Joint - Bitumen Missing	16.1	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
580	19	13:31:00	Damage	7.541	Field Joint - Bitumen Missing	16.2	
581	19	13:31:39	Damage	7.554	Field Joint - Bitumen Missing	16.2	
582	19	13:32:18	Debris	7.562	Debris - Soft Rope	16.1	
583	19	13:32:41	Damage	7.567	Field Joint - Bitumen Missing	16.2	
584	19	13:33:21	Damage	7.578	Field Joint - Bitumen Missing	16.2	
585	19	13:34:00	Damage	7.591	Field Joint - Bitumen Missing	16.2	
586	19	13:34:37	Damage	7.604	Field Joint - Bitumen Missing	16.2	
587	19	13:35:14	Damage	7.616	Field Joint - Bitumen Missing	16.2	
588	19	13:35:56	Damage	7.629	Field Joint - Bitumen Missing	16.3	
589	19	13:36:32	Anode Assessment	7.636	Anode Assessment - 25-50% Wasted	16.2	
590	19	13:37:08	Damage	7.641	Field Joint - Bitumen Missing	16.2	
591	19	13:37:41	Damage	7.653	Field Joint - Bitumen Missing	16.2	
592	19	13:39:11	Damage	7.678	Field Joint - Bitumen Missing	16.4	
593	19	13:40:00	Damage	7.690	Field Joint - Bitumen Missing	16.4	
594	19	13:40:38	Damage	7.702	Field Joint - Bitumen Missing	16.4	
595	19	13:41:19	Damage	7.715	Field Joint - Bitumen Missing	16.4	
596	19	13:41:58	Damage	7.727	Field Joint - Bitumen Missing	16.4	
597	19	13:42:42	Damage	7.740	Field Joint - Bitumen Missing	16.4	
598	19	13:43:19	Debris	7.745	Debris - Soft Rope	16.4	
599	19	13:44:00	Damage	7.754	Field Joint - Bitumen Missing	16.5	
600	19	13:44:36	Anode Assessment	7.759	Anode Assessment - 25-50% Wasted	16.4	
601	19	13:49:23	Damage	7.764	Field Joint - Bitumen Missing	16.5	
602	19	13:50:04	Damage	7.777	Field Joint - Bitumen Missing	16.5	
603	19	13:50:41	Damage	7.788	Field Joint - Bitumen Missing	16.6	
604	19	13:51:17	Damage	7.801	Field Joint - Bitumen Missing	16.5	
605	19	13:51:53	Damage	7.813	Field Joint - Bitumen Missing	16.6	
606	19	13:52:24	Damage	7.826	Field Joint - Bitumen Missing	16.7	
607	19	14:07:16	Debris	7.835	Debris - Fishing Gear	16.7	
608	19	14:08:27	Damage	7.850	Field Joint - Bitumen Missing	16.8	
609	19	14:08:58	Debris	7.857	Debris - Fishing Gear	16.8	
610	19	14:09:57	Damage	7.876	Field Joint - Bitumen Missing	16.9	
611	19	14:10:26	Anode Assessment	7.882	Anode Assessment - 25-50% Wasted	16.9	
612	19	14:10:58	Damage	7.888	Field Joint - Bitumen Missing	16.9	
613	19	14:11:33	Damage	7.900	Field Joint - Bitumen Missing	17.0	
614	19	14:12:12	Damage	7.913	Field Joint - Bitumen Missing	17.0	
615	19	14:12:52	Damage	7.926	Field Joint - Bitumen Missing	17.0	
616	19	14:13:25	Damage	7.938	Field Joint - Bitumen Missing	17.0	



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NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
617	19	14:13:58	Damage	7.950	Field Joint - Bitumen Missing	17.0	
618	19	14:14:29	Damage	7.962	Field Joint - Bitumen Missing	17.1	
619	19	14:15:03	Damage	7.975	Field Joint - Bitumen Missing	17.0	
620	19	14:15:37	Damage	7.987	Field Joint - Bitumen Missing	16.9	
621	19	14:16:10	Damage	8.000	Field Joint - Bitumen Missing	16.9	
622	19	14:17:42	Anode Assessment	8.008	Anode Assessment - 25-50% Wasted	16.8	
623	19	14:23:50	Damage	8.037	Field Joint - Bitumen Missing	16.8	
624	19	14:24:29	Damage	8.050	Field Joint - Bitumen Missing	16.8	
625	19	14:25:08	Damage	8.062	Field Joint - Bitumen Missing	16.9	
626	19	14:25:51	Damage	8.075	Field Joint - Bitumen Missing	17.0	
627	19	14:38:24	Damage	8.088	Field Joint - Bitumen Missing	16.9	
628	19	14:39:00	Damage	8.100	Field Joint - Bitumen Missing	16.9	
629	19	14:39:51	Damage	8.113	Field Joint - Bitumen Missing	17.0	
630	19	14:40:27	Damage	8.126	Field Joint - Bitumen Missing	17.0	
631	19	14:41:01	Anode Assessment	8.132	Anode Assessment - 25-50% Wasted	16.9	
632	19	14:41:48	Damage	8.137	Field Joint - Bitumen Missing	17.0	
633	19	14:42:31	Damage	8.150	Field Joint - Bitumen Missing	16.9	
634	19	14:43:12	Damage	8.162	Field Joint - Bitumen Missing	16.9	
635	19	14:43:47	Damage	8.174	Field Joint - Bitumen Missing	16.9	
636	19	14:44:12	Debris	8.175	Debris - Fishing Gear	17.0	
637	19	14:45:03	Damage	8.186	Field Joint - Bitumen Missing	16.9	
638	19	14:45:55	Damage	8.199	Field Joint - Bitumen Missing	16.9	
639	19	14:46:40	Damage	8.213	Field Joint - Bitumen Missing	17.1	
640	19	14:47:31	Damage	8.224	Field Joint - Bitumen Missing	17.1	
641	19	14:48:16	Debris	8.233	Debris - Soft Rope	17.1	
642	19	14:48:36	Damage	8.236	Field Joint - Bitumen Missing	17.0	
643	19	14:49:21	Damage	8.249	Field Joint - Bitumen Missing	17.0	
644	19	14:49:50	Debris	8.253	Debris - Fishing Gear	17.0	
645	19	14:50:15	Anode Assessment	8.258	Anode Assessment - 25-50% Wasted	17.0	
646	19	14:50:53	Damage	8.260	Field Joint - Bitumen Missing	17.0	
647	19	14:51:48	Damage	8.273	Field Joint - Bitumen Missing	17.0	
648	19	14:52:56	Damage	8.285	Field Joint - Bitumen Missing	17.1	
649	19	14:53:41	Damage	8.298	Field Joint - Bitumen Missing	17.0	
650	19	14:54:18	Damage	8.311	Field Joint - Bitumen Missing	17.0	
651	19	14:55:09	Damage	8.323	Field Joint - Bitumen Missing	17.0	
652	19	14:55:57	Damage	8.335	Field Joint - Bitumen Missing	17.3	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
653	19	14:56:33	Damage	8.348	Field Joint - Bitumen Missing	17.0	
654	19	14:57:23	Debris	8.354	Debris - Fishing Gear	17.0	
655	19	15:04:21	Damage	8.373	Field Joint - Bitumen Missing	16.9	
656	19	15:05:02	Anode Assessment	8.380	Anode Assessment - 25-50% Wasted	17.0	
657	19	15:05:37	Damage	8.385	Field Joint - Bitumen Missing	16.9	
658	19	15:06:22	Damage	8.397	Field Joint - Bitumen Missing	16.9	
659	19	15:07:03	Damage	8.410	Field Joint - Bitumen Missing	16.9	
660	19	15:07:51	Damage	8.422	Field Joint - Bitumen Missing	17.0	
661	19	15:08:36	Damage	8.435	Field Joint - Bitumen Missing	17.0	
662	19	15:09:14	Damage	8.447	Field Joint - Bitumen Missing	17.0	
663	19	15:10:14	Damage	8.461	Field Joint - Bitumen Missing	16.9	
664	19	15:11:07	Damage	8.472	Field Joint - Bitumen Missing	16.9	
665	19	15:11:52	Damage	8.484	Field Joint - Bitumen Missing	17.0	
666	19	15:12:29	Damage	8.497	Field Joint - Bitumen Missing	16.8	
667	19	15:16:44	Damage	8.508	Field Joint - Bitumen Missing	16.8	
668	19	15:17:25	Damage	8.521	Field Joint - Bitumen Missing	16.9	
669	19	15:18:20	Damage	8.545	Field Joint - Bitumen Missing	16.9	
670	19	15:19:20	Damage	8.547	Field Joint - Bitumen Missing	16.8	
671	19	15:20:02	Damage	8.559	Field Joint - Bitumen Missing	17.0	
672	19	15:20:58	Damage	8.571	Field Joint - Bitumen Missing	16.8	
673	19	15:21:48	Damage	8.585	Field Joint - Bitumen Missing	16.9	
674	19	15:22:31	Damage	8.609	Field Joint - Bitumen Missing	16.8	
675	19	15:23:13	Damage	8.609	Field Joint - Bitumen Missing	16.8	
676	19	15:23:40	Debris	8.609	Debris - Fishing Gear	16.9	
677	19	15:24:41	Damage	8.621	Field Joint - Bitumen Missing	16.8	
678	19	15:25:12	Anode Assessment	8.627	Anode Assessment - 25-50% Wasted	16.8	
679	19	15:25:49	Damage	8.633	Field Joint - Bitumen Missing	17.1	
680	19	15:26:28	Damage	8.645	Field Joint - Bitumen Missing	16.9	
681	19	15:29:19	Damage	8.657	Field Joint - Bitumen Missing	16.9	
682	19	15:30:15	Damage	8.670	Field Joint - Bitumen Missing	16.9	
683	19	15:30:56	Damage	8.682	Field Joint - Bitumen Missing	17.0	
684	19	15:31:40	Damage	8.695	Field Joint - Bitumen Missing	17.0	
685	19	15:32:24	Damage	8.707	Field Joint - Bitumen Missing	16.7	
686	19	15:33:00	Damage	8.719	Field Joint - Bitumen Missing	16.8	
687	19	15:33:52	Damage	8.731	Field Joint - Bitumen Missing	16.9	
688	19	15:34:36	Damage	8.742	Field Joint - Bitumen Missing	16.7	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
689	19	15:35:16	Anode Assessment	8.749	Anode Assessment - 25-50% Wasted	16.8	
690	19	15:35:55	Damage	8.754	Field Joint - Bitumen Missing	16.7	
691	19	16:07:46	Damage	8.854	Field Joint - Bitumen Missing	16.9	
692	19	16:08:32	Damage	8.865	Field Joint - Bitumen Missing	16.9	
693	19	16:08:55	Anode Assessment	8.871	Anode Assessment - 25-50% Wasted	16.9	
694	19	16:09:18	Damage	8.877	Field Joint - Bitumen Missing	16.9	
695	19	16:09:48	Damage	8.889	Field Joint - Bitumen Missing	17.0	
696	19	16:10:18	Damage	8.902	Field Joint - Bitumen Missing	17.0	
697	19	16:10:50	Damage	8.914	Field Joint - Bitumen Missing	17.0	
698	19	16:11:26	Damage	8.931	Field Joint - Bitumen Missing	17.2	
699	19	16:12:10	Damage	8.940	Field Joint - Bitumen Missing	17.2	
700	19	16:13:13	Damage	8.951	Field Joint - Bitumen Missing	17.3	
701	19	16:14:02	Damage	8.964	Field Joint - Bitumen Missing	17.2	
702	19	16:14:43	Damage	8.976	Field Joint - Bitumen Missing	17.2	
703	19	16:15:16	Damage	8.988	Field Joint - Bitumen Missing	17.2	
704	19	16:15:45	Anode Assessment	8.995	Anode Assessment - 25-50% Wasted	17.2	
705	19	16:16:06	Damage	9.001	Field Joint - Bitumen Missing	17.2	
706	19	16:16:57	Debris	9.010	Debris - Hard Debris	17.2	
707	19	16:19:27	Debris	9.036	Debris - Wire Rope	17.0	
708	22	09:12:43	Damage	9.064	Field Joint - Bitumen Missing	16.9	
709	22	09:13:49	Debris	9.073	Debris - Fishing Gear	16.9	
710	22	09:14:11	Damage	9.076	Field Joint - Bitumen Missing	16.9	
711	22	09:15:10	Damage	9.088	Field Joint - Bitumen Missing	16.9	
712	22	09:15:56	Damage	9.101	Field Joint - Bitumen Missing	16.9	
713	22	09:16:57	Damage	9.114	Field Joint - Bitumen Missing	16.9	
714	22	09:17:32	Anode Assessment	9.121	Anode Assessment - 25-50% Wasted	16.9	
715	22	09:18:16	Damage	9.125	Field Joint - Bitumen Missing	16.9	
716	22	09:19:06	Damage	9.138	Field Joint - Bitumen Missing	16.9	
717	22	09:20:03	Damage	9.150	Field Joint - Bitumen Missing	16.9	
718	22	09:20:57	Damage	9.162	Field Joint - Bitumen Missing	16.9	
719	22	09:21:42	Damage	9.175	Field Joint - Bitumen Missing	16.9	
720	22	09:22:27	Damage	9.187	Field Joint - Bitumen Missing	16.9	
721	22	09:23:14	Damage	9.199	Field Joint - Bitumen Missing	16.9	
722	22	09:23:40	Debris	9.204	Debris - Fishing Gear	16.9	
723	22	09:24:09	Damage	9.211	Field Joint - Bitumen Missing	16.9	
724	22	09:25:11	Damage	9.225	Field Joint - Bitumen Missing	16.9	
725	22	09:25:59	Damage	9.237	Field Joint - Bitumen Missing	16.9	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
726	22	09:26:37	Anode Assessment	9.244	Anode Assessment - 25-50% Wasted	16.9	
727	22	09:27:17	Debris	9.247	Debris - Wire Rope	16.9	
728	22	09:27:40	Damage	9.250	Field Joint - Bitumen Missing	16.9	
729	22	09:28:20	Debris	9.255	Debris - Fishing Gear	16.9	
730	22	09:28:53	Damage	9.261	Field Joint - Bitumen Missing	16.9	
731	22	09:29:42	Damage	9.274	Field Joint - Bitumen Missing	16.9	
732	22	09:30:25	Damage	9.286	Field Joint - Bitumen Missing	16.9	
733	22	09:31:07	Damage	9.298	Field Joint - Bitumen Missing	16.9	
734	22	09:32:02	Damage	9.311	Field Joint - Bitumen Missing	16.9	
735	22	09:32:54	Damage	9.324	Field Joint - Bitumen Missing	16.9	
736	22	09:33:45	Damage	9.336	Field Joint - Bitumen Missing	16.9	
737	22	09:34:31	Damage	9.349	Field Joint - Bitumen Missing	16.9	
738	22	09:35:10	Damage	9.361	Field Joint - Bitumen Missing	16.9	
739	22	09:35:41	Anode Assessment	9.369	Anode Assessment - 25-50% Wasted	16.9	
740	22	09:36:07	Damage	9.374	Field Joint - Bitumen Missing	16.9	
741	22	09:36:46	Damage	9.386	Field Joint - Bitumen Missing	16.9	
742	22	09:37:28	Damage	9.398	Field Joint - Bitumen Missing	16.9	
743	22	09:38:13	Damage	9.410	Field Joint - Bitumen Missing	16.9	
744	22	09:38:50	Debris	9.417	Debris - Soft Rope	16.9	
745	22	09:39:10	Damage	9.423	Field Joint - Bitumen Missing	16.9	
746	22	09:39:50	Damage	9.435	Field Joint - Bitumen Missing	16.9	
747	22	09:40:40	Damage	9.448	Field Joint - Bitumen Missing	16.9	
748	22	09:41:22	Damage	9.460	Field Joint - Bitumen Missing	16.9	
749	22	09:42:05	Damage	9.472	Field Joint - Bitumen Missing	16.9	
750	22	09:42:50	Damage	9.484	Field Joint - Bitumen Missing	16.9	
751	22	09:43:17	Anode Assessment	9.491	Anode Assessment - 25-50% Wasted	16.9	
752	22	09:43:46	Damage	9.496	Field Joint - Bitumen Missing	16.9	
753	22	09:44:29	Damage	9.509	Field Joint - Bitumen Missing	16.9	
754	22	09:45:13	Damage	9.521	Field Joint - Bitumen Missing	16.9	
755	22	09:45:46	Damage	9.533	Field Joint - Bitumen Missing	16.9	
756	22	09:46:20	Damage	9.546	Field Joint - Bitumen Missing	16.9	
757	22	09:46:51	Damage	9.559	Field Joint - Bitumen Missing	16.9	
758	22	09:47:21	Damage	9.571	Field Joint - Bitumen Missing	16.9	
759	22	09:47:42	Debris	9.572	Debris - Soft Rope	16.9	
760	22	09:48:20	Damage	9.583	Field Joint - Bitumen Missing	16.9	
761	22	09:48:52	Damage	9.596	Field Joint - Bitumen Missing	16.9	
762	22	09:49:33	Damage	9.609	Field Joint - Bitumen Missing	16.9	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
763	22	09:50:38	Damage	9.633	Field Joint - Bitumen Missing	16.9	
764	22	09:51:14	Damage	9.646	Field Joint - Bitumen Missing	16.9	
765	22	09:51:46	Damage	9.658	Field Joint - Bitumen Missing	16.9	
766	22	09:52:38	Debris	9.674	Debris - Fishing Gear	16.9	
767	22	09:53:17	Debris	9.682	Debris - Fishing Gear	16.9	
768	22	09:53:58	Damage	9.695	Field Joint - Bitumen Missing	16.9	
769	22	09:54:36	Damage	9.708	Field Joint - Bitumen Missing	16.9	
770	22	09:55:15	Damage	9.720	Field Joint - Bitumen Missing	16.9	
771	22	09:55:59	Debris	9.732	Debris - Fishing Gear	16.9	
772	22	09:56:18	Debris	9.736	Debris - Fishing Gear	16.9	
773	22	09:56:54	Damage	9.744	Field Joint - Bitumen Missing	16.9	
774	22	09:57:12	Debris	9.749	Debris - Fishing Gear	16.9	
775	22	09:57:37	Damage	9.757	Field Joint - Bitumen Missing	16.9	
776	22	09:58:51	Damage	9.782	Field Joint - Bitumen Missing	16.9	
777	22	09:59:29	Damage	9.794	Field Joint - Bitumen Missing	16.9	
778	22	10:00:07	Damage	9.806	Field Joint - Bitumen Missing	16.9	
779	22	10:00:47	Damage	9.818	Field Joint - Bitumen Missing	16.9	
780	22	10:01:25	Damage	9.831	Field Joint - Bitumen Missing	16.9	
781	22	10:02:01	Damage	9.844	Field Joint - Bitumen Missing	16.9	
782	22	10:02:36	Damage	9.856	Field Joint - Bitumen Missing	16.9	
783	22	10:03:13	Anode Assessment	9.863	Anode Assessment - 25-50% Wasted	16.9	
784	22	10:04:06	Damage	9.881	Field Joint - Bitumen Missing	16.9	
785	22	10:04:37	Damage	9.893	Field Joint - Bitumen Missing	16.9	
786	22	10:05:09	Debris	9.902	Debris - Fishing Gear	16.9	
787	22	10:05:23	Damage	9.906	Field Joint - Bitumen Missing	16.9	
788	22	10:05:54	Damage	9.917	Field Joint - Bitumen Missing	16.9	
789	22	10:06:26	Damage	9.930	Field Joint - Bitumen Missing	16.9	
790	22	10:06:58	Damage	9.942	Field Joint - Bitumen Missing	16.9	
791	22	10:07:37	Damage	9.955	Field Joint - Bitumen Missing	16.9	
792	22	10:08:22	Debris	9.966	Debris - Soft Rope	16.9	
793	22	10:08:30	Damage	9.968	Field Joint - Bitumen Missing	16.9	
794	22	10:09:05	Damage	9.980	Field Joint - Bitumen Missing	16.9	
795	22	10:09:28	Anode Assessment	9.987	Anode Assessment - 25-50% Wasted	16.9	
796	22	10:09:50	Damage	9.992	Field Joint - Bitumen Missing	16.9	
797	22	10:10:35	Damage	10.004	Field Joint - Bitumen Missing	16.9	
798	22	10:11:22	Damage	10.017	Field Joint - Bitumen Missing	16.9	
799	22	10:12:05	Damage	10.029	Field Joint - Bitumen Missing	16.9	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
800	22	10:12:45	Damage	10.041	Field Joint - Bitumen Missing	16.9	
801	22	10:13:55	Damage	10.066	Field Joint - Bitumen Missing	16.9	
802	22	10:14:28	Damage	10.079	Field Joint - Bitumen Missing	16.9	
803	22	10:15:07	Damage	10.091	Field Joint - Bitumen Missing	16.9	
804	22	10:15:45	Damage	10.104	Field Joint - Bitumen Missing	16.9	
805	22	10:16:16	Anode Assessment	10.111	Anode Assessment - 25-50% Wasted	16.9	
806	22	10:17:00	Damage	10.116	Field Joint - Bitumen Missing	16.9	
807	22	10:17:35	Damage	10.129	Field Joint - Bitumen Missing	16.9	
808	22	10:18:24	Damage	10.142	Field Joint - Bitumen Missing	16.9	
809	22	10:19:44	Damage	10.166	Field Joint - Bitumen Missing	16.9	
810	22	10:20:32	Damage	10.179	Field Joint - Bitumen Missing	16.9	
811	22	10:21:17	Damage	10.192	Field Joint - Bitumen Missing	16.9	
812	22	10:21:57	Damage	10.204	Field Joint - Bitumen Missing	16.9	
813	22	10:22:39	Damage	10.217	Field Joint - Bitumen Missing	16.9	
814	22	10:23:20	Damage	10.229	Field Joint - Bitumen Missing	16.9	
815	22	10:23:49	Anode Assessment	10.236	Anode Assessment - 25-50% Wasted	16.9	
816	22	10:24:40	Damage	10.241	Field Joint - Bitumen Missing	16.9	
817	22	10:25:21	Damage	10.254	Field Joint - Bitumen Missing	16.9	
818	22	10:26:03	Damage	10.270	Field Joint - Bitumen Missing	16.9	
819	22	10:26:56	Debris	10.273	Debris - Fishing Gear	16.9	
820	22	10:28:21	Damage	10.279	Field Joint - Bitumen Missing	16.9	
821	22	10:29:11	Damage	10.291	Field Joint - Bitumen Missing	16.9	
822	22	10:29:55	Damage	10.303	Field Joint - Bitumen Missing	16.9	
823	22	10:30:40	Damage	10.316	Field Joint - Bitumen Missing	16.9	
824	22	10:31:05	Debris	10.319	Debris - Fishing Gear	16.9	
825	22	10:31:42	Damage	10.329	Field Joint - Bitumen Missing	16.9	
826	22	10:32:24	Damage	10.340	Field Joint - Bitumen Missing	16.9	
827	22	10:33:12	Damage	10.353	Field Joint - Bitumen Missing	16.9	
828	22	10:33:43	Anode Assessment	10.360	Anode Assessment - 25-50% Wasted	16.9	
829	22	10:34:08	Damage	10.365	Field Joint - Bitumen Missing	16.9	
830	22	10:34:46	Damage	10.378	Field Joint - Bitumen Missing	16.9	
831	22	10:35:28	Damage	10.390	Field Joint - Bitumen Missing	16.9	
832	22	10:36:07	Damage	10.403	Field Joint - Bitumen Missing	16.9	
833	22	10:37:13	Damage	10.427	Field Joint - Bitumen Missing	16.9	
834	22	10:37:43	Damage	10.439	Field Joint - Bitumen Missing	16.9	
835	22	10:38:15	Damage	10.452	Field Joint - Bitumen Missing	16.9	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
836	22	10:38:46	Damage	10.465	Field Joint - Bitumen Missing	16.9	
837	22	10:39:17	Damage	10.476	Field Joint - Bitumen Missing	16.9	
838	22	10:39:45	Anode Assessment	10.484	Anode Assessment - 25-50% Wasted	16.9	
839	22	10:40:02	Damage	10.489	Field Joint - Bitumen Missing	16.9	
840	22	10:40:33	Damage	10.502	Field Joint - Bitumen Missing	16.9	
841	22	10:41:09	Damage	10.514	Field Joint - Bitumen Missing	16.9	
842	22	10:41:46	Damage	10.526	Field Joint - Bitumen Missing	16.9	
843	22	10:42:22	Damage	10.538	Field Joint - Bitumen Missing	16.9	
844	22	10:42:57	Damage	10.551	Field Joint - Bitumen Missing	16.9	
845	22	10:43:59	Damage	10.563	Field Joint - Bitumen Missing	16.9	
846	22	10:44:43	Damage	10.575	Field Joint - Bitumen Missing	16.9	
847	22	10:45:21	Damage	10.588	Field Joint - Bitumen Missing	16.9	
848	22	10:45:58	Debris	10.597	Debris - Wire Rope	16.9	
849	22	10:46:19	Damage	10.600	Field Joint - Bitumen Missing	16.9	
850	22	10:46:51	Anode Assessment	10.607	Anode Assessment - 25-50% Wasted	16.9	
851	22	10:47:16	Damage	10.612	Field Joint - Bitumen Missing	16.9	
852	22	10:48:22	Damage	10.638	Field Joint - Bitumen Missing	16.9	
853	22	10:48:57	Damage	10.650	Field Joint - Bitumen Missing	16.9	
854	22	10:49:40	Damage	10.663	Field Joint - Bitumen Missing	16.9	
855	22	10:50:20	Damage	10.675	Field Joint - Bitumen Missing	16.9	
856	22	10:51:05	Damage	10.687	Field Joint - Bitumen Missing	16.9	
857	22	10:51:44	Damage	10.700	Field Joint - Bitumen Missing	16.9	
858	22	10:52:33	Damage	10.713	Field Joint - Bitumen Missing	16.9	
859	22	10:53:20	Damage	10.726	Field Joint - Bitumen Missing	16.9	
860	22	10:53:48	Anode Assessment	10.733	Anode Assessment - 25-50% Wasted	16.9	
861	22	10:54:22	Damage	10.738	Field Joint - Bitumen Missing	16.9	
862	22	10:54:54	Damage	10.750	Field Joint - Bitumen Missing	16.9	
863	22	10:55:34	Damage	10.762	Field Joint - Bitumen Missing	16.9	
864	22	10:56:20	Damage	10.777	Field Joint - Bitumen Missing	16.9	
865	22	10:57:02	Damage	10.788	Field Joint - Bitumen Missing	16.9	
866	22	10:57:37	Damage	10.801	Field Joint - Bitumen Missing	16.9	
867	22	10:58:09	Damage	10.813	Field Joint - Bitumen Missing	16.9	
868	22	10:59:25	Damage	10.838	Field Joint - Bitumen Missing	16.9	
869	22	10:59:59	Damage	10.850	Field Joint - Bitumen Missing	16.9	
870	22	11:00:26	Anode Assessment	10.857	Anode Assessment - 25-50% Wasted	16.9	
871	22	11:03:41	Damage	10.863	Field Joint - Bitumen Missing	16.9	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
872	22	11:04:12	Damage	10.876	Field Joint - Bitumen Missing	16.9	
873	22	11:04:48	Damage	10.888	Field Joint - Bitumen Missing	16.9	
874	22	11:05:26	Damage	10.899	Field Joint - Bitumen Missing	16.9	
875	22	11:05:56	Damage	10.913	Field Joint - Bitumen Missing	16.9	
876	22	11:06:30	Damage	10.924	Field Joint - Bitumen Missing	16.9	
877	22	11:07:02	Damage	10.937	Field Joint - Bitumen Missing	16.9	
878	22	11:07:34	Damage	10.950	Field Joint - Bitumen Missing	16.9	
879	22	11:08:14	Damage	10.962	Field Joint - Bitumen Missing	16.9	
880	22	11:08:48	Damage	10.974	Field Joint - Bitumen Missing	16.9	
881	22	11:09:09	Anode Assessment	10.981	Anode Assessment - 25-50% Wasted	16.9	
882	22	11:09:33	Damage	10.986	Field Joint - Bitumen Missing	16.9	
883	22	11:10:01	Damage	10.999	Field Joint - Bitumen Missing	16.9	
884	22	11:10:43	Damage	11.011	Field Joint - Bitumen Missing	16.9	
885	22	11:11:14	Damage	11.024	Field Joint - Bitumen Missing	16.9	
886	22	11:11:50	Debris	11.033	Debris - Wire Rope	16.9	
887	22	11:12:08	Debris	11.037	Debris - Fishing Gear	16.9	
888	22	11:12:35	Damage	11.048	Field Joint - Bitumen Missing	16.9	
889	22	11:15:06	Anode Assessment	11.105	Anode Assessment - 25-50% Wasted	16.9	
890	22	11:15:23	Damage	11.111	Field Joint - Bitumen Missing	16.9	
891	22	11:16:19	Damage	11.135	Field Joint - Bitumen Missing	16.9	
892	22	11:17:25	Damage	11.160	Field Joint - Bitumen Missing	16.9	
893	22	11:18:00	Damage	11.173	Field Joint - Bitumen Missing	16.9	
894	22	11:18:39	Damage	11.185	Field Joint - Bitumen Missing	16.9	
895	22	11:19:15	Damage	11.198	Field Joint - Bitumen Missing	16.9	
896	22	11:19:55	Damage	11.210	Field Joint - Bitumen Missing	16.9	
897	22	11:20:35	Debris	11.219	Debris - Soft Rope	16.9	
898	22	11:20:55	Damage	11.223	Field Joint - Bitumen Missing	16.9	
899	22	11:21:22	Anode Assessment	11.229	Anode Assessment - 25-50% Wasted	16.9	
900	22	11:21:54	Damage	11.235	Field Joint - Bitumen Missing	16.9	
901	22	11:23:04	Damage	11.259	Field Joint - Bitumen Missing	16.9	
902	22	11:24:19	Damage	11.285	Field Joint - Bitumen Missing	16.9	
903	22	11:24:53	Damage	11.296	Field Joint - Bitumen Missing	16.9	
904	22	12:40:29	Damage	11.320	Field Joint - Bitumen Missing	16.9	
905	22	12:42:24	Anode Assessment	11.352	Anode Assessment - 25-50% Wasted	16.9	
906	22	12:43:22	Damage	11.370	Field Joint - Bitumen Missing	16.9	
907	22	12:44:01	Damage	11.382	Field Joint - Bitumen Missing	16.9	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
908	22	12:45:54	Damage	11.418	Field Joint - Bitumen Missing	16.9	
909	22	12:46:38	Damage	11.430	Field Joint - Bitumen Missing	16.9	
910	22	12:47:23	Damage	11.442	Field Joint - Bitumen Missing	16.9	
911	22	12:48:15	Damage	11.454	Field Joint - Bitumen Missing	16.9	
912	22	12:49:35	Anode Assessment	11.474	Anode Assessment - 25-50% Wasted	16.9	
913	22	12:52:34	Damage	11.517	Field Joint - Bitumen Missing	16.9	
914	22	12:53:15	Damage	11.529	Field Joint - Bitumen Missing	16.9	
915	22	12:54:41	Debris	11.534	Debris - Fish Trap	16.9	
916	22	12:55:32	Damage	11.541	Field Joint - Bitumen Missing	16.9	
917	22	12:57:47	Damage	11.554	Field Joint - Bitumen Missing	16.9	
918	22	12:58:36	Damage	11.566	Field Joint - Bitumen Missing	16.9	
919	22	12:59:25	Damage	11.579	Field Joint - Bitumen Missing	16.9	
920	22	13:00:10	Damage	11.591	Field Joint - Bitumen Missing	16.9	
921	22	13:00:39	Anode Assessment	11.598	Anode Assessment - 25-50% Wasted	16.9	
922	22	13:01:49	Damage	11.616	Field Joint - Bitumen Missing	16.9	
923	22	13:02:31	Damage	11.628	Field Joint - Bitumen Missing	16.9	
924	22	13:03:16	Damage	11.641	Field Joint - Bitumen Missing	16.9	
925	22	13:04:01	Damage	11.652	Field Joint - Bitumen Missing	16.9	
926	22	13:04:49	Damage	11.664	Field Joint - Bitumen Missing	16.9	
927	22	13:05:39	Damage	11.677	Field Joint - Bitumen Missing	16.9	
928	22	13:06:24	Damage	11.689	Field Joint - Bitumen Missing	16.9	
929	22	13:07:12	Damage	11.702	Field Joint - Bitumen Missing	16.9	
930	22	13:07:57	Damage	11.714	Field Joint - Bitumen Missing	16.9	
931	22	13:08:25	Anode Assessment	11.722	Anode Assessment - 25-50% Wasted	16.9	
932	22	13:08:46	Damage	11.727	Field Joint - Bitumen Missing	16.9	
933	22	13:09:32	Field Joint	11.739	Field Joint - Bitumen Missing	16.9	
934	22	13:10:13	Field Joint	11.752	Field Joint - Bitumen Missing	16.9	
935	22	13:11:04	Field Joint	11.765	Field Joint - Bitumen Missing	16.9	
936	22	13:11:46	Field Joint	11.778	Field Joint - Bitumen Missing	16.9	
937	22	13:12:28	Field Joint	11.789	Field Joint - Bitumen Missing	16.9	
938	22	13:14:01	Field Joint	11.814	Field Joint - Bitumen Missing	16.9	
939	22	13:14:50	Field Joint	11.825	Field Joint - Bitumen Missing	16.9	
940	22	13:15:35	Field Joint	11.837	Field Joint - Bitumen Missing	16.9	
941	22	13:15:56	Anode Assessment	11.844	Anode Assessment - 25-50% Wasted	16.9	
942	22	13:16:22	Field Joint	11.850	Field Joint - Bitumen Missing	16.9	
943	22	13:16:59	Field Joint	11.862	Field Joint - Bitumen Missing	16.9	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
944	22	13:18:21	Field Joint	11.887	Field Joint - Bitumen Missing	16.9	
945	22	13:19:02	Field Joint	11.900	Field Joint - Bitumen Missing	16.9	
946	22	13:19:46	Field Joint	11.911	Field Joint - Bitumen Missing	16.9	
947	22	13:20:29	Field Joint	11.924	Field Joint - Bitumen Missing	16.9	
948	22	13:21:17	Field Joint	11.937	Field Joint - Bitumen Missing	16.9	
949	22	13:21:55	Field Joint	11.948	Field Joint - Bitumen Missing	16.9	
950	22	13:22:45	Field Joint	11.961	Field Joint - Bitumen Missing	16.9	
951	22	13:23:08	Field Joint	11.967	Field Joint - Bitumen Missing	16.9	
952	22	13:23:36	Field Joint	11.974	Field Joint - Bitumen Missing	16.9	
953	22	13:24:17	Field Joint	11.986	Field Joint - Bitumen Missing	16.9	
954	22	13:25:22	Field Joint	11.998	Field Joint - Bitumen Missing	16.9	
955	22	13:26:20	Field Joint	12.010	Field Joint - Bitumen Missing	16.9	
956	22	13:27:45	Field Joint	12.022	Field Joint - Bitumen Missing	16.9	
957	22	13:27:51	Debris	12.023	Debris - Soft Debris	16.9	Hose section
958	22	13:28:24	Field Joint	12.035	Field Joint - Bitumen Missing	16.9	
959	22	13:29:05	Field Joint	12.049	Field Joint - Bitumen Missing	16.9	
960	22	13:29:55	Debris	12.062	Debris - Fishing Gear	16.9	
961	22	13:30:37	Field Joint	12.074	Field Joint - Bitumen Missing	16.9	
962	22	13:31:12	Field Joint	12.085	Field Joint - Bitumen Missing	16.9	
963	22	13:31:37	Anode Assessment	12.092	Anode Assessment - 25-50% Wasted	16.9	
964	22	13:31:54	Debris	12.095	Debris - Fish Trap	16.9	Sitting on top of pipeline
965	22	13:33:32	Field Joint	12.110	Field Joint - Bitumen Missing	16.9	
966	22	13:34:15	Field Joint	12.123	Field Joint - Bitumen Missing	16.9	
967	22	13:35:06	Field Joint	12.134	Field Joint - Bitumen Missing	16.9	
968	22	13:35:52	Field Joint	12.147	Field Joint - Bitumen Missing	16.9	
969	22	13:36:34	Field Joint	12.159	Field Joint - Bitumen Missing	16.9	
970	22	13:37:16	Field Joint	12.172	Field Joint - Bitumen Missing	16.9	
971	22	13:38:06	Field Joint	12.185	Field Joint - Bitumen Missing	16.9	
972	22	13:38:46	Debris	12.194	Debris - Soft Rope	16.9	
973	22	13:39:03	Field Joint	12.197	Field Joint - Bitumen Missing	16.9	
974	22	13:40:50	Damage	12.215	Field Joint - Bitumen Missing	16.9	
975	22	13:44:46	Damage	12.234	Field Joint - Bitumen Missing	16.9	
976	22	13:46:58	Debris	12.270	Debris - Fishing Gear	16.9	
977	22	13:47:54	Damage	12.284	Field Joint - Bitumen Missing	16.9	
978	22	13:49:21	Damage	12.308	Field Joint - Bitumen Missing	16.9	
979	22	13:50:09	Damage	12.320	Field Joint - Bitumen Missing	16.9	
980	22	13:51:21	Damage	12.333	Field Joint - Bitumen Missing	16.9	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
981	22	13:52:10	Damage	12.347	Field Joint - Bitumen Missing	16.9	
982	22	13:52:31	Debris	12.348	Debris - Wire Rope	16.9	
983	22	13:53:27	Damage	12.359	Field Joint - Bitumen Missing	16.9	
984	23	11:45:38	Damage	12.419	Field Joint - Bitumen Missing	16.9	
985	23	11:46:37	Damage	12.431	Field Joint - Bitumen Missing	16.9	
986	23	11:47:13	Damage	12.443	Field Joint - Bitumen Missing	16.9	
987	23	11:47:47	Damage	12.456	Field Joint - Bitumen Missing	16.9	
988	23	11:48:59	Damage	12.481	Field Joint - Bitumen Missing	16.9	
989	23	11:49:24	Debris	12.489	Debris - Fishing Gear	16.9	
990	23	11:50:17	Damage	12.506	Field Joint - Bitumen Missing	16.9	
991	23	11:50:48	Damage	12.518	Field Joint - Bitumen Missing	16.9	
992	23	11:51:23	Damage	12.530	Field Joint - Bitumen Missing	16.9	
993	23	11:51:40	Debris	12.535	Debris - Fishing Gear	16.9	
994	23	11:52:06	Damage	12.545	Field Joint - Bitumen Missing	16.9	
995	23	11:52:44	Damage	12.555	Field Joint - Bitumen Missing	16.9	
996	23	12:03:43	Damage	12.617	Field Joint - Bitumen Missing	16.9	
997	23	12:08:25	Damage	12.728	Field Joint - Bitumen Missing	16.9	
998	23	12:15:15	Damage	12.878	Field Joint - Bitumen Missing	16.9	
999	23	12:18:32	Damage	12.951	Field Joint - Bitumen Missing	16.9	
1000	23	12:19:04	Damage	12.963	Field Joint - Bitumen Missing	16.9	
1001	23	12:19:38	Damage	12.976	Field Joint - Bitumen Missing	16.9	
1002	23	12:20:08	Debris	12.978	Debris - Fish Trap	16.9	
1003	23	12:22:43	Damage	13.038	Field Joint - Bitumen Missing	16.9	
1004	23	12:24:47	Damage	13.088	Field Joint - Bitumen Missing	16.9	
1005	23	12:25:54	Damage	13.110	Field Joint - Bitumen Missing	16.9	
1006	23	12:27:47	Damage	13.146	Field Joint - Bitumen Missing	16.9	
1007	23	12:29:24	Damage	13.185	Field Joint - Bitumen Missing	16.9	
1008	23	12:32:16	Damage	13.222	Field Joint - Bitumen Missing	16.9	
1009	23	12:32:50	Damage	13.234	Field Joint - Bitumen Missing	16.9	
1010	23	12:33:22	Damage	13.247	Field Joint - Bitumen Missing	16.9	
1011	23	12:33:53	Damage	13.259	Field Joint - Bitumen Missing	16.9	
1012	23	12:34:29	Damage	13.271	Field Joint - Bitumen Missing	16.9	
1013	23	12:35:10	Damage	13.283	Field Joint - Bitumen Missing	16.9	
1014	23	12:35:51	Damage	13.296	Field Joint - Bitumen Missing	16.9	
1015	23	12:36:29	Damage	13.308	Field Joint - Bitumen Missing	16.9	
1016	23	12:38:47	Damage	13.357	Field Joint - Bitumen Missing	16.9	
1017	23	12:41:01	Damage	13.407	Field Joint - Bitumen Missing	16.9	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
1018	23	12:41:39	Damage	13.420	Field Joint - Bitumen Missing	16.9	
1019	23	12:42:10	Damage	13.432	Field Joint - Bitumen Missing	16.9	
1020	23	12:43:14	Damage	13.458	Field Joint - Bitumen Missing	16.9	
1021	23	12:43:56	Damage	13.471	Field Joint - Bitumen Missing	16.9	
1022	23	12:44:29	Damage	13.482	Field Joint - Bitumen Missing	16.9	
1023	23	12:46:39	Damage	13.532	Field Joint - Bitumen Missing	16.9	
1024	23	12:47:13	Damage	13.544	Field Joint - Bitumen Missing	16.9	
1025	23	12:47:47	Damage	13.557	Field Joint - Bitumen Missing	16.9	
1026	23	12:48:54	Damage	13.581	Field Joint - Bitumen Missing	16.9	
1027	23	12:49:28	Damage	13.594	Field Joint - Bitumen Missing	16.9	
1028	23	12:55:31	Damage	13.667	Field Joint - Bitumen Missing	16.9	
1029	23	12:55:57	Damage	13.674	Field Joint - Bitumen Missing	16.9	
1030	23	12:57:31	Damage	13.704	Field Joint - Bitumen Missing	16.9	
1031	23	12:58:12	Damage	13.718	Field Joint - Bitumen Missing	16.9	
1032	23	13:19:14	Damage	13.755	Field Joint - Bitumen Missing	16.9	
1033	23	13:21:22	Damage	13.793	Field Joint - Bitumen Missing	16.9	
1034	23	13:22:44	Damage	13.818	Field Joint - Bitumen Missing	16.9	
1035	23	13:23:18	Damage	13.829	Field Joint - Bitumen Missing	16.9	
1036	23	13:24:38	Damage	13.855	Field Joint - Bitumen Missing	16.9	
1037	23	13:25:23	Damage	13.867	Field Joint - Bitumen Missing	16.9	
1038	23	13:26:08	Damage	13.880	Field Joint - Bitumen Missing	16.9	
1039	23	13:26:45	Damage	13.892	Field Joint - Bitumen Missing	16.9	
1040	23	13:29:14	Damage	13.941	Field Joint - Bitumen Missing	16.9	
1041	23	13:30:33	Damage	13.966	Field Joint - Bitumen Missing	16.9	
1042	23	13:38:21	Damage	14.116	Field Joint - Bitumen Missing	16.9	
1043	23	13:40:08	Damage	14.151	Field Joint - Bitumen Missing	16.9	
1044	23	13:40:49	Damage	14.164	Field Joint - Bitumen Missing	16.9	
1045	23	13:41:31	Damage	14.176	Field Joint - Bitumen Missing	16.9	
1046	23	13:42:15	Damage	14.188	Field Joint - Bitumen Missing	16.9	
1047	23	13:42:53	Damage	14.200	Field Joint - Bitumen Missing	16.9	
1048	23	13:43:42	Damage	14.213	Field Joint - Bitumen Missing	16.9	
1049	23	13:44:24	Damage	14.225	Field Joint - Bitumen Missing	16.9	
1050	23	13:46:18	Damage	14.263	Field Joint - Bitumen Missing	16.9	
1051	23	13:47:38	Damage	14.288	Field Joint - Bitumen Missing	16.9	
1052	23	13:58:53	Damage	14.350	Field Joint - Bitumen Missing	16.9	
1053	23	14:00:04	Damage	14.374	Field Joint - Bitumen Missing	16.9	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
1054	23	14:02:27	Damage	14.425	Field Joint - Bitumen Missing	16.9	
1055	23	14:03:38	Damage	14.448	Field Joint - Bitumen Missing	16.9	
1056	23	14:04:17	Damage	14.461	Field Joint - Bitumen Missing	16.9	
1057	23	14:05:00	Damage	14.474	Field Joint - Bitumen Missing	16.9	
1058	23	14:05:43	Damage	14.485	Field Joint - Bitumen Missing	16.9	
1059	23	14:07:10	Damage	14.509	Field Joint - Bitumen Missing	16.9	
1060	23	14:07:47	Damage	14.522	Field Joint - Bitumen Missing	16.9	
1061	23	14:08:28	Damage	14.534	Field Joint - Bitumen Missing	16.9	
1062	23	14:09:08	Damage	14.546	Field Joint - Bitumen Missing	16.9	
1063	23	14:09:52	Damage	14.558	Field Joint - Bitumen Missing	16.9	
1064	23	14:12:00	Damage	14.595	Field Joint - Bitumen Missing	16.9	
1065	23	14:12:46	Damage	14.608	Field Joint - Bitumen Missing	16.9	
1066	23	14:13:22	Damage	14.620	Field Joint - Bitumen Missing	16.9	
1067	23	14:14:03	Damage	14.633	Field Joint - Bitumen Missing	16.9	
1068	23	14:15:10	Damage	14.657	Field Joint - Bitumen Missing	16.9	
1069	23	14:16:24	Damage	14.682	Field Joint - Bitumen Missing	16.9	
1070	23	14:18:54	Damage	14.733	Field Joint - Bitumen Missing	16.9	
1071	23	14:19:22	Damage	14.744	Field Joint - Bitumen Missing	16.9	
1072	23	14:19:59	Damage	14.757	Field Joint - Bitumen Missing	16.9	
1073	23	14:21:17	Damage	14.783	Field Joint - Bitumen Missing	16.9	
1074	23	14:22:19	Debris	14.794	Debris - Fish Trap	16.9	
1075	23	14:26:10	Damage	14.833	Field Joint - Bitumen Missing	16.9	
1076	23	14:26:39	Damage	14.847	Field Joint - Bitumen Missing	16.9	
1077	23	14:27:15	Damage	14.858	Field Joint - Bitumen Missing	16.9	
1078	23	14:28:52	Damage	14.897	Field Joint - Bitumen Missing	16.9	
1079	23	14:30:00	Damage	14.922	Field Joint - Bitumen Missing	16.9	
1080	23	14:38:42	Damage	15.101	Field Joint - Bitumen Missing	16.9	
1081	23	15:34:06	Damage	15.294	Field Joint - Bitumen Missing	16.9	
1082	23	15:36:31	Damage	15.331	Field Joint - Bitumen Missing	16.9	
1083	24	08:30:45	Damage	15.343	Field Joint - Bitumen Missing	16.9	
1084	24	08:31:33	Damage	15.355	Field Joint - Bitumen Missing	16.9	
1085	24	08:32:18	Damage	15.368	Field Joint - Bitumen Missing	16.9	
1086	24	08:33:05	Damage	15.381	Field Joint - Bitumen Missing	16.9	
1087	24	08:33:53	Damage	15.393	Field Joint - Bitumen Missing	16.9	
1088	24	08:34:39	Damage	15.407	Field Joint - Bitumen Missing	16.9	
1089	24	08:35:36	Damage	15.419	Field Joint - Bitumen Missing	16.9	



Visual Inspection

NO	DATE (April)	TIME	RECORDED EVENT	KP	Actual Event	Depth (m)	COMMENT
1090	24	08:36:27	Damage	15.431	Field Joint - Bitumen Missing	16.9	
1091	24	08:41:38	Damage	15.533	Field Joint - Bitumen Missing	16.9	
1092	24	08:44:54	Damage	15.598	Field Joint - Bitumen Missing	16.9	
1093	24	08:55:20	Damage	15.737	Field Joint - Bitumen Missing	16.9	
1094	24	08:57:09	Damage	15.762	Field Joint - Bitumen Missing	16.9	
1095	24	08:57:54	Damage	15.775	Field Joint - Bitumen Missing	16.9	
1096	24	08:58:49	Damage	15.788	Field Joint - Bitumen Missing	16.9	
1097	24	08:59:36	Damage	15.801	Field Joint - Bitumen Missing	16.9	
1098	24	09:02:25	Damage	15.839	Field Joint - Bitumen Missing	16.9	
1099	24	09:03:27	Damage	15.852	Field Joint - Bitumen Missing	16.9	
1100	24	09:04:46	Damage	15.870	Field Joint - Bitumen Missing	16.9	
1101	24	09:05:22	Damage	15.877	Field Joint - Bitumen Missing	16.9	
1102	24	09:07:24	Damage	15.903	Field Joint - Bitumen Missing	16.9	
1103	24	09:08:20	Damage	15.916	Field Joint - Bitumen Missing	16.9	
1104	24	09:09:11	Damage	15.929	Field Joint - Bitumen Missing	16.9	
1105	24	09:10:53	Damage	15.953	Field Joint - Bitumen Missing	16.9	

Representative	OWA Data Recorder		OWA Supervisor
Signature:	Electronic form no signature required		Electronic form no signature required
Name (Print):	Chanatip I.		Mark R.



Video Log

Date	13 th April 2023	OWA Group	Thailand	Report No	53-66001-27-VL-01
Project No	53-66001	Dive/ROV Sys.	Falcon 12450	Dive No	See Below
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwis Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance - 48" Crude Import Pipeline Inspection				
Location	Map Ta Phut Thailand				
Date & Time	Dive No	Description	Video File Name		
2023-04-13 12:51:13	06	Start Inspection Video at KP0.007 (Introduction at Flange)	2023-0413-125112-981-CHANNEL 1.asf		
2023-04-13 13:15:53	06	Stopped Inspection Video at KP0.066			
2023-04-13 14:39:30	07	Start Inspection Video at KP0.063	2023-0413-143929-689-CHANNEL 1.asf		
2023-04-13 14:54:23	07	Stopped Inspection Video at KP0.110			
2023-04-13 14:57:56	07	Start Inspection Video at KP0.109	2023-0413-145755-938-CHANNEL 1.asf		
2023-04-13 15:18:50	07	Stopped Inspection Video at KP0.188			
2023-04-14 09:12:02	09	Start Inspection Video at KP0.184	2023-0414-091202-048-CHANNEL 1.asf		
2023-04-14 09:17:13	09	Stopped Inspection Video at KP0.176			
2023-04-15 12:19:56	10	Start Inspection Video at KP0.182	2023-0415-121955-706-CHANNEL 1.asf		
2023-04-15 12:40:23	10	Stopped Inspection Video at KP0.271			
2023-04-15 13:41:00	11	Start Inspection Video at KP0.268	2023-0415-134059-751-CHANNEL 1.asf		
2023-04-15 13:45:21	11	Stopped Inspection Video at KP0.277			
2023-04-15 13:48:58	11	Start Inspection Video at KP0.280	2023-0415-134858-348-CHANNEL 1.asf		
2023-04-15 14:18:59	11	New Video File Started (Inspection Ongoing)			
2023-04-15 14:18:59	11	Start New File at KP0.458	2023-0415-141859-170-CHANNEL 1.asf		
2023-04-15 14:22:30	11	Stopped Inspection Video at KP0.460			
2023-04-15 14:23:29	11	Start Inspection Video at KP0.457	2023-0415-142328-883-CHANNEL 1.asf		
2023-04-15 14:29:23	11	Stopped Inspection Video at KP0.473			
2023-04-15 14:38:47	11	Start Inspection Video at KP0.473	2023-0415-143846-530-CHANNEL 1.asf		
2023-04-15 14:39:25	11	Stopped Inspection Video at KP0.479			
2023-04-15 15:20:33	12	Start Inspection Video at KP0.478	2023-0415-152033-096-CHANNEL 1.asf		
2023-04-15 15:46:02	12	Stopped Inspection Video at KP0.649			
2023-04-17 10:15:53	14	Start Inspection Video at KP0.644	2023-0417-101552-848-CHANNEL 1.asf		
2023-04-17 10:40:59	14	Stopped Inspection Video at KP0.859			
2023-04-17 10:56:56	15	Start Inspection Video at KP0.855	2023-0417-105655-796-CHANNEL 1.asf		
2023-04-17 11:03:50	15	Stopped Inspection Video at KP0.864			
2023-04-17 11:13:58	16	Start Inspection Video at KP0.882	2023-0417-111357-883-CHANNEL 1.asf		
2023-04-17 11:43:58	16	New Video File Started (Inspection Ongoing)			
2023-04-17 11:43:58	16	Start New File at KP1.251	2023-0417-114357-694-CHANNEL 1.asf		
2023-04-17 12:06:15	16	Stopped Inspection Video at KP1.500			
2023-04-17 13:53:01	18	Start Inspection Video at KP1.508	2023-0417-135301-425-CHANNEL 1.asf		
2023-04-17 14:02:40	18	Stopped Inspection Video at KP1.571			
2023-04-17 14:14:14	19	Start Inspection Video at KP0.346	2023-0417-141414-977-CHANNEL 1.asf		
2023-04-17 14:26:22	19	Stopped Inspection Video at KP0.001			
2023-04-17 14:37:08	20	Start Inspection Video at KP1.655	2023-0417-143707-901-CHANNEL 1.asf		
2023-04-17 15:02:12	20	Stopped Inspection Video at KP1.890			
2023-04-17 15:16:22	21	Start Inspection Video at KP1.894	2023-0417-151622-351-CHANNEL 1.asf		
2023-04-17 15:24:48	21	Stopped Inspection Video at KP1.963			
2023-04-17 15:38:08	22	Start Inspection Video at KP1.962	2023-0417-153807-339-CHANNEL 1.asf		
2023-04-17 16:02:40	22	Stopped Inspection Video at KP2.188			
2023-04-18 08:26:26	23	Start Inspection Video at KP2.172	2023-0418-082626-103-CHANNEL 1.asf		



Video Log

Date & Time	Dive No	Description	Video File Name
2023-04-18 08:47:10	23	Stopped Inspection Video at KP2.394	
2023-04-18 09:01:43	24	Start Inspection Video at KP2.390	2023-0418-090142-289-CHANNEL 1.asf
2023-04-18 09:20:55	24	Stopped Inspection Video at KP2.514	
2023-04-18 09:35:46	25	Start Inspection Video at KP2.521	2023-0418-093546-465-CHANNEL 1.asf
2023-04-18 09:53:33	25	Stopped Inspection Video at KP2.756	
2023-04-18 10:32:46	26	Start Inspection Video at KP2.755	2023-0418-103245-590-CHANNEL 1.asf
2023-04-18 11:02:46	26	New Video File Started (Inspection Ongoing)	
2023-04-18 11:02:46	26	Start New File at KP3.117	2023-0418-110246-414-CHANNEL 1.asf
2023-04-18 11:18:12	26	Stopped Inspection Video at KP3.283	
2023-04-18 11:29:17	27	Start Inspection Video at KP3.275	2023-0418-112917-337-CHANNEL 1.asf
2023-04-18 11:59:17	27	New Video File Started (Inspection Ongoing)	
2023-04-18 11:59:17	27	Start New File at KP3.667	2023-0418-115917-147-CHANNEL 1.asf
2023-04-18 12:00:37	27	Stopped Inspection Video at KP3.680	
2023-04-18 13:25:58	28	Start Inspection Video at KP3.676	2023-0418-132557-877-CHANNEL 1.asf
2023-04-18 13:55:58	28	New Video File Started (Inspection Ongoing)	
2023-04-18 13:55:58	28	Start New File at KP4.078	2023-0418-135557-685-CHANNEL 1.asf
2023-04-18 14:25:59	28	New Video File Started (Inspection Ongoing)	
2023-04-18 14:25:59	28	Start New File at KP4.390	2023-0418-142558-506-CHANNEL 1.asf
2023-04-18 14:39:00	28	Stopped Inspection Video at KP4.545	
2023-04-18 14:56:15	29	Start Inspection Video at KP4.543	2023-0418-145615-549-CHANNEL 1.asf
2023-04-18 15:26:16	29	New Video File Started (Inspection Ongoing)	
2023-04-18 15:26:16	29	Start New File at KP4.914	2023-0418-152615-360-CHANNEL 1.asf
2023-04-18 15:48:26	29	Stopped Inspection Video at KP5.185	
2023-04-19 08:06:39	30	Start Inspection Video at KP5.200	2023-0419-080639-388-CHANNEL 1.asf
2023-04-19 08:24:35	30	Stopped Inspection Video at KP5.382	
2023-04-19 08:38:35	31	Start Inspection Video at KP5.378	2023-0419-083834-864-CHANNEL 1.asf
2023-04-19 09:03:59	31	Stopped Inspection Video at KP5.649	
2023-04-19 09:13:35	32	Start Inspection Video at KP5.651	2023-0419-091334-808-CHANNEL 1.asf
2023-04-19 09:43:35	32	New Video File Started (Inspection Ongoing)	
2023-04-19 09:43:35	32	Start New File at KP6.154	2023-0419-094335-631-CHANNEL 1.asf
2023-04-19 10:11:37	32	New Video File Started (Inspection Ongoing)	
2023-04-19 10:25:11	33	Start Inspection Video at KP6.563	2023-0419-102511-023-CHANNEL 1.asf
2023-04-19 10:40:31	33	Stopped Inspection Video at KP6.837	
2023-04-19 10:57:25	34	Start Inspection Video at KP6.836	2023-0419-105725-689-CHANNEL 1.asf
2023-04-19 11:25:22	34	New Video File Started (Inspection Ongoing)	
2023-04-19 11:32:48	35	Start Inspection Video at KP7.140	2023-0419-113247-940-CHANNEL 1.asf
2023-04-19 11:43:06	35	Stopped Inspection Video at KP7.220	
2023-04-19 13:12:59	36	Start Inspection Video at KP7.216	2023-0419-131259-806-CHANNEL 1.asf
2023-04-19 13:43:00	36	New Video File Started (Inspection Ongoing)	
2023-04-19 13:43:00	36	Start New File at KP7.741	2023-0419-134259-617-CHANNEL 1.asf
2023-04-19 13:53:17	36	Stopped Inspection Video at KP7.830	
2023-04-19 14:06:29	37	Start Inspection Video at KP7.829	2023-0419-140629-038-CHANNEL 1.asf
2023-04-19 14:27:05	37	Stopped Inspection Video at KP8.079	
2023-04-19 14:38:10	38	Start Inspection Video at KP8.088	2023-0419-143810-244-CHANNEL 1.asf
2023-04-19 15:08:11	38	New Video File Started (Inspection Ongoing)	
2023-04-19 15:08:11	38	Start New File at KP8.426	2023-0419-150811-070-CHANNEL 1.asf
2023-04-19 15:38:11	38	New Video File Started (Inspection Ongoing)	

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Appendix B: 3rd Party Survey Report



Video Log

Date & Time	Dive No	Description	Video File Name
2023-04-19 15:38:11	38	Start New File at KP8.749	2023-0419-153810-878-CHANNEL 1.asf
2023-04-19 15:44:26	38	Stopped Inspection Video at KP8.765	
2023-04-19 16:07:01	40	Start Inspection Video at KP8.848	2023-0419-160701-731-CHANNEL 1.asf
2023-04-19 16:21:04	40	Stopped Inspection Video at KP9.050	
2023-04-22 09:10:28	41	Start Inspection Video at KP9.043	2023-0422-091028-232-CHANNEL 1.asf
2023-04-22 09:40:28	41	New Video File Started (Inspection Ongoing)	
2023-04-22 09:40:28	41	Start New File at KP9.444	2023-0422-094028-289-CHANNEL 1.asf
2023-04-22 10:10:29	41	New Video File Started (Inspection Ongoing)	
2023-04-22 10:10:29	41	Start New File at KP10.003	2023-0422-101028-092-CHANNEL 1.asf
2023-04-22 10:40:29	41	New Video File Started (Inspection Ongoing)	
2023-04-22 10:40:29	41	Start New File at KP10.500	2023-0422-104028-910-CHANNEL 1.asf
2023-04-22 11:10:29	41	New Video File Started (Inspection Ongoing)	
2023-04-22 11:10:29	41	Start New File at KP11.008	2023-0422-111029-728-CHANNEL 1.asf
2023-04-22 11:25:41	41	Stopped Inspection Video at KP11.302	
2023-04-22 12:39:06	42	Start Inspection Video at KP11.307	2023-0422-123905-998-CHANNEL 1.asf
2023-04-22 13:09:06	42	New Video File Started (Inspection Ongoing)	
2023-04-22 13:09:06	42	Start New File at KP11.731	2023-0422-130905-906-CHANNEL 1.asf
2023-04-22 13:39:03	42	New Video File Started (Inspection Ongoing)	
2023-04-22 13:39:07	42	Start New File at KP12.197	2023-0422-133906-628-CHANNEL 1.asf
2023-04-22 13:57:00	42	Stopped Inspection Video at KP12.393	
2023-04-23 11:42:56	43	Start Inspection Video at KP12.384	2023-0423-114256-541-CHANNEL 1.asf
2023-04-23 11:53:43	43	Stopped Inspection Video at KP12.550	
2023-04-23 12:02:09	43	Start Inspection Video at KP12.589	2023-0423-120208-417-CHANNEL 1.asf
2023-04-23 12:30:34	43	New Video File Started (Inspection Ongoing)	
2023-04-23 12:31:15	43	Start New File at KP13.210	2023-0423-123114-481-CHANNEL 1.asf
2023-04-23 13:00:55	43	New Video File Started (Inspection Ongoing)	
2023-04-23 13:17:54	44	Start Inspection Video at KP13.746	2023-0423-131754-067-CHANNEL 1.asf
2023-04-23 13:47:55	44	New Video File Started (Inspection Ongoing)	
2023-04-23 13:47:55	44	Start New File at KP14.293	2023-0423-134754-891-CHANNEL 1.asf
2023-04-23 13:50:13	44	Stopped Inspection Video at KP14.320	
2023-04-23 13:58:34	44	Start Inspection Video at KP14.344	2023-0423-135833-693-CHANNEL 1.asf
2023-04-23 14:28:34	44	New Video File Started (Inspection Ongoing)	
2023-04-23 14:28:34	44	Start New File at KP14.889	2023-0423-142834-516-CHANNEL 1.asf
2023-04-23 14:39:48	44	Stopped Inspection Video at KP15.101	
2023-04-23 15:30:06	45	Start Inspection Video at KP15.228	2023-0423-153006-400-CHANNEL 1.asf
2023-04-23 15:41:05	45	Stopped Inspection Video at KP15.376	
2023-04-24 08:27:47	47	Start Inspection Video at KP15.305	2023-0424-082747-554-CHANNEL 1.asf
2023-04-24 08:57:48	47	New Video File Started (Inspection Ongoing)	
2023-04-24 08:57:48	47	Start New File at KP15.773	2023-0424-085747-359-CHANNEL 1.asf
2023-04-24 09:20:02	47	Stopped Inspection Video at KP15.999 (End of inspection)	

Representative	OWA Data Recorder		OWA Supervisor
Signature:	Electronic form no signature required		Electronic form no signature required
Name (Print):	Chanatip I.		Mark R.

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NAVIGATION REPORT

For

MAP TA PHUT 48" SUBSEA CRUDE IMPORT PIPELINE

Report No.2305O01_P

Date of Survey: 11 April – 25 April 2023

Date of Report: 23 May 2023

M.V.M. Surveys (Thailand) Co., Ltd.

120 Soi 4, Rangkratai Road, Ladysao, Chatuchak, Bangkok, Thailand 10900
Tel: 662 591 6288 Fax: 662 591 6285

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Map Ta Phut 48" Subsea Crude Import Pipeline Report

2.0 Survey Details

The following equipment were used for this survey. Equipment brochures and specifications are attached in Appendix A

Positioning System	Hemisphere Vega 28 GNSS Dual Antenna Receiver with Atlas L-band DGPS
Navigation System	Hypack 2013a
USBL System	Sonardyne Scout Plus USBL Sonardyne 8271 Wideband Sub-Mini 6 transponder

The survey data in this report are all referenced to below geodetic system

GEODETTIC PARAMETERS	
Local Datum	Indian 1975
Local Reference Spheroid	Everest 1830 (1937 adjustment)
Semi Major Axis (a)	6 377 276.345 metres
Inverse Flattening (1/f)	300.8017
Mapping Projection	Universal Transverse Mercator (UTM)
Grid Zone	47 (North of Equator)
Central Meridian (CM)	99° East
Scale Factor at CM	0.9996
Satellite Datum Satellite Reference Spheroid	WGS 84 GRS 1980
Semi Major Axis	6 378 137.000 m
Inverse Flattening	298.257 223 563
Datum Shift Parameters	From WGS 84 to Indian 1975
ΔX	-204.64 m
ΔY	-834.74 m
ΔZ	-293.80 m



1.0 Introduction

MVM Surveys (Thailand) Co. Ltd. was contracted by Ocean Works Asia (Thailand) Co. Ltd. to provide navigation and USBL (Ultra-Short Base Line) positioning for the ROV inspection survey of the Map Ta Phut 48" Subsea Crude Import Pipeline.

Mobilisation for the project commenced on April 11th on the Uniwise Rayong Vessel in Map Ta Phut.

Survey commenced on the April 12th to April 24th upon ROV reaching full burial of the pipeline at KP 16.

Final Demobilisation was on April 25th, 2023.



Map Ta Phut 48" Subsea Crude Import Pipeline Report

3.0 Daily Log Summary

Date	Time	Depth (Meters)
13 Apr 23	1100	Start at Flange
	1520	END KP 0.190
14 Apr 23		Troubleshooting ROV
15 Apr 23	1210	Start Survey 0.190
	1548	END KP 0.649
16 Apr 23		Standby bad weather
17 Apr 23	1015	Start survey KP 0.190
	1602	END survey KP 2.189
18 Apr 23	0815	Start survey KP 2.189
	1546	End survey KP 5.200
19 Apr 23	0800	Start survey KP 5.200
	1620	END survey KP 9.050
20 Apr 23		Troubleshooting ROV
21 Apr 23		Troubleshooting ROV(On shore)
22 Apr 23	0912	Start survey KP 9.050
	1445	End survey KP 12.400
23 Apr 23	1230	Start survey KP 12.400
	1530	END survey KP 15.370
24 Apr 23	0830	Start survey 15.370
	0915	END survey 16.000 Full Burial Pipeline



Map Ta Phut 48" Subsea Crude Import Pipeline Report

4.0 Summary of Targets

Table of Anodes

KP	Abbreviation	Description	East	North	Date	Time	Comments
0.365	AND01	Anode Assessment - 25-50% Wasted	738902.06	1381621.99	15/04/2023	14:09:06	No Additional Comment
2.140	AND02	Anode Assessment - 25-50% Wasted	738447.84	1383338.28	17/04/2023	15:56:33	No Additional Comment
2.268	AND03	Anode Assessment - 25-50% Wasted	738417.07	1383462.51	18/04/2023	08:34:20	No Additional Comment
2.521	AND04	Anode Assessment - 25-50% Wasted	738351.11	1383706.42	18/04/2023	09:35:47	No Additional Comment
2.649	AND05	Anode Assessment - 25-50% Wasted	738318.78	1383829.88	18/04/2023	09:45:05	No Additional Comment
2.775	AND06	Anode Assessment - 25-50% Wasted	738286.68	1383951.81	18/04/2023	10:35:16	No Additional Comment
2.903	AND07	Anode Assessment - 25-50% Wasted	738254.88	1384075.99	18/04/2023	10:44:12	No Additional Comment
3.030	AND08	Anode Assessment - 25-50% Wasted	738222.19	1384198.63	18/04/2023	10:52:39	No Additional Comment
3.157	AND09	Anode Assessment - 25-50% Wasted	738188.87	1384321.45	18/04/2023	11:06:11	No Additional Comment
3.282	AND10	Anode Assessment - 25-50% Wasted	738156.95	1384442.45	18/04/2023	11:15:19	CP1/987mV
3.410	AND11	Anode Assessment - 25-50% Wasted	738124.28	1384565.93	18/04/2023	11:39:39	No Additional Comment
3.533	AND12	Anode Assessment - 25-50% Wasted	738093.60	1384685.15	18/04/2023	11:50:18	No Additional Comment
3.660	AND13	Anode Assessment - 25-50% Wasted	738062.31	1384808.42	18/04/2023	11:58:33	No Additional Comment
3.785	AND14	Anode Assessment - 25-50% Wasted	738031.28	1384929.58	18/04/2023	13:34:31	No Additional Comment
3.913	AND15	Anode Assessment - 25-50% Wasted	737998.22	1385053.17	18/04/2023	13:42:56	No Additional Comment
4.039	AND16	Anode Assessment - 25-50% Wasted	737965.15	1385174.72	18/04/2023	13:52:48	No Additional Comment
4.166	AND17	Anode Assessment - 25-50% Wasted	737935.39	1385298.04	18/04/2023	14:03:36	No Additional Comment
4.293	AND18	Anode Assessment - 25-50% Wasted	737902.43	1385420.17	18/04/2023	14:19:40	No Additional Comment
4.420	AND19	Anode Assessment - 25-50% Wasted	737870.38	1385543.42	18/04/2023	14:28:09	No Additional Comment
4.545	AND20	Anode Assessment - 25-50% Wasted	737837.66	1385664.01	18/04/2023	14:57:01	No Additional Comment
4.669	AND21	Anode Assessment - 25-50% Wasted	737805.71	1385783.47	18/04/2023	15:06:21	No Additional Comment
4.793	AND22	Anode Assessment - 25-50% Wasted	737774.56	1385903.56	18/04/2023	15:15:44	No Additional Comment
5.287	AND23	Anode Assessment - 25-50% Wasted	737649.33	1386381.95	19/04/2023	08:14:54	No Additional Comment
5.413	AND24	Anode Assessment - 25-50% Wasted	737615.31	1386503.31	19/04/2023	08:42:16	Enter Event Comment
5.534	AND25	Anode Assessment - 25-50% Wasted	737585.87	1386620.49	19/04/2023	08:55:18	No Additional Comment
5.781	AND26	Anode Assessment - 25-50% Wasted	737522.81	1386859.55	19/04/2023	09:22:02	No Additional Comment
6.033	AND27	Anode Assessment - 25-50% Wasted	737459.40	1387103.61	19/04/2023	09:35:22	No Additional Comment
6.152	AND28	Anode Assessment - 25-50% Wasted	737428.92	1387218.66	19/04/2023	09:42:38	No Additional Comment
6.276	AND29	Anode Assessment - 25-50% Wasted	737397.72	1387338.37	19/04/2023	09:52:57	No Additional Comment
6.400	AND30	Anode Assessment - 25-50% Wasted	737365.75	1387458.06	19/04/2023	10:00:51	No Additional Comment
6.645	AND31	Anode Assessment - 25-50% Wasted	737303.78	1387695.33	19/04/2023	10:29:52	No Additional Comment
6.769	AND32	Anode Assessment - 25-50% Wasted	737272.66	1387814.90	19/04/2023	10:36:10	No Additional Comment
6.893	AND33	Anode Assessment - 25-50% Wasted	737240.98	1387934.66	19/04/2023	11:01:45	No Additional Comment
7.016	AND34	Anode Assessment - 25-50% Wasted	737208.13	1388053.48	19/04/2023	11:09:50	No Additional Comment
7.140	AND35	Anode Assessment - 25-50% Wasted	737176.51	1388173.06	19/04/2023	11:17:06	No Additional Comment
7.264	AND36	Anode Assessment - 25-50% Wasted	737144.80	1388293.53	19/04/2023	13:16:03	No Additional Comment
7.387	AND37	Anode Assessment - 25-50% Wasted	737113.57	1388412.81	19/04/2023	13:22:04	No Additional Comment



Map Ta Phut 48" Subsea Crude Import Pipeline Report

Table of Cathodic Protection – CP Steel

KP	Abbreviation	Description	East	North	Date	Time	Comments
0.008	CP - Steel	Cathodic Protection - CP Steel	738990.42	1381275.57	13/04/2023	12:54:29	PLEM side of flange connection CP1/969mV
0.009	CP - Steel	Cathodic Protection - CP Steel	738990.96	1381276.74	13/04/2023	12:56:08	Pipeline side of flange connection CP1/969mV

Table of Field Joints

KP	Abbreviation	Description	East	North	Date	Time	Comments
0.112	FJ-GC	Field Joint - Good Condition	738968.13	1381377.95	13/04/2023	15:00:02	No Additional Comment
0.296	FJ-BM001	Field Joint - Bitumen Missing	738919.10	1381555.12	15/04/2023	13:52:43	No Additional Comment
0.309	FJ-BM002	Field Joint - Bitumen Missing	738916.16	1381567.60	15/04/2023	13:56:17	No Additional Comment
0.321	FJ-BM003	Field Joint - Bitumen Missing	738913.08	1381578.82	15/04/2023	13:57:44	No Additional Comment
0.334	FJ-BM004	Field Joint - Bitumen Missing	738909.59	1381591.36	15/04/2023	13:59:12	No Additional Comment
0.346	FJ-BM005	Field Joint - Bitumen Missing	738906.77	1381603.72	15/04/2023	14:03:11	No Additional Comment
0.422	FJ-BM006	Field Joint - Bitumen Missing	738896.96	1381676.66	15/04/2023	14:15:01	No Additional Comment
0.498	FJ-BM007	Field Joint - Bitumen Missing	738888.32	1381750.32	15/04/2023	15:23:54	No Additional Comment
0.523	FJ-BM008	Field Joint - Bitumen Missing	738861.71	1381774.96	15/04/2023	15:26:52	No Additional Comment
0.536	FJ-BM009	Field Joint - Bitumen Missing	738858.40	1381787.68	15/04/2023	15:28:06	No Additional Comment
0.549	FJ-BM010	Field Joint - Bitumen Missing	738855.56	1381799.66	15/04/2023	15:29:31	No Additional Comment
0.561	FJ-BM011	Field Joint - Bitumen Missing	738852.48	1381811.99	15/04/2023	15:31:35	No Additional Comment
0.574	FJ-BM012	Field Joint - Bitumen Missing	738849.71	1381824.34	15/04/2023	15:33:18	No Additional Comment
0.600	FJ-BM013	Field Joint - Bitumen Missing	738842.86	1381849.37	15/04/2023	15:37:48	No Additional Comment
0.613	FJ-BM014	Field Joint - Bitumen Missing	738839.53	1381861.59	15/04/2023	15:39:06	No Additional Comment
0.618	FJ-BM015	Field Joint - Bitumen Missing	738838.94	1381867.40	15/04/2023	15:41:41	No Additional Comment
0.625	FJ-BM016	Field Joint - Bitumen Missing	738836.75	1381873.99	15/04/2023	15:42:40	No Additional Comment
0.638	FJ-BM017	Field Joint - Bitumen Missing	738833.08	1381886.03	15/04/2023	15:44:08	No Additional Comment
0.652	FJ-BM018	Field Joint - Bitumen Missing	738827.49	1381899.08	17/04/2023	10:17:11	No Additional Comment
0.690	FJ-BM019	Field Joint - Bitumen Missing	738819.26	1381935.50	17/04/2023	10:22:43	No Additional Comment
0.728	FJ-BM020	Field Joint - Bitumen Missing	738808.49	1381972.89	17/04/2023	10:27:40	No Additional Comment
0.766	FJ-BM021	Field Joint - Bitumen Missing	738798.53	1382009.44	17/04/2023	10:30:30	No Additional Comment
0.779	FJ-BM022	Field Joint - Bitumen Missing	738795.63	1382021.79	17/04/2023	10:31:44	No Additional Comment
0.817	FJ-BM023	Field Joint - Bitumen Missing	738785.84	1382058.72	17/04/2023	10:35:05	No Additional Comment
0.830	FJ-BM024	Field Joint - Bitumen Missing	738782.22	1382071.18	17/04/2023	10:36:29	No Additional Comment
0.842	FJ-BM025	Field Joint - Bitumen Missing	738779.00	1382083.26	17/04/2023	10:38:11	No Additional Comment
0.856	FJ-BM026	Field Joint - Bitumen Missing	738776.06	1382096.06	17/04/2023	10:39:42	No Additional Comment
0.869	FJ-BM027	Field Joint - Bitumen Missing	738772.15	1382108.40	17/04/2023	10:58:41	No Additional Comment
0.881	FJ-BM028	Field Joint - Bitumen Missing	738768.15	1382120.40	17/04/2023	11:00:08	No Additional Comment
0.893	FJ-BM029	Field Joint - Bitumen Missing	738766.19	1382132.00	17/04/2023	11:15:10	No Additional Comment
0.906	FJ-BM030	Field Joint - Bitumen Missing	738762.43	1382144.44	17/04/2023	11:16:11	No Additional Comment
0.919	FJ-BM031	Field Joint - Bitumen Missing	738759.25	1382157.26	17/04/2023	11:17:13	No Additional Comment



Map Ta Phut 48" Subsea Crude Import Pipeline Report

KP	Abbreviation	Description	East	North	Date	Time	Comments
7.511	AND38	Anode Assessment - 25-50% Wasted	737082.04	1388532.56	19/04/2023	13:28:52	No Additional Comment
7.636	AND39	Anode Assessment - 25-50% Wasted	737050.48	1388653.30	19/04/2023	13:36:32	No Additional Comment
7.759	AND40	Anode Assessment - 25-50% Wasted	737018.47	1388771.94	19/04/2023	13:44:36	No Additional Comment
7.882	AND41	Anode Assessment - 25-50% Wasted	736988.10	1388891.48	19/04/2023	14:10:26	No Additional Comment
8.008	AND42	Anode Assessment - 25-50% Wasted	736956.01	1389012.60	19/04/2023	14:17:42	No Additional Comment
8.132	AND43	Anode Assessment - 25-50% Wasted	736924.87	1389132.76	19/04/2023	14:41:01	No Additional Comment
8.258	AND44	Anode Assessment - 25-50% Wasted	736891.59	1389254.21	19/04/2023	14:50:15	No Additional Comment
8.380	AND45	Anode Assessment - 25-50% Wasted	736860.54	1389372.24	19/04/2023	15:05:02	No Additional Comment
8.627	AND46	Anode Assessment - 25-50% Wasted	736796.74	1389611.22	19/04/2023	15:25:12	No Additional Comment
8.749	AND47	Anode Assessment - 25-50% Wasted	736766.53	1389729.42	19/04/2023	15:35:16	No Additional Comment
8.871	AND48	Anode Assessment - 25-50% Wasted	736734.76	1389847.59	19/04/2023	16:08:55	No Additional Comment
8.995	AND49	Anode Assessment - 25-50% Wasted	736702.14	1389966.92	19/04/2023	16:15:45	No Additional Comment
9.121	AND50	Anode Assessment - 25-50% Wasted	736671.87	1390088.80	22/04/2023	09:17:32	No Additional Comment
9.244	AND51	Anode Assessment - 25-50% Wasted	736641.03	1390208.43	22/04/2023	09:26:37	No Additional Comment
9.369	AND52	Anode Assessment - 25-50% Wasted	736609.46	1390328.67	22/04/2023	09:35:41	No Additional Comment
9.491	AND53	Anode Assessment - 25-50% Wasted	736578.16	1390447.16	22/04/2023	09:43:17	No Additional Comment
9.863	AND54	Anode Assessment - 25-50% Wasted	736483.33	1390806.77	22/04/2023	10:03:13	No Additional Comment
9.987	AND55	Anode Assessment - 25-50% Wasted	736451.84	1390926.37	22/04/2023	10:09:28	No Additional Comment
10.111	AND56	Anode Assessment - 25-50% Wasted	736420.27	1391047.10	22/04/2023	10:16:16	No Additional Comment
10.236	AND57	Anode Assessment - 25-50% Wasted	736387.86	1391167.83	22/04/2023	10:23:49	No Additional Comment
10.360	AND58	Anode Assessment - 25-50% Wasted	736356.85	1391287.55	22/04/2023	10:33:43	No Additional Comment
10.484	AND59	Anode Assessment - 25-50% Wasted	736325.44	1391407.20	22/04/2023	10:39:45	No Additional Comment
10.607	AND60	Anode Assessment - 25-50% Wasted	736293.94	1391526.10	22/04/2023	10:46:51	No Additional Comment
10.733	AND61	Anode Assessment - 25-50% Wasted	736261.94	1391647.76	22/04/2023	10:53:48	No Additional Comment
10.857	AND62	Anode Assessment - 25-50% Wasted	736230.49	1391768.59	22/04/2023	11:00:26	No Additional Comment
10.981	AND63	Anode Assessment - 25-50% Wasted	736198.53	1391887.84	22/04/2023	11:09:09	No Additional Comment
11.105	AND64	Anode Assessment - 25-50% Wasted	736167.36	1392008.10	22/04/2023	11:15:06	No Additional Comment
11.229	AND65	Anode Assessment - 25-50% Wasted	736135.68	1392128.28	22/04/2023	11:21:22	No Additional Comment
11.352	AND66	Anode Assessment - 25-50% Wasted	736104.72	1392246.55	22/04/2023	12:42:24	No Additional Comment
11.474	AND67	Anode Assessment - 25-50% Wasted	736073.80	1392364.38	22/04/2023	12:49:35	No Additional Comment
11.598	AND68	Anode Assessment - 25-50% Wasted	736041.35	1392484.68	22/04/2023	13:00:39	No Additional Comment
11.722	AND69	Anode Assessment - 25-50% Wasted	736009.75	1392604.15	22/04/2023	13:08:25	No Additional Comment
11.844	AND70	Anode Assessment - 25-50% Wasted	735978.76	1392722.87	22/04/2023	13:15:56	No Additional Comment
12.092	AND71	Anode Assessment - 25-50% Wasted	735946.41	1392842.76	22/04/2023	13:31:37	No Additional Comment



Map Ta Phut 48" Subsea Crude Import Pipeline Report

KP	Abbreviation	Description	East	North	Date	Time	Comments
0.946	FJ-BM032	Field Joint - Bitumen Missing	738752.04	1382182.75	17/04/2023	11:18:54	No Additional Comment
0.958	FJ-BM033	Field Joint - Bitumen Missing	738749.38	1382194.68	17/04/2023	11:19:58	No Additional Comment
0.970	FJ-BM034	Field Joint - Bitumen Missing	738746.19	1382206.29	17/04/2023	11:21:03	No Additional Comment
0.983	FJ-BM035	Field Joint - Bitumen Missing	738742.86	1382219.10	17/04/2023	11:22:01	No Additional Comment
0.995	FJ-BM036	Field Joint - Bitumen Missing	738739.54	1382230.46	17/04/2023	11:23:05	No Additional Comment
1.007	FJ-BM037	Field Joint - Bitumen Missing	738736.76	1382242.61	17/04/2023	11:24:09	No Additional Comment
1.021	FJ-BM038	Field Joint - Bitumen Missing	738732.99	1382255.30	17/04/2023	11:25:14	No Additional Comment
1.033	FJ-BM039	Field Joint - Bitumen Missing	738729.30	1382267.50	17/04/2023	11:26:10	No Additional Comment
1.045	FJ-BM040	Field Joint - Bitumen Missing	738725.71	1382279.03	17/04/2023	11:27:14	No Additional Comment
1.057	FJ-BM041	Field Joint - Bitumen Missing	738722.13	1382290.99	17/04/2023	11:27:51	No Additional Comment
1.070	FJ-BM042	Field Joint - Bitumen Missing	738720.72	1382302.97	17/04/2023	11:28:52	No Additional Comment
1.082	FJ-BM043	Field Joint - Bitumen Missing	738717.19	1382315.01	17/04/2023	11:29:39	No Additional Comment
1.098	FJ-BM044	Field Joint - Bitumen Missing	738712.83	1382329.70	17/04/2023	11:30:41	No Additional Comment
1.108	FJ-BM045	Field Joint - Bitumen Missing	738710.41	1382339.70	17/04/2023	11:31:35	No Additional Comment
1.121	FJ-BM046	Field Joint - Bitumen Missing	738707.15	1382351.91	17/04/2023	11:32:27	No Additional Comment
1.133	FJ-BM047	Field Joint - Bitumen Missing	738703.41	1382384.41	17/04/2023	11:33:42	No Additional Comment
1.146	FJ-BM048	Field Joint - Bitumen Missing	738700.51	1382376.62	17/04/2023	11:34:42	No Additional Comment
1.158	FJ-BM049	Field Joint - Bitumen Missing	738697.13	1382388.41	17/04/2023	11:35:34	No Additional Comment
1.171	FJ-BM050	Field Joint - Bitumen Missing	738694.11	1382400.58	17/04/2023	11:37:05	No Additional Comment
1.184	FJ-BM051	Field Joint - Bitumen Missing	738690.65	1382412.68	17/04/2023	11:37:59	No Additional Comment
1.197	FJ-BM052	Field Joint - Bitumen Missing	738687.43	1382425.40	17/04/2023	11:39:14	No Additional Comment
1.209	FJ-BM053	Field Joint - Bitumen Missing	738683.33	1382437.16	17/04/2023	11:40:01	No Additional Comment
1.222	FJ-BM054	Field Joint - Bitumen Missing	738680.99	1382450.29	17/04/2023	11:41:03	No Additional Comment
1.234	FJ-BM055	Field Joint - Bitumen Missing	738676.04	1382461.98	17/04/2023	11:42:24	No Additional Comment
1.247	FJ-BM056	Field Joint - Bitumen Missing	738674.68	1382473.63	17/04/2023	11:43:27	No Additional Comment
1.272	FJ-BM057	Field Joint - Bitumen Missing	738668.24	1382498.25	17/04/2023	11:45:35	No Additional Comment
1.298	FJ-BM058	Field Joint - Bitumen Missing	738661.53	1382523.18	17/04/2023	11:47:26	No Additional Comment
1.311	FJ-BM059	Field Joint - Bitumen Missing	738655.29	1382535.86	17/04/2023	11:48:56	No Additional Comment
1.323	FJ-BM060	Field Joint - Bitumen Missing	738655.95	1382564.73	17/04/2023	11:49:35	No Additional Comment
1.334	FJ-BM061	Field Joint - Bitumen Missing	738653.09	1382558.21	17/04/2023	11:50:20	No Additional Comment
1.348	FJ-BM062	Field Joint - Bitumen Missing	738649.30	1382571.39	17/04/2023	11:51:15	No Additional Comment
1.360	FJ-BM063	Field Joint - Bitumen Missing	738646.35	1382583.27	17/04/2023	11:52:18	No Additional Comment
1.374	FJ-BM064	Field Joint - Bitumen Missing	738643.47	1382596.77	17/04/2023	11:54:55	No Additional Comment
1.386	FJ-BM065	Field Joint - Bitumen Missing	738640.45	1382608.27	17/04/2023	11:56:27	No Additional Comment
1.399	FJ-BM066	Field Joint - Bitumen Missing	738636.69	1382621.07	17/04/2023	11:57:30	No Additional Comment
1.411	FJ-BM067	Field Joint - Bitumen Missing	738633.34	1382633.31	17/04/2023	11:58:24	No Additional Comment
1.424	FJ-BM068	Field Joint - Bitumen Missing	738630.21	1382645.74	17/04/2023	11:59:15	No Additional Comment
1.438	FJ-BM069	Field Joint - Bitumen Missing	738627.13	1382655.19	17/04/2023	12:00:10	No Additional Comment
1.462	FJ-BM070	Field Joint - Bitumen Missing	738620.97	1382682.76	17/04/2023	12:02:01	No Additional Comment
1.476	FJ-BM071	Field Joint - Bitumen Missing	738617.12	1382705.46	17/04/2023	12:03:55	No Additional Comment
1.488	FJ-BM072	Field Joint - Bitumen Missing	738614.62	1382707.69	17/04/2023	12:03:47	No Additional Comment
1.500	FJ-BM073	Field Joint - Bitumen Missing	738611.40	1382719.28	17/04/2023	12:04:29	No Additional Comment

Map Ta Phut 48" Subsea Crude Import Pipeline Report

KP	Abbreviation	Description	East	North	Date	Time	Comments
1.525	FJ-BM074	Field Joint - Bitumen Missing	738603.98	1382743.47	17/04/2023	13:54:27	No Additional Comment
1.538	FJ-BM075	Field Joint - Bitumen Missing	738601.13	1382755.20	17/04/2023	13:55:27	No Additional Comment
1.550	FJ-BM076	Field Joint - Bitumen Missing	738598.01	1382767.26	17/04/2023	13:56:29	No Additional Comment
1.562	FJ-BM077	Field Joint - Bitumen Missing	738595.30	1382779.23	17/04/2023	13:57:34	No Additional Comment
1.601	FJ-BM078	Field Joint - Bitumen Missing	738585.60	1382816.31	17/04/2023	14:15:40	No Additional Comment
1.614	FJ-BM079	Field Joint - Bitumen Missing	738582.37	1382828.90	17/04/2023	14:16:46	No Additional Comment
1.715	FJ-BM080	Field Joint - Bitumen Missing	738555.21	1382926.92	17/04/2023	14:45:45	No Additional Comment
1.754	FJ-BM081	Field Joint - Bitumen Missing	738545.84	1382964.93	17/04/2023	14:48:20	No Additional Comment
1.779	FJ-BM082	Field Joint - Bitumen Missing	738539.31	1382988.25	17/04/2023	14:50:16	No Additional Comment
1.791	FJ-BM083	Field Joint - Bitumen Missing	738536.29	1382999.72	17/04/2023	14:51:26	No Additional Comment
1.817	FJ-BM084	Field Joint - Bitumen Missing	738529.37	1383024.90	17/04/2023	14:53:30	No Additional Comment
1.855	FJ-BM085	Field Joint - Bitumen Missing	738520.21	1383062.41	17/04/2023	14:56:33	No Additional Comment
1.893	FJ-BM086	Field Joint - Bitumen Missing	738511.22	1383098.79	17/04/2023	15:00:55	No Additional Comment
1.918	FJ-BM087	Field Joint - Bitumen Missing	738505.11	1383123.45	17/04/2023	15:19:44	No Additional Comment
1.931	FJ-BM088	Field Joint - Bitumen Missing	738495.70	1383135.69	17/04/2023	15:20:44	No Additional Comment
1.944	FJ-BM089	Field Joint - Bitumen Missing	738498.24	1383148.18	17/04/2023	15:21:56	No Additional Comment
1.957	FJ-BM090	Field Joint - Bitumen Missing	738495.73	1383160.74	17/04/2023	15:23:16	No Additional Comment
1.970	FJ-BM091	Field Joint - Bitumen Missing	738492.59	1383173.29	17/04/2023	15:39:11	No Additional Comment
1.994	FJ-BM092	Field Joint - Bitumen Missing	738485.70	1383197.26	17/04/2023	15:40:56	No Additional Comment
2.008	FJ-BM093	Field Joint - Bitumen Missing	738482.49	1383210.31	17/04/2023	15:42:06	No Additional Comment
2.020	FJ-BM094	Field Joint - Bitumen Missing	738478.95	1383222.10	17/04/2023	15:43:20	No Additional Comment
2.033	FJ-BM095	Field Joint - Bitumen Missing	738475.97	1383234.44	17/04/2023	15:44:28	No Additional Comment
2.045	FJ-BM096	Field Joint - Bitumen Missing	738472.85	1383246.67	17/04/2023	15:45:43	No Additional Comment
2.071	FJ-BM097	Field Joint - Bitumen Missing	738466.31	1383271.44	17/04/2023	15:50:30	No Additional Comment
2.084	FJ-BM098	Field Joint - Bitumen Missing	738462.64	1383284.24	17/04/2023	15:51:29	No Additional Comment
2.097	FJ-BM099	Field Joint - Bitumen Missing	738459.42	1383296.52	17/04/2023	15:52:25	No Additional Comment
2.110	FJ-BM100	Field Joint - Bitumen Missing	738455.79	1383308.75	17/04/2023	15:53:19	No Additional Comment
2.123	FJ-BM101	Field Joint - Bitumen Missing	738452.94	1383321.12	17/04/2023	15:54:47	No Additional Comment
2.135	FJ-BM102	Field Joint - Bitumen Missing	738449.63	1383332.98	17/04/2023	15:55:44	No Additional Comment
2.148	FJ-BM103	Field Joint - Bitumen Missing	738446.48	1383345.29	17/04/2023	15:57:29	No Additional Comment
2.160	FJ-BM104	Field Joint - Bitumen Missing	738443.27	1383357.55	17/04/2023	15:58:22	No Additional Comment
2.186	FJ-BM105	Field Joint - Bitumen Missing	738436.74	1383382.73	17/04/2023	16:02:07	No Additional Comment
2.212	FJ-BM106	Field Joint - Bitumen Missing	738431.05	1383408.03	18/04/2023	08:29:41	No Additional Comment
2.262	FJ-BM107	Field Joint - Bitumen Missing	738417.98	1383456.06	18/04/2023	08:33:41	No Additional Comment
2.326	FJ-BM108	Field Joint - Bitumen Missing	738402.22	1383518.05	18/04/2023	08:38:57	No Additional Comment
2.351	FJ-BM109	Field Joint - Bitumen Missing	738395.65	1383542.50	18/04/2023	08:41:26	No Additional Comment
2.364	FJ-BM110	Field Joint - Bitumen Missing	738392.31	1383554.58	18/04/2023	08:42:40	No Additional Comment
2.376	FJ-BM111	Field Joint - Bitumen Missing	738389.45	1383566.18	18/04/2023	08:44:14	No Additional Comment
2.388	FJ-BM112	Field Joint - Bitumen Missing	738386.45	1383578.50	18/04/2023	08:45:22	No Additional Comment
2.402	FJ-BM113	Field Joint - Bitumen Missing	738382.17	1383591.26	18/04/2023	09:02:45	No Additional Comment
2.414	FJ-BM114	Field Joint - Bitumen Missing	738379.45	1383603.37	18/04/2023	09:03:42	No Additional Comment
2.427	FJ-BM115	Field Joint - Bitumen Missing	738375.91	1383615.42	18/04/2023	09:05:00	No Additional Comment



Map Ta Phut 48" Subsea Crude Import Pipeline Report

KP	Abbreviation	Description	East	North	Date	Time	Comments
3.163	FJ-BM158	Field Joint - Bitumen Missing	738187.42	1384326.91	18/04/2023	11:06:43	No Additional Comment
3.176	FJ-BM159	Field Joint - Bitumen Missing	738184.41	1384339.27	18/04/2023	11:07:42	No Additional Comment
3.188	FJ-BM160	Field Joint - Bitumen Missing	738181.12	1384351.41	18/04/2023	11:08:26	No Additional Comment
3.200	FJ-BM161	Field Joint - Bitumen Missing	738177.45	1384362.99	18/04/2023	11:09:29	No Additional Comment
3.212	FJ-BM162	Field Joint - Bitumen Missing	738174.36	1384374.74	18/04/2023	11:10:22	No Additional Comment
3.239	FJ-BM163	Field Joint - Bitumen Missing	738167.54	1384400.50	18/04/2023	11:11:57	No Additional Comment
3.252	FJ-BM164	Field Joint - Bitumen Missing	738164.61	1384412.85	18/04/2023	11:12:48	No Additional Comment
3.264	FJ-BM165	Field Joint - Bitumen Missing	738161.34	1384424.41	18/04/2023	11:13:45	No Additional Comment
3.276	FJ-BM166	Field Joint - Bitumen Missing	738158.40	1384436.55	18/04/2023	11:14:35	No Additional Comment
3.288	FJ-BM167	Field Joint - Bitumen Missing	738155.38	1384447.95	18/04/2023	11:30:25	No Additional Comment
3.312	FJ-BM168	Field Joint - Bitumen Missing	738149.30	1384471.14	18/04/2023	11:31:41	No Additional Comment
3.325	FJ-BM169	Field Joint - Bitumen Missing	738145.68	1384483.12	18/04/2023	11:32:36	No Additional Comment
3.337	FJ-BM170	Field Joint - Bitumen Missing	738142.71	1384495.60	18/04/2023	11:33:28	No Additional Comment
3.350	FJ-BM171	Field Joint - Bitumen Missing	738139.09	1384507.47	18/04/2023	11:34:22	No Additional Comment
3.363	FJ-BM172	Field Joint - Bitumen Missing	738135.88	1384519.98	18/04/2023	11:35:01	No Additional Comment
3.376	FJ-BM173	Field Joint - Bitumen Missing	738132.61	1384532.52	18/04/2023	11:35:46	No Additional Comment
3.401	FJ-BM174	Field Joint - Bitumen Missing	738126.49	1384557.22	18/04/2023	11:37:36	No Additional Comment
3.414	FJ-BM175	Field Joint - Bitumen Missing	738122.86	1384569.95	18/04/2023	11:40:05	No Additional Comment
3.426	FJ-BM176	Field Joint - Bitumen Missing	738119.67	1384581.13	18/04/2023	11:40:46	No Additional Comment
3.452	FJ-BM177	Field Joint - Bitumen Missing	738114.12	1384606.31	18/04/2023	11:42:37	No Additional Comment
3.502	FJ-BM178	Field Joint - Bitumen Missing	738100.80	1384655.14	18/04/2023	11:45:27	No Additional Comment
3.516	FJ-BM179	Field Joint - Bitumen Missing	738097.33	1384668.53	18/04/2023	11:46:13	No Additional Comment
3.527	FJ-BM180	Field Joint - Bitumen Missing	738094.74	1384679.10	18/04/2023	11:46:55	No Additional Comment
3.541	FJ-BM181	Field Joint - Bitumen Missing	738091.06	1384692.95	18/04/2023	11:50:54	No Additional Comment
3.566	FJ-BM182	Field Joint - Bitumen Missing	738085.95	1384716.61	18/04/2023	11:52:26	No Additional Comment
3.578	FJ-BM183	Field Joint - Bitumen Missing	738082.55	1384728.67	18/04/2023	11:53:13	No Additional Comment
3.591	FJ-BM184	Field Joint - Bitumen Missing	738079.29	1384741.72	18/04/2023	11:54:05	No Additional Comment
3.604	FJ-BM185	Field Joint - Bitumen Missing	738076.00	1384753.81	18/04/2023	11:55:04	No Additional Comment
3.617	FJ-BM186	Field Joint - Bitumen Missing	738073.10	1384766.49	18/04/2023	11:55:52	No Additional Comment
3.630	FJ-BM187	Field Joint - Bitumen Missing	738069.64	1384778.81	18/04/2023	11:56:36	No Additional Comment
3.655	FJ-BM188	Field Joint - Bitumen Missing	738063.33	1384802.79	18/04/2023	11:57:14	No Additional Comment
3.655	FJ-BM189	Field Joint - Bitumen Missing	738063.78	1384802.94	18/04/2023	11:57:55	No Additional Comment
3.687	FJ-BM190	Field Joint - Bitumen Missing	738059.98	1384814.82	18/04/2023	11:59:12	No Additional Comment
3.680	FJ-BM191	Field Joint - Bitumen Missing	738057.47	1384827.38	18/04/2023	12:00:05	No Additional Comment
3.690	FJ-BM192	Field Joint - Bitumen Missing	738055.10	1384837.66	18/04/2023	12:07:05	No Additional Comment
3.703	FJ-BM193	Field Joint - Bitumen Missing	738051.75	1384850.27	18/04/2023	12:08:05	No Additional Comment
3.716	FJ-BM194	Field Joint - Bitumen Missing	738048.44	1384862.01	18/04/2023	12:39:05	No Additional Comment
3.729	FJ-BM195	Field Joint - Bitumen Missing	738044.69	1384874.92	18/04/2023	13:30:00	No Additional Comment
3.742	FJ-BM196	Field Joint - Bitumen Missing	738041.29	1384887.36	18/04/2023	13:30:52	No Additional Comment
3.754	FJ-BM197	Field Joint - Bitumen Missing	738038.73	1384899.42	18/04/2023	13:31:48	No Additional Comment
3.766	FJ-BM198	Field Joint - Bitumen Missing	738036.01	1384911.15	18/04/2023	13:32:41	No Additional Comment
3.805	FJ-BM199	Field Joint - Bitumen Missing	738025.67	1384948.77	18/04/2023	13:35:45	No Additional Comment



Map Ta Phut 48" Subsea Crude Import Pipeline Report

KP	Abbreviation	Description	East	North	Date	Time	Comments
2.439	FJ-BM116	Field Joint - Bitumen Missing	738373.12	1383627.83	18/04/2023	09:06:03	No Additional Comment
2.452	FJ-BM117	Field Joint - Bitumen Missing	738370.34	1383639.80	18/04/2023	09:07:04	No Additional Comment
2.478	FJ-BM118	Field Joint - Bitumen Missing	738362.81	1383664.49	18/04/2023	09:08:57	No Additional Comment
2.490	FJ-BM119	Field Joint - Bitumen Missing	738359.61	1383676.60	18/04/2023	09:09:49	No Additional Comment
2.502	FJ-BM120	Field Joint - Bitumen Missing	738356.03	1383688.32	18/04/2023	09:10:34	No Additional Comment
2.515	FJ-BM121	Field Joint - Bitumen Missing	738353.14	1383700.89	18/04/2023	09:11:23	No Additional Comment
2.528	FJ-BM122	Field Joint - Bitumen Missing	738349.03	1383713.18	18/04/2023	09:36:25	No Additional Comment
2.553	FJ-BM123	Field Joint - Bitumen Missing	738342.64	1383737.43	18/04/2023	09:38:36	No Additional Comment
2.579	FJ-BM124	Field Joint - Bitumen Missing	738336.44	1383762.61	18/04/2023	09:40:15	No Additional Comment
2.605	FJ-BM125	Field Joint - Bitumen Missing	738329.48	1383787.24	18/04/2023	09:41:51	No Additional Comment
2.618	FJ-BM126	Field Joint - Bitumen Missing	738326.64	1383799.99	18/04/2023	09:42:50	No Additional Comment
2.643	FJ-BM127	Field Joint - Bitumen Missing	738320.19	1383823.98	18/04/2023	09:44:21	No Additional Comment
2.655	FJ-BM128	Field Joint - Bitumen Missing	738317.39	1383835.54	18/04/2023	09:46:17	No Additional Comment
2.668	FJ-BM129	Field Joint - Bitumen Missing	738313.77	1383848.43	18/04/2023	09:47:00	No Additional Comment
2.682	FJ-BM130	Field Joint - Bitumen Missing	738310.20	1383861.72	18/04/2023	09:47:50	No Additional Comment
2.694	FJ-BM131	Field Joint - Bitumen Missing	738307.32	1383873.39	18/04/2023	09:48:48	No Additional Comment
2.707	FJ-BM132	Field Joint - Bitumen Missing	738304.33	1383885.91	18/04/2023	09:49:39	No Additional Comment
2.719	FJ-BM133	Field Joint - Bitumen Missing	738300.95	1383897.93	18/04/2023	09:50:16	No Additional Comment
2.733	FJ-BM134	Field Joint - Bitumen Missing	738297.78	1383911.04	18/04/2023	09:51:05	No Additional Comment
2.745	FJ-BM135	Field Joint - Bitumen Missing	738294.29	1383922.87	18/04/2023	09:51:59	No Additional Comment
2.758	FJ-BM136	Field Joint - Bitumen Missing	738291.06	1383945.17	18/04/2023	10:33:58	No Additional Comment
2.794	FJ-BM137	Field Joint - Bitumen Missing	738281.69	1383970.84	18/04/2023	10:36:34	No Additional Comment
2.821	FJ-BM138	Field Joint - Bitumen Missing	738275.29	1383996.17	18/04/2023	10:38:04	No Additional Comment
2.833	FJ-BM139	Field Joint - Bitumen Missing	738272.01	1384007.84	18/04/2023	10:38:53	No Additional Comment
2.846	FJ-BM140	Field Joint - Bitumen Missing	738269.49	1384020.46	18/04/2023	10:39:45	No Additional Comment
2.858	FJ-BM141	Field Joint - Bitumen Missing	738265.86	1384032.53	18/04/2023	10:41:17	No Additional Comment
2.890	FJ-BM142	Field Joint - Bitumen Missing	738253.83	1384081.26	18/04/2023	10:44:43	No Additional Comment
2.921	FJ-BM143	Field Joint - Bitumen Missing	738250.36	1384093.20	18/04/2023	10:45:39	No Additional Comment
2.934	FJ-BM144	Field Joint - Bitumen Missing	738247.07	1384106.22	18/04/2023	10:46:25	No Additional Comment
2.947	FJ-BM145	Field Joint - Bitumen Missing	738244.09	1384118.38	18/04/2023	10:47:14	No Additional Comment
2.959	FJ-BM146	Field Joint - Bitumen Missing	738240.82	1384130.48	18/04/2023	10:48:04	No Additional Comment
2.971	FJ-BM147	Field Joint - Bitumen Missing	738237.64	1384142.29	18/04/2023	10:48:49	No Additional Comment
2.987	FJ-BM148	Field Joint - Bitumen Missing	738230.64	1384166.55	18/04/2023	10:50:19	No Additional Comment
3.010	FJ-BM149	Field Joint - Bitumen Missing	738227.46	1384179.65	18/04/2023	10:51:06	No Additional Comment

Map Ta Phut 48" Subsea Crude Import Pipeline Report

KP	Abbreviation	Description	East	North	Date	Time	Comments
4.538	FJ-BM242	Field Joint - Bitumen Missing	737839.15	1385657.49	18/04/2023	14:38:03	No Additional Comment
4.538	FJ-BM243	Field Joint - Bitumen Missing	737839.06	1385657.76	18/04/2023	14:38:05	net
4.551	FJ-BM244	Field Joint - Bitumen Missing	737835.52	1385669.84	18/04/2023	14:57:38	No Additional Comment
4.564	FJ-BM245	Field Joint - Bitumen Missing	737831.80	1385682.25	18/04/2023	14:58:52	No Additional Comment
4.576	FJ-BM246	Field Joint - Bitumen Missing	737829.14	1385693.81	18/04/2023	14:59:38	No Additional Comment
4.588	FJ-BM247	Field Joint - Bitumen Missing	737826.01	1385705.25	18/04/2023	15:00:20	No Additional Comment
4.600	FJ-BM248	Field Joint - Bitumen Missing	737823.20	1385717.15	18/04/2023	15:01:01	No Additional Comment
4.612	FJ-BM249	Field Joint - Bitumen Missing	737819.83	1385728.37	18/04/2023	15:01:54	No Additional Comment
4.624	FJ-BM250	Field Joint - Bitumen Missing	737817.33	1385740.36	18/04/2023	15:02:54	No Additional Comment
4.637	FJ-BM251	Field Joint - Bitumen Missing	737814.01	1385752.54	18/04/2023	15:03:39	No Additional Comment
4.649	FJ-BM252	Field Joint - Bitumen Missing	737810.73	1385764.65	18/04/2023	15:04:26	No Additional Comment
4.662	FJ-BM253	Field Joint - Bitumen Missing	737807.43	1385777.22	18/04/2023	15:05:28	No Additional Comment
4.674	FJ-BM254	Field Joint - Bitumen Missing	737804.68	1385788.47	18/04/2023	15:07:00	No Additional Comment
4.686	FJ-BM255	Field Joint - Bitumen Missing	737801.47	1385800.14	18/04/2023	15:07:51	No Additional Comment
4.697	FJ-BM256	Field Joint - Bitumen Missing	737798.65	1385811.53	18/04/2023	15:08:38	No Additional Comment
4.710	FJ-BM257	Field Joint - Bitumen Missing	737794.90	1385823.85	18/04/2023	15:09:26	No Additional Comment
4.722	FJ-BM258	Field Joint - Bitumen Missing	737791.78	1385835.23	18/04/2023	15:10:44	No Additional Comment
4.735	FJ-BM259	Field Joint - Bitumen Missing	737788.88	1385848.11	18/04/2023	15:11:59	No Additional Comment
4.748	FJ-BM260	Field Joint - Bitumen Missing	737785.70	1385860.49	18/04/2023	15:12:45	No Additional Comment
4.760	FJ-BM261	Field Joint - Bitumen Missing	737782.52	1385872.34	18/04/2023	15:13:31	No Additional Comment
4.773	FJ-BM262	Field Joint - Bitumen Missing	737779.78	1385884.59	18/04/2023	15:14:27	No Additional Comment
4.785	FJ-BM263	Field Joint - Bitumen Missing	737775.93	1385896.08	18/04/2023	15:15:11	No Additional Comment
4.797	FJ-BM264	Field Joint - Bitumen Missing	737772.97	1385907.99	18/04/2023	15:16:50	No Additional Comment
4.810	FJ-BM265	Field Joint - Bitumen Missing	737770.08	1385920.06	18/04/2023	15:17:43	No Additional Comment
4.822	FJ-BM266	Field Joint - Bitumen Missing	737766.64	1385931.77	18/04/2023	15:18:49	No Additional Comment
4.835	FJ-BM267	Field Joint - Bitumen Missing	737763.58	1385944.40	18/04/2023	15:19:40	No Additional Comment
4.848	FJ-BM268	Field Joint - Bitumen Missing	737760.50	1385956.71	18/04/2023	15:20:33	No Additional Comment
4.860	FJ-BM269	Field Joint - Bitumen Missing	737757.34	1385968.80	18/04/2023	15:21:25	No Additional Comment
4.873	FJ-BM270	Field Joint - Bitumen Missing	737754.25	1385981.37	18/04/2023	15:22:22	No Additional Comment
4.885	FJ-BM271	Field Joint - Bitumen Missing	737750.94	1385992.75	18/04/2023	15:23:06	No Additional Comment
4.897	FJ-BM272	Field Joint - Bitumen Missing	737748.22	1386004.30	18/04/2023	15:23:50	No Additional Comment
4.909	FJ-BM273	Field Joint - Bitumen Missing	737745.00	1386016.34	18/04/2023	15:24:35	No Additional Comment
4.935	FJ-BM274	Field Joint - Bitumen Missing	737737.75	1386040.98	18/04/2023	15:28:39	No Additional Comment
4.949	FJ-BM275	Field Joint - Bitumen Missing	737734.70	1386055.05	18/04/2023	15:29:25	No Additional Comment
4.959	FJ-BM276	Field Joint - Bitumen Missing	737732.45	1386064.61	18/04/2023	15:30:18	No Additional Comment
4.971	FJ-BM277	Field Joint - Bitumen Missing	737729.65	1386076.15	18/04/2023	15:31:03	No Additional Comment
4.997	FJ-BM278	Field Joint - Bitumen Missing	737722.71	1386100.93	18/04/2023	15:32:35	No Additional Comment
5.020	FJ-BM279	Field Joint - Bitumen Missing	737716.78	1386123.99	18/04/2023	15:34:30	No Additional Comment
5.032	FJ-BM280	Field Joint - Bitumen Missing	737713.79	1386135.40	18/04/2023	15:35:31	No Additional Comment
5.045	FJ-BM281	Field Joint - Bitumen Missing	737710.29	1386147.68	18/04/2023	15:36:28	No Additional Comment
5.057	FJ-BM282	Field Joint - Bitumen Missing	737707.21	1386159.57	18/04/2023	15:37:20	No Additional Comment
5.119	FJ-BM283	Field Joint - Bitumen Missing	737691.69	1386219.65	18/04/2023	15:41:24	No Additional Comment



Map Ta Phut 48" Subsea Crude Import Pipeline Report

KP	Abbreviation	Description	East	North	Date	Time	Comments
5.786	FJ-BM326	Field Joint - Bitumen Missing	737522.07	1386864.69	19/04/2023	09:22:30	No Additional Comment
5.799	FJ-BM327	Field Joint - Bitumen Missing	737518.64	1386877.22	19/04/2023	09:23:03	No Additional Comment
5.811	FJ-BM328	Field Joint - Bitumen Missing	737515.75	1386888.64	19/04/2023	09:23:37	No Additional Comment
5.823	FJ-BM329	Field Joint - Bitumen Missing	737512.26	1386900.01	19/04/2023	09:24:12	No Additional Comment
5.848	FJ-BM330	Field Joint - Bitumen Missing	737506.32	1386924.32	19/04/2023	09:25:49	No Additional Comment
5.873	FJ-BM331	Field Joint - Bitumen Missing	737499.80	1386948.35	19/04/2023	09:27:05	No Additional Comment
5.884	FJ-BM332	Field Joint - Bitumen Missing	737496.37	1386959.37	19/04/2023	09:27:42	No Additional Comment
5.910	FJ-BM333	Field Joint - Bitumen Missing	737490.53	1386984.13	19/04/2023	09:28:57	No Additional Comment
5.946	FJ-BM334	Field Joint - Bitumen Missing	737480.62	1387019.09	19/04/2023	09:30:20	No Additional Comment
5.958	FJ-BM335	Field Joint - Bitumen Missing	737478.43	1387031.20	19/04/2023	09:31:01	No Additional Comment
5.974	FJ-BM336	Field Joint - Bitumen Missing	737474.26	1387045.70	19/04/2023	09:31:39	No Additional Comment
5.983	FJ-BM337	Field Joint - Bitumen Missing	737471.83	1387055.21	19/04/2023	09:32:15	No Additional Comment
5.996	FJ-BM338	Field Joint - Bitumen Missing	737468.66	1387067.43	19/04/2023	09:32:46	No Additional Comment
6.009	FJ-BM339	Field Joint - Bitumen Missing	737465.07	1387079.77	19/04/2023	09:33:40	No Additional Comment
6.021	FJ-BM340	Field Joint - Bitumen Missing	737462.40	1387092.06	19/04/2023	09:34:25	No Additional Comment
6.059	FJ-BM341	Field Joint - Bitumen Missing	737452.13	1387127.92	19/04/2023	09:35:59	No Additional Comment
6.058	FJ-BM342	Field Joint - Bitumen Missing	737453.28	1387127.60	19/04/2023	09:36:31	No Additional Comment
6.071	FJ-BM343	Field Joint - Bitumen Missing	737450.12	1387139.59	19/04/2023	09:37:56	No Additional Comment
6.083	FJ-BM344	Field Joint - Bitumen Missing	737446.80	1387152.02	19/04/2023	09:38:39	No Additional Comment
6.097	FJ-BM345	Field Joint - Bitumen Missing	737443.58	1387165.17	19/04/2023	09:39:22	No Additional Comment
6.121	FJ-BM346	Field Joint - Bitumen Missing	737437.37	1387188.22	19/04/2023	09:40:54	No Additional Comment
6.133	FJ-BM347	Field Joint - Bitumen Missing	737433.81	1387200.40	19/04/2023	09:41:32	No Additional Comment
6.145	FJ-BM348	Field Joint - Bitumen Missing	737430.92	1387211.81	19/04/2023	09:42:08	No Additional Comment
6.157	FJ-BM349	Field Joint - Bitumen Missing	737428.13	1387223.58	19/04/2023	09:45:17	No Additional Comment
6.170	FJ-BM350	Field Joint - Bitumen Missing	737425.67	1387236.29	19/04/2023	09:46:01	No Additional Comment
6.183	FJ-BM351	Field Joint - Bitumen Missing	737421.35	1387248.09	19/04/2023	09:46:43	No Additional Comment
6.194	FJ-BM352	Field Joint - Bitumen Missing	737419.54	1387258.86	19/04/2023	09:47:20	No Additional Comment
6.207	FJ-BM353	Field Joint - Bitumen Missing	737414.54	1387270.92	19/04/2023	09:48:04	No Additional Comment
6.219	FJ-BM354	Field Joint - Bitumen Missing	737412.25	1387283.47	19/04/2023	09:48:51	No Additional Comment
6.231	FJ-BM355	Field Joint - Bitumen Missing	737408.83	1387294.76	19/04/2023	09:50:31	No Additional Comment
6.244	FJ-BM356	Field Joint - Bitumen Missing	737405.60	1387307.78	19/04/2023	09:51:14	No Additional Comment
6.256	FJ-BM357	Field Joint - Bitumen Missing	737402.45	1387319.08	19/04/2023	09:51:50	No Additional Comment
6.269	FJ-BM358	Field Joint - Bitumen Missing	737399.23	1387331.52	19/04/2023	09:52:28	No Additional Comment
6.282	FJ-BM359	Field Joint - Bitumen Missing	737396.12	1387343.61	19/04/2023	09:53:53	No Additional Comment
6.294	FJ-BM360	Field Joint - Bitumen Missing	737392.68	1387355.38	19/04/2023	09:54:33	No Additional Comment
6.306	FJ-BM361	Field Joint - Bitumen Missing	737389.58	1387367.24	19/04/2023	09:55:17	No Additional Comment
6.319	FJ-BM362	Field Joint - Bitumen Missing	737386.49	1387379.53	19/04/2023	09:55:57	No Additional Comment
6.331	FJ-BM363	Field Joint - Bitumen Missing	737383.69	1387391.73	19/04/2023	09:56:39	No Additional Comment
6.344	FJ-BM364	Field Joint - Bitumen Missing	737380.89	1387404.07	19/04/2023	09:57:18	No Additional Comment
6.356	FJ-BM365	Field Joint - Bitumen Missing	737376.67	1387415.93	19/04/2023	09:57:56	No Additional Comment
6.369	FJ-BM366	Field Joint - Bitumen Missing	737373.64	1387427.82	19/04/2023	09:58:31	No Additional Comment
6.405	FJ-BM367	Field Joint - Bitumen Missing	737364.26	1387463.04	19/04/2023	10:01:19	No Additional Comment



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KP	Abbreviation	Description	East	North	Date	Time	Comments
5.169	FJ-BM284	Field Joint - Bitumen Missing	737679.09	1386267.71	18/04/2023	15:44:46	No Additional Comment
5.181	FJ-BM285	Field Joint - Bitumen Missing	737675.89	1386279.35	18/04/2023	15:45:33	No Additional Comment
5.206	FJ-BM286	Field Joint - Bitumen Missing	737669.46	1386303.53	19/04/2023	08:09:38	No Additional Comment
5.243	FJ-BM287	Field Joint - Bitumen Missing	737660.63	1386339.58	19/04/2023	08:11:57	No Additional Comment
5.255	FJ-BM288	Field Joint - Bitumen Missing	737657.38	1386351.02	19/04/2023	08:12:38	No Additional Comment
5.268	FJ-BM289	Field Joint - Bitumen Missing	737654.06	1386363.18	19/04/2023	08:13:23	No Additional Comment
5.280	FJ-BM290	Field Joint - Bitumen Missing	737650.81	1386375.05	19/04/2023	08:14:13	No Additional Comment
5.292	FJ-BM291	Field Joint - Bitumen Missing	737647.92	1386386.97	19/04/2023	08:15:25	No Additional Comment
5.305	FJ-BM292	Field Joint - Bitumen Missing	737644.65	1386398.79	19/04/2023	08:16:39	No Additional Comment
5.330	FJ-BM293	Field Joint - Bitumen Missing	737638.41	1386423.12	19/04/2023	08:18:25	No Additional Comment
5.344	FJ-BM294	Field Joint - Bitumen Missing	737634.83	1386436.58	19/04/2023	08:19:26	No Additional Comment
5.380	FJ-BM295	Field Joint - Bitumen Missing	737623.69	1386471.31	19/04/2023	08:22:36	No Additional Comment
5.380	FJ-BM296	Field Joint - Bitumen Missing	737625.68	1386472.16	19/04/2023	08:23:33	No Additional Comment
5.392	FJ-BM297	Field Joint - Bitumen Missing	737622.77	1386483.87	19/04/2023	08:29:26	No Additional Comment
5.405	FJ-BM298	Field Joint - Bitumen Missing	737619.24	1386496.23	19/04/2023	08:40:09	No Additional Comment
5.417	FJ-BM299	Field Joint - Bitumen Missing	737616.17	1386507.53	19/04/2023	08:46:15	No Additional Comment
5.430	FJ-BM300	Field Joint - Bitumen Missing	737612.65	1386519.71	19/04/2023	08:46:49	No Additional Comment
5.442	FJ-BM301	Field Joint - Bitumen Missing	737609.38	1386531.52	19/04/2023	08:47:28	No Additional Comment
5.466	FJ-BM302	Field Joint - Bitumen Missing	737603.47	1386555.34	19/04/2023	08:48:43	No Additional Comment
5.480	FJ-BM303	Field Joint - Bitumen Missing	737599.66	1386568.02	19/04/2023	08:50:22	No Additional Comment
5.491	FJ-BM304	Field Joint - Bitumen Missing	737597.23	1386579.00	19/04/2023	08:51:13	No Additional Comment
5.503	FJ-BM305	Field Joint - Bitumen Missing	737594.20	1386591.10	19/04/2023	08:52:06	No Additional Comment
5.516	FJ-BM306	Field Joint - Bitumen Missing	737591.11	1386603.16	19/04/2023	08:52:48	No Additional Comment
5.552	FJ-BM307	Field Joint - Bitumen Missing	737580.28	1386638.13	19/04/2023	08:56:19	No Additional Comment
5.565	FJ-BM308	Field Joint - Bitumen Missing	737577.93	1386650.29	19/04/2023	08:57:50	No Additional Comment
5.578	FJ-BM309	Field Joint - Bitumen Missing	737574.61	1386662.56	19/04/2023	08:58:42	No Additional Comment
5.589	FJ-BM310	Field Joint - Bitumen Missing	737571.73	1386674.14	19/04/2023	08:59:24	No Additional Comment
5.603	FJ-BM311	Field Joint - Bitumen Missing	737568.22	1386686.85	19/04/2023	09:00:02	No Additional Comment
5.615	FJ-BM312	Field Joint - Bitumen Missing	737565.30	1386698.58	19/04/2023	09:00:36	No Additional Comment
5.627	FJ-BM313	Field Joint - Bitumen Missing	737561.98	1386710.68	19/04/2023	09:01:11	No Additional Comment
5.639	FJ-BM314	Field Joint - Bitumen Missing	737558.61	1386722.40	19/04/2023	09:01:50	No Additional Comment
5.652	FJ-BM315	Field Joint - Bitumen Missing	737555.69	1386734.62	19/04/2023	09:02:28	No Additional Comment
5.685	FJ-BM316	Field Joint - Bitumen Missing	737552.96	1386745.87	19/04/2023	09:04:19	No Additional Comment
5.677	FJ-BM317	Field Joint - Bitumen Missing	737549.63	1386758.67	19/04/2023	09:15:08	No Additional Comment

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KP	Abbreviation	Description	East	North	Date	Time	Comments
7.017	FJ-BM410	Field Joint - Bitumen Missing	737207.23	1388054.81	19/04/2023	11:08:37	No Additional Comment
7.021	FJ-BM411	Field Joint - Bitumen Missing	737206.48	1388057.90	19/04/2023	11:10:12	No Additional Comment
7.033	FJ-BM412	Field Joint - Bitumen Missing	737203.56	1388070.04	19/04/2023	11:10:55	No Additional Comment
7.045	FJ-BM413	Field Joint - Bitumen Missing	737200.48	1388082.04	19/04/2023	11:11:43	No Additional Comment
7.058	FJ-BM414	Field Joint - Bitumen Missing	737197.33	1388094.03	19/04/2023	11:12:25	No Additional Comment
7.070	FJ-BM415	Field Joint - Bitumen Missing	737193.79	1388106.10	19/04/2023	11:13:05	No Additional Comment
7.082	FJ-BM416	Field Joint - Bitumen Missing	737190.68	1388117.72	19/04/2023	11:13:44	No Additional Comment
7.091	FJ-BM417	Field Joint - Bitumen Missing	737189.07	1388126.46	19/04/2023	11:14:18	No Additional Comment
7.095	FJ-BM418	Field Joint - Bitumen Missing	737187.95	1388129.73	19/04/2023	11:14:40	No Additional Comment
7.108	FJ-BM419	Field Joint - Bitumen Missing	737184.58	1388142.59	19/04/2023	11:15:27	No Additional Comment
7.132	FJ-BM420	Field Joint - Bitumen Missing	737178.51	1388165.90	19/04/2023	11:16:37	No Additional Comment
7.144	FJ-BM421	Field Joint - Bitumen Missing	737175.92	1388177.63	19/04/2023	11:34:07	No Additional Comment
7.157	FJ-BM422	Field Joint - Bitumen Missing	737172.40	1388189.78	19/04/2023	11:35:07	No Additional Comment
7.177	FJ-BM423	Field Joint - Bitumen Missing	737167.39	1388208.89	19/04/2023	11:35:39	No Additional Comment
7.181	FJ-BM424	Field Joint - Bitumen Missing	737166.37	1388213.72	19/04/2023	11:36:20	No Additional Comment
7.196	FJ-BM425	Field Joint - Bitumen Missing	737162.73	1388227.70	19/04/2023	11:37:00	No Additional Comment
7.207	FJ-BM426	Field Joint - Bitumen Missing	737159.13	1388238.03	19/04/2023	11:37:44	No Additional Comment
7.219	FJ-BM427	Field Joint - Bitumen Missing	737156.62	1388250.41	19/04/2023	11:38:23	No Additional Comment
7.241	FJ-BM428	Field Joint - Bitumen Missing	737149.25	1388270.71	19/04/2023	13:14:15	No Additional Comment
7.244	FJ-BM429	Field Joint - Bitumen Missing	737149.81	1388274.22	19/04/2023	13:14:53	No Additional Comment
7.257	FJ-BM430	Field Joint - Bitumen Missing	737146.84	1388286.33	19/04/2023	13:15:35	No Additional Comment
7.269	FJ-BM431	Field Joint - Bitumen Missing	737143.95	1388298.82	19/04/2023	13:16:28	No Additional Comment
7.281	FJ-BM432	Field Joint - Bitumen Missing	737140.60	1388310.18	19/04/2023	13:17:02	No Additional Comment
7.295	FJ-BM433	Field Joint - Bitumen Missing	737137.07	1388323.51	19/04/2023	13:17:41	No Additional Comment
7.306	FJ-BM434	Field Joint - Bitumen Missing	737134.55	1388333.90	19/04/2023	13:18:18	No Additional Comment
7.318	FJ-BM435	Field Joint - Bitumen Missing	737131.15	1388346.07	19/04/2023	13:18:50	No Additional Comment
7.331	FJ-BM436	Field Joint - Bitumen Missing	737128.19	1388358.02	19/04/2023	13:19:25	No Additional Comment
7.343	FJ-BM437	Field Joint - Bitumen Missing	737124.71	1388369.84	19/04/2023	13:19:58	No Additional Comment
7.356	FJ-BM438	Field Joint - Bitumen Missing	737121.89	1388382.36	19/04/2023	13:20:31	No Additional Comment
7.368	FJ-BM439	Field Joint - Bitumen Missing	737118.35	1388394.41	19/04/2023	13:21:08	No Additional Comment
7.381	FJ-BM440	Field Joint - Bitumen Missing	737115.22	1388406.36	19/04/2023	13:21:39	No Additional Comment
7.393	FJ-BM441	Field Joint - Bitumen Missing	737111.63	1388418.01	19/04/2023	13:22:30	No Additional Comment
7.405	FJ-BM442	Field Joint - Bitumen Missing	737109.26	1388429.31	19/04/2023	13:23:05	No Additional Comment
7.430	FJ-BM443	Field Joint - Bitumen Missing	737102.85	1388453.68	19/04/2023	13:24:16	No Additional Comment
7.442	FJ-BM444	Field Joint - Bitumen Missing	737099.77	1388465.07	19/04/2023	13:24:54	No Additional Comment
7.454	FJ-BM445	Field Joint - Bitumen Missing	737096.41	1388477.24	19/04/2023	13:25:34	No Additional Comment
7.466	FJ-BM446	Field Joint - Bitumen Missing	737093.43	1388488.73	19/04/2023	13:26:22	No Additional Comment
7.479	FJ-BM447	Field Joint - Bitumen Missing	737090.30	1388501.37	19/04/2023	13:27:07	No Additional Comment
7.491	FJ-BM448	Field Joint - Bitumen Missing	737087.01	1388513.35	19/04/2023	13:27:45	No Additional Comment
7.504	FJ-BM449	Field Joint - Bitumen Missing	737083.93	1388525.28	19/04/2023	13:28:23	No Additional Comment
7.516	FJ-BM450	Field Joint - Bitumen Missing	737080.51	1388537.09	19/04/2023	13:29:42	No Additional Comment
7.529	FJ-BM451	Field Joint - Bitumen Missing	737077.16	1388549.35	19/04/2023	13:30:19	No Additional Comment



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KP	Abbreviation	Description	East	North	Date	Time	Comments
8.126	FJ-BM494	Field Joint - Bitumen Missing	736926.89	1389126.89	19/04/2023	14:40:27	No Additional Comment
8.137	FJ-BM495	Field Joint - Bitumen Missing	736923.25	1389137.90	19/04/2023	14:41:48	No Additional Comment
8.150	FJ-BM496	Field Joint - Bitumen Missing	736919.42	1389150.06	19/04/2023	14:42:31	No Additional Comment
8.162	FJ-BM497	Field Joint - Bitumen Missing	736916.40	1389161.80	19/04/2023	14:43:12	No Additional Comment
8.174	FJ-BM498	Field Joint - Bitumen Missing	736913.68	1389173.58	19/04/2023	14:43:43	No Additional Comment
8.186	FJ-BM499	Field Joint - Bitumen Missing	736910.79	1389184.97	19/04/2023	14:45:03	No Additional Comment
8.199	FJ-BM500	Field Joint - Bitumen Missing	736907.17	1389198.00	19/04/2023	14:45:55	No Additional Comment
8.213	FJ-BM501	Field Joint - Bitumen Missing	736903.28	1389211.44	19/04/2023	14:46:40	No Additional Comment
8.224	FJ-BM502	Field Joint - Bitumen Missing	736901.03	1389222.15	19/04/2023	14:47:31	No Additional Comment
8.236	FJ-BM503	Field Joint - Bitumen Missing	736897.91	1389233.91	19/04/2023	14:48:36	No Additional Comment
8.249	FJ-BM504	Field Joint - Bitumen Missing	736894.33	1389245.99	19/04/2023	14:49:21	No Additional Comment
8.260	FJ-BM505	Field Joint - Bitumen Missing	736891.03	1389257.01	19/04/2023	14:50:53	No Additional Comment
8.273	FJ-BM506	Field Joint - Bitumen Missing	736887.73	1389268.95	19/04/2023	14:51:48	No Additional Comment
8.285	FJ-BM507	Field Joint - Bitumen Missing	736884.72	1389281.01	19/04/2023	14:52:56	No Additional Comment
8.298	FJ-BM508	Field Joint - Bitumen Missing	736881.49	1389293.13	19/04/2023	14:53:41	No Additional Comment
8.311	FJ-BM509	Field Joint - Bitumen Missing	736878.11	1389305.83	19/04/2023	14:54:18	No Additional Comment
8.323	FJ-BM510	Field Joint - Bitumen Missing	736874.51	1389317.67	19/04/2023	14:55:09	No Additional Comment
8.335	FJ-BM511	Field Joint - Bitumen Missing	736872.78	1389329.54	19/04/2023	14:55:57	No Additional Comment
8.348	FJ-BM512	Field Joint - Bitumen Missing	736868.91	1389341.60	19/04/2023	14:56:33	No Additional Comment
8.373	FJ-BM513	Field Joint - Bitumen Missing	736863.25	1389359.78	19/04/2023	15:04:21	No Additional Comment
8.385	FJ-BM514	Field Joint - Bitumen Missing	736859.85	1389377.43	19/04/2023	15:05:37	No Additional Comment
8.397	FJ-BM515	Field Joint - Bitumen Missing	736855.60	1389389.06	19/04/2023	15:06:22	No Additional Comment
8.410	FJ-BM516	Field Joint - Bitumen Missing	736853.27	1389401.27	19/04/2023	15:07:03	No Additional Comment
8.422	FJ-BM517	Field Joint - Bitumen Missing	736850.12	1389413.25	19/04/2023	15:07:51	No Additional Comment
8.435	FJ-BM518	Field Joint - Bitumen Missing	736846.77	1389425.42	19/04/2023	15:08:36	No Additional Comment
8.447	FJ-BM519	Field Joint - Bitumen Missing	736843.54	1389437.35	19/04/2023	15:09:14	No Additional Comment
8.461	FJ-BM520	Field Joint - Bitumen Missing	736840.30	1389449.82	19/04/2023	15:10:01	No Additional Comment
8.473	FJ-BM521	Field Joint - Bitumen Missing	736837.26	1389461.19	19/04/2023	15:11:07	No Additional Comment
8.484	FJ-BM522	Field Joint - Bitumen Missing	736834.30	1389472.94	19/04/2023	15:11:52	No Additional Comment
8.497	FJ-BM523	Field Joint - Bitumen Missing	736830.40	1389485.90	19/04/2023	15:12:29	No Additional Comment
8.508	FJ-BM524	Field Joint - Bitumen Missing	736826.74	1389496.50	19/04/2023	15:16:44	No Additional Comment
8.521	FJ-BM525	Field Joint - Bitumen Missing	736824.45	1389508.87	19/04/2023	15:17:25	No Additional Comment
8.545	FJ-BM526	Field Joint - Bitumen Missing	736819.30	1389532.50	19/04/2023	15:17:20	No Additional Comment
8.547	FJ-BM527	Field Joint - Bitumen Missing	736817.41	1389533.42	19/04/2023	15:19:20	No Additional Comment
8.559	FJ-BM528	Field Joint - Bitumen Missing	736814.22	1389545.60	19/04/2023	15:20:02	No Additional Comment
8.571	FJ-BM529	Field Joint - Bitumen Missing	736811.64	1389557.55	19/04/2023	15:20:58	No Additional Comment
8.585	FJ-BM530	Field Joint - Bitumen Missing	736807.86	1389570.92	19/04/2023	15:21:48	No Additional Comment
8.609	FJ-BM531	Field Joint - Bitumen Missing	736799.14	1389593.50	19/04/2023	15:22:31	No Additional Comment
8.609	FJ-BM532	Field Joint - Bitumen Missing	736798.19	1389593.50	19/04/2023	15:23:13	No Additional Comment
8.621	FJ-BM533	Field Joint - Bitumen Missing	736798.63	1389605.44	19/04/2023	15:24:41	No Additional Comment
8.633	FJ-BM534	Field Joint - Bitumen Missing	736796.29	1389617.72	19/04/2023	15:25:49	No Additional Comment
8.645	FJ-BM535	Field Joint - Bitumen Missing	736792.43	1389629.15	19/04/2023	15:26:28	No Additional Comment



Map Ta Phut 48" Subsea Crude Import Pipeline Report

KP	Abbreviation	Description	East	North	Date	Time	Comments
7.541	FJ-BM452	Field Joint - Bitumen Missing	737074.25	1388561.53	19/04/2023	13:31:00	No Additional Comment
7.554	FJ-BM453	Field Joint - Bitumen Missing	737071.08	1388573.56	19/04/2023	13:31:39	No Additional Comment
7.567	FJ-BM454	Field Joint - Bitumen Missing	737067.32	1388585.98	19/04/2023	13:32:41	No Additional Comment
7.578	FJ-BM455	Field Joint - Bitumen Missing	737064.74	1388597.45	19/04/2023	13:33:21	No Additional Comment
7.591	FJ-BM456	Field Joint - Bitumen Missing	737061.61	1388609.35	19/04/2023	13:34:00	No Additional Comment
7.604	FJ-BM457	Field Joint - Bitumen Missing	737058.45	1388622.47	19/04/2023	13:34:37	No Additional Comment
7.616	FJ-BM458	Field Joint - Bitumen Missing	737055.04	1388634.13	19/04/2023	13:35:14	No Additional Comment
7.629	FJ-BM459	Field Joint - Bitumen Missing	737052.14	1388646.50	19/04/2023	13:35:56	No Additional Comment
7.641	FJ-BM460	Field Joint - Bitumen Missing	737048.62	1388657.85	19/04/2023	13:37:08	No Additional Comment
7.653	FJ-BM461	Field Joint - Bitumen Missing	737045.92	1388669.37	19/04/2023	13:37:41	No Additional Comment
7.678	FJ-BM462	Field Joint - Bitumen Missing	737040.61	1388694.01	19/04/2023	13:39:11	No Additional Comment
7.690	FJ-BM463	Field Joint - Bitumen Missing	737036.63	1388705.81	19/04/2023	13:40:00	No Additional Comment
7.702	FJ-BM464	Field Joint - Bitumen Missing	737033.31	1388717.20	19/04/2023	13:40:38	No Additional Comment
7.715	FJ-BM465	Field Joint - Bitumen Missing	737030.64	1388729.20	19/04/2023	13:41:19	No Additional Comment
7.727	FJ-BM466	Field Joint - Bitumen Missing	737026.84	1388741.35	19/04/2023	13:41:58	No Additional Comment
7.740	FJ-BM467	Field Joint - Bitumen Missing	737024.61	1388753.53	19/04/2023	13:42:42	No Additional Comment
7.754	FJ-BM468	Field Joint - Bitumen Missing	737020.86	1388767.14	19/04/2023	13:44:00	No Additional Comment
7.764	FJ-BM469	Field Joint - Bitumen Missing	737017.99	1388777.10	19/04/2023	13:49:23	No Additional Comment
7.777	FJ-BM470	Field Joint - Bitumen Missing	737015.93	1388789.50	19/04/2023	13:50:04	No Additional Comment
7.788	FJ-BM471	Field Joint - Bitumen Missing	737011.68	1388800.65	19/04/2023	13:50:41	No Additional Comment
7.801	FJ-BM472	Field Joint - Bitumen Missing	737008.86	1388812.57	19/04/2023	13:51:17	No Additional Comment
7.813	FJ-BM473	Field Joint - Bitumen Missing	737005.73	1388824.63	19/04/2023	13:51:53	No Additional Comment
7.826	FJ-BM474	Field Joint - Bitumen Missing	737002.46	1388836.56	19/04/2023	13:52:24	No Additional Comment
7.850	FJ-BM475	Field Joint - Bitumen Missing	736996.13	1388860.38	19/04/2023	14:08:27	No Additional Comment
7.876	FJ-BM476	Field Joint - Bitumen Missing	736989.72	1388885.23	19/04/2023	14:09:57	No Additional Comment
7.888	FJ-BM477	Field Joint - Bitumen Missing	736986.54	1388896.46	19/04/2023	14:10:58	No Additional Comment
7.903	FJ-BM478	Field Joint - Bitumen Missing	736983.72	1388908.21	19/04/2023	14:11:33	No Additional Comment
7.913	FJ-BM479	Field Joint - Bitumen Missing	736980.33	1388921.24	19/04/2023	14:12:12	No Additional Comment
7.926	FJ-BM480	Field Joint - Bitumen Missing	736976.86	1388933.33	19/04/2023	14:12:52	No Additional Comment
7.938	FJ-BM481	Field Joint - Bitumen Missing	736973.73	1388945.59	19/04/2023	14:13:25	No Additional Comment
7.950	FJ-BM482	Field Joint - Bitumen Missing	736970.76	1388957.07	19/04/2023	14:13:58	No Additional Comment
7.962	FJ-BM483	Field Joint - Bitumen Missing	736967.74	1388968.87	19/04/2023	14:14:29	No Additional Comment
7.975	FJ-BM484	Field Joint - Bitumen Missing	736964.49	1388981.03	19/04/2023	14:15:03	No Additional Comment
7.987	FJ-BM485	Field Joint - Bitumen Missing	736961.30	1388992.72	19/04/2023	14:15:37	No Additional Comment

Map Ta Phut 48" Subsea Crude Import Pipeline Report

KP	Abbreviation	Description	East	North	Date	Time	Comments
9.311	FJ-BM578	Field Joint - Bitumen Missing	736624.20	1390273.16	22/04/2023	09:32:02	No Additional Comment
9.324	FJ-BM579	Field Joint - Bitumen Missing	736620.94	1390285.37	22/04/2023	09:32:54	No Additional Comment
9.336	FJ-BM580	Field Joint - Bitumen Missing	736617.93	1390297.32	22/04/2023	09:33:45	No Additional Comment
9.349	FJ-BM581	Field Joint - Bitumen Missing	736614.66	1390309.75	22/04/2023	09:34:31	No Additional Comment
9.361	FJ-BM582	Field Joint - Bitumen Missing	736611.14	1390321.42	22/04/2023	09:35:10	No Additional Comment
9.374	FJ-BM583	Field Joint - Bitumen Missing	736607.94	1390333.65	22/04/2023	09:36:07	No Additional Comment
9.386	FJ-BM584	Field Joint - Bitumen Missing	736605.14	1390345.35	22/04/2023	09:36:46	No Additional Comment
9.398	FJ-BM585	Field Joint - Bitumen Missing	736601.77	1390357.30	22/04/2023	09:37:28	No Additional Comment
9.410	FJ-BM586	Field Joint - Bitumen Missing	736598.35	1390369.12	22/04/2023	09:38:13	No Additional Comment
9.423	FJ-BM587	Field Joint - Bitumen Missing	736595.30	1390380.91	22/04/2023	09:39:10	No Additional Comment
9.435	FJ-BM588	Field Joint - Bitumen Missing	736591.92	1390393.04	22/04/2023	09:39:50	No Additional Comment
9.448	FJ-BM589	Field Joint - Bitumen Missing	736589.13	1390405.11	22/04/2023	09:40:40	No Additional Comment
9.460	FJ-BM590	Field Joint - Bitumen Missing	736586.33	1390416.84	22/04/2023	09:41:22	No Additional Comment
9.472	FJ-BM591	Field Joint - Bitumen Missing	736582.79	1390428.87	22/04/2023	09:42:05	No Additional Comment
9.484	FJ-BM592	Field Joint - Bitumen Missing	736579.18	1390440.39	22/04/2023	09:42:50	No Additional Comment
9.496	FJ-BM593	Field Joint - Bitumen Missing	736576.69	1390452.29	22/04/2023	09:43:46	No Additional Comment
9.509	FJ-BM594	Field Joint - Bitumen Missing	736573.16	1390464.40	22/04/2023	09:44:29	No Additional Comment
9.521	FJ-BM595	Field Joint - Bitumen Missing	736570.26	1390476.44	22/04/2023	09:45:13	No Additional Comment
9.533	FJ-BM596	Field Joint - Bitumen Missing	736566.69	1390487.93	22/04/2023	09:45:46	No Additional Comment
9.546	FJ-BM597	Field Joint - Bitumen Missing	736563.83	1390500.24	22/04/2023	09:46:20	No Additional Comment
9.559	FJ-BM598	Field Joint - Bitumen Missing	736560.96	1390512.51	22/04/2023	09:46:51	No Additional Comment
9.571	FJ-BM599	Field Joint - Bitumen Missing	736557.90	1390524.12	22/04/2023	09:47:21	No Additional Comment
9.583	FJ-BM600	Field Joint - Bitumen Missing	736554.83	1390536.13	22/04/2023	09:48:20	No Additional Comment
9.596	FJ-BM601	Field Joint - Bitumen Missing	736551.51	1390548.38	22/04/2023	09:48:52	No Additional Comment
9.609	FJ-BM602	Field Joint - Bitumen Missing	736548.25	1390561.10	22/04/2023	09:49:33	No Additional Comment
9.633	FJ-BM603	Field Joint - Bitumen Missing	736542.06	1390584.58	22/04/2023	09:50:38	No Additional Comment
9.645	FJ-BM604	Field Joint - Bitumen Missing	736538.93	1390597.84	22/04/2023	09:51:14	No Additional Comment
9.658	FJ-BM605	Field Joint - Bitumen Missing	736535.18	1390608.35	22/04/2023	09:51:46	No Additional Comment
9.695	FJ-BM606	Field Joint - Bitumen Missing	736526.42	1390644.69	22/04/2023	09:53:58	No Additional Comment
9.708	FJ-BM607	Field Joint - Bitumen Missing	736523.08	1390656.49	22/04/2023	09:54:36	No Additional Comment
9.720	FJ-BM608	Field Joint - Bitumen Missing	736519.71	1390668.58	22/04/2023	09:55:15	No Additional Comment
9.744	FJ-BM609	Field Joint - Bitumen Missing	736513.65	1390692.20	22/04/2023	09:56:54	No Additional Comment
9.757	FJ-BM610	Field Joint - Bitumen Missing	736510.40	1390704.20	22/04/2023	09:57:37	No Additional Comment
9.792	FJ-BM611	Field Joint - Bitumen Missing	736504.17	1390728.07	22/04/2023	09:58:51	No Additional Comment
9.794	FJ-BM612	Field Joint - Bitumen Missing	736500.85	1390739.76	22/04/2023	09:59:29	No Additional Comment
9.806	FJ-BM613	Field Joint - Bitumen Missing	736497.24	1390751.84	22/04/2023	10:00:07	No Additional Comment
9.818	FJ-BM614	Field Joint - Bitumen Missing	736494.72	1390763.61	22/04/2023	10:00:47	No Additional Comment
9.831	FJ-BM615	Field Joint - Bitumen Missing	736491.64	1390776.36	22/04/2023	10:01:25	No Additional Comment
9.844	FJ-BM616	Field Joint - Bitumen Missing	736487.50	1390788.25	22/04/2023	10:02:01	No Additional Comment
9.856	FJ-BM617	Field Joint - Bitumen Missing	736485.33	1390800.18	22/04/2023	10:02:36	No Additional Comment
9.881	FJ-BM618	Field Joint - Bitumen Missing	736478.68	1390824.09	22/04/2023	10:04:06	No Additional Comment
9.893	FJ-BM619	Field Joint - Bitumen Missing	736475.94	1390835.34	22/04/2023	10:04:37	No Additional Comment



Map Ta Phut 48" Subsea Crude Import Pipeline Report

KP	Abbreviation	Description	East	North	Date	Time	Comments
10.465	FJ-BM662	Field Joint - Bitumen Missing	736330.03	1391388.62	22/04/2023	10:38:46	No Additional Comment
10.476	FJ-BM663	Field Joint - Bitumen Missing	736327.05	1391399.85	22/04/2023	10:39:17	No Additional Comment
10.489	FJ-BM664	Field Joint - Bitumen Missing	736323.96	1391412.32	22/04/2023	10:40:02	No Additional Comment
10.502	FJ-BM665	Field Joint - Bitumen Missing	736320.88	1391424.37	22/04/2023	10:40:33	No Additional Comment
10.514	FJ-BM666	Field Joint - Bitumen Missing	736317.66	1391436.31	22/04/2023	10:41:09	No Additional Comment
10.526	FJ-BM667	Field Joint - Bitumen Missing	736314.54	1391447.66	22/04/2023	10:41:46	No Additional Comment
10.538	FJ-BM668	Field Joint - Bitumen Missing	736311.15	1391459.41	22/04/2023	10:42:22	No Additional Comment
10.551	FJ-BM669	Field Joint - Bitumen Missing	736308.20	1391471.87	22/04/2023	10:42:57	No Additional Comment
10.563	FJ-BM670	Field Joint - Bitumen Missing	736305.64	1391483.56	22/04/2023	10:43:59	No Additional Comment
10.575	FJ-BM671	Field Joint - Bitumen Missing	736302.22	1391495.53	22/04/2023	10:44:43	No Additional Comment
10.588	FJ-BM672	Field Joint - Bitumen Missing	736298.83	1391507.48	22/04/2023	10:45:21	No Additional Comment
10.600	FJ-BM673	Field Joint - Bitumen Missing	736295.42	1391519.31	22/04/2023	10:46:19	No Additional Comment
10.612	FJ-BM674	Field Joint - Bitumen Missing	736292.33	1391531.27	22/04/2023	10:47:16	No Additional Comment
10.638	FJ-BM675	Field Joint - Bitumen Missing	736285.97	1391555.83	22/04/2023	10:48:22	No Additional Comment
10.650	FJ-BM676	Field Joint - Bitumen Missing	736282.87	1391567.93	22/04/2023	10:48:57	No Additional Comment
10.663	FJ-BM677	Field Joint - Bitumen Missing	736279.52	1391580.00	22/04/2023	10:49:40	No Additional Comment
10.675	FJ-BM678	Field Joint - Bitumen Missing	736276.38	1391591.76	22/04/2023	10:50:20	No Additional Comment
10.687	FJ-BM679	Field Joint - Bitumen Missing	736273.56	1391604.11	22/04/2023	10:51:05	No Additional Comment
10.700	FJ-BM680	Field Joint - Bitumen Missing	736270.05	1391616.51	22/04/2023	10:51:44	No Additional Comment
10.713	FJ-BM681	Field Joint - Bitumen Missing	736266.99	1391628.69	22/04/2023	10:52:33	No Additional Comment
10.726	FJ-BM682	Field Joint - Bitumen Missing	736263.76	1391641.39	22/04/2023	10:53:20	No Additional Comment
10.738	FJ-BM683	Field Joint - Bitumen Missing	736261.10	1391653.03	22/04/2023	10:54:22	No Additional Comment
10.750	FJ-BM684	Field Joint - Bitumen Missing	736257.45	1391664.40	22/04/2023	10:54:54	No Additional Comment
10.762	FJ-BM685	Field Joint - Bitumen Missing	736254.47	1391676.64	22/04/2023	10:55:34	No Additional Comment
10.777	FJ-BM686	Field Joint - Bitumen Missing	736251.24	1391690.74	22/04/2023	10:56:20	No Additional Comment
10.788	FJ-BM687	Field Joint - Bitumen Missing	736248.02	1391701.43	22/04/2023	10:57:02	No Additional Comment
10.801	FJ-BM688	Field Joint - Bitumen Missing	736245.00	1391713.52	22/04/2023	10:57:50	No Additional Comment
10.813	FJ-BM689	Field Joint - Bitumen Missing	736242.37	1391725.83	22/04/2023	10:58:09	No Additional Comment
10.838	FJ-BM690	Field Joint - Bitumen Missing	736235.66	1391750.09	22/04/2023	10:59:25	No Additional Comment
10.850	FJ-BM691	Field Joint - Bitumen Missing	736232.44	1391761.58	22/04/2023	10:59:59	No Additional Comment
10.863	FJ-BM692	Field Joint - Bitumen Missing	736229.69	1391773.60	22/04/2023	11:03:41	No Additional Comment
10.876	FJ-BM693	Field Joint - Bitumen Missing	736226.27	1391786.11	22/04/2023	11:04:12	No Additional Comment
10.888	FJ-BM694	Field Joint - Bitumen Missing	736223.00	1391797.81	22/04/2023	11:04:48	No Additional Comment
10.899	FJ-BM695	Field Joint - Bitumen Missing	736219.85	1391809.22	22/04/2023	11:05:26	No Additional Comment
10.913	FJ-BM696	Field Joint - Bitumen Missing	736216.40	1391821.85	22/04/2023	11:05:56	No Additional Comment
10.924	FJ-BM697	Field Joint - Bitumen Missing	736213.56	1391833.04	22/04/2023	11:06:30	No Additional Comment
10.937	FJ-BM698	Field Joint - Bitumen Missing	736210.50	1391845.55	22/04/2023	11:07:02	No Additional Comment
10.950	FJ-BM699	Field Joint - Bitumen Missing	736206.89	1391857.57	22/04/2023	11:07:34	No Additional Comment
10.962	FJ-BM700	Field Joint - Bitumen Missing	736203.42	1391869.25	22/04/2023	11:08:14	No Additional Comment
10.974	FJ-BM701	Field Joint - Bitumen Missing	736200.56	1391880.94	22/04/2023	11:08:48	No Additional Comment
10.986	FJ-BM702	Field Joint - Bitumen Missing	736197.30	1391892.88	22/04/2023	11:09:33	No Additional Comment
10.999	FJ-BM703	Field Joint - Bitumen Missing	736194.18	1391904.97	22/04/2023	11:10:01	No Additional Comment



Map Ta Phut 48" Subsea Crude Import Pipeline Report

KP	Abbreviation	Description	East	North	Date	Time	Comments
9.906	FJ-BM620	Field Joint - Bitumen Missing	736472.76	1390848.17	22/04/2023	10:05:23	No Additional Comment
9.917	FJ-BM621	Field Joint - Bitumen Missing	736469.64	1390859.43	22/04/2023	10:05:54	No Additional Comment
9.930	FJ-BM622	Field Joint - Bitumen Missing	736466.04	1390871.89	22/04/2023	10:06:26	No Additional Comment
9.942	FJ-BM623	Field Joint - Bitumen Missing	736463.23	1390883.38	22/04/2023	10:06:58	No Additional Comment
9.955	FJ-BM624	Field Joint - Bitumen Missing	736459.90	1390896.09	22/04/2023	10:07:37	No Additional Comment
9.968	FJ-BM625	Field Joint - Bitumen Missing	736457.04	1390908.21	22/04/2023	10:08:30	No Additional Comment
9.980	FJ-BM626	Field Joint - Bitumen Missing	736453.81	1390919.70	22/04/2023	10:09:05	No Additional Comment
9.992	FJ-BM627	Field Joint - Bitumen Missing	736450.66	1390931.61	22/04/2023	10:09:50	No Additional Comment
10.004	FJ-BM628	Field Joint - Bitumen Missing	736447.43	1390943.25	22/04/2023	10:10:35	No Additional Comment
10.017	FJ-BM629	Field Joint - Bitumen Missing	736444.33	1390955.34	22/04/2023	10:11:22	No Additional Comment
10.029	FJ-BM630	Field Joint - Bitumen Missing	736441.11	1390967.35	22/04/2023	10:12:05	No Additional Comment
10.041	FJ-BM631	Field Joint - Bitumen Missing	736438.30	1390979.32	22/04/2023	10:12:45	No Additional Comment
10.066	FJ-BM632	Field Joint - Bitumen Missing	736431.77	1391003.41	22/04/2023	10:13:55	No Additional Comment
10.079	FJ-BM633	Field Joint - Bitumen Missing	736428.42	1391015.38	22/04/2023	10:14:28	No Additional Comment
10.091	FJ-BM634	Field Joint - Bitumen Missing	736425.36	1391027.65	22/04/2023	10:15:07	No Additional Comment
10.104	FJ-BM635	Field Joint - Bitumen Missing	736421.99	1391039.80	22/04/2023	10:15:45	No Additional Comment
10.116	FJ-BM636	Field Joint - Bitumen Missing	736419.22	1391051.94	22/04/2023	10:17:00	No Additional Comment
10.129	FJ-BM637	Field Joint - Bitumen Missing	736415.79	1391064.47	22/04/2023	10:17:35	No Additional Comment
10.142	FJ-BM638	Field Joint - Bitumen Missing	736412.37	1391076.18	22/04/2023	10:18:24	No Additional Comment
10.166	FJ-BM639	Field Joint - Bitumen Missing	736406.00	1391099.52	22/04/2023	10:19:44	No Additional Comment
10.179	FJ-BM640	Field Joint - Bitumen Missing	736402.75	1391112.25	22/04/2023	10:20:32	No Additional Comment
10.192	FJ-BM641	Field Joint - Bitumen Missing	736398.97	1391124.88	22/04/2023	10:21:17	No Additional Comment
10.204	FJ-BM642	Field Joint - Bitumen Missing	736396.28	1391136.39	22/04/2023	10:21:57	No Additional Comment
10.217	FJ-BM643	Field Joint - Bitumen Missing	736393.00	1391149.01	22/04/2023	10:22:39	No Additional Comment
10.229	FJ-BM644	Field Joint - Bitumen Missing	736389.88	1391161.07	22/04/2023	10:23:20	No Additional Comment
10.241	FJ-BM645	Field Joint - Bitumen Missing	736386.92	1391172.64	22/04/2023	10:24:40	No Additional Comment
10.254	FJ-BM646	Field Joint - Bitumen Missing	736383.87	1391184.87	22/04/2023	10:25:21	No Additional Comment
10.270	FJ-BM647	Field Joint - Bitumen Missing	736375.78	1391194.42	22/04/2023	10:26:03	No Additional Comment
10.279	FJ-BM648	Field Joint - Bitumen Missing	736377.12	1391209.03	22/04/2023	10:28:21	No Additional Comment
10.291	FJ-BM649	Field Joint - Bitumen Missing	736374.08	1391220.77	22/04/2023	10:29:11	No Additional Comment
10.303	FJ-BM650	Field Joint - Bitumen Missing	736371.69	1391232.84	22/04/2023	10:29:55	No Additional Comment
10.316	FJ-BM651	Field Joint - Bitumen Missing	736367.76	1391244.70	22/04/2023	10:30:40	No Additional Comment
10.329	FJ-BM652	Field Joint - Bitumen Missing	736364.78	1391257.19	22/04/2023	10:31:42	No Additional Comment
10.340	FJ-BM653	Field Joint - Bitumen Missing	736361.74	1391268.28	22/04/2023	10:32:24	No Additional Comment
10.353	FJ-BM654	Field Joint - Bitumen Missing	736358.44	1391280.16	22/04/2023	10:33:12	No Additional Comment
10.365	FJ-BM655	Field Joint - Bitumen Missing	736356.13	1391292.41	22/04/2023	10:34:08	No Additional Comment
10.378	FJ-BM656	Field Joint - Bitumen Missing	736352.58	1391304.50	22/04/2023	10:34:46	No Additional Comment
10.390	FJ-BM657	Field Joint - Bitumen Missing	736349.29	1391316.62	22/04/2023	10:35:30	No Additional Comment
10.403	FJ-BM658	Field Joint - Bitumen Missing	736345.86	1391328.84	22/04/2023	10:36:07	No Additional Comment
10.427	FJ-BM659	Field Joint - Bitumen Missing	736339.79	1391352.25	22/04/2023	10:37:13	No Additional Comment
10.439	FJ-BM660	Field Joint - Bitumen Missing	736337.71	1391364.31	22/04/2023	10:37:43	No Additional Comment
10.452	FJ-BM661	Field Joint - Bitumen Missing	736333.05	1391376.02	22/04/2023	10:38:15	No Additional Comment

Map Ta Phut 48" Subsea Crude Import Pipeline Report

KP	Abbreviation	Description	East	North	Date	Time	Comments
11.778	FJ-BM746	Field Joint - Bitumen Missing	735995.65	1392658.52	22/04/2023	13:11:46	No Additional Comment
11.789	FJ-BM747	Field Joint - Bitumen Missing	735992.69	1392669.19	22/04/2023	13:12:28	No Additional Comment
11.814	FJ-BM748	Field Joint - Bitumen Missing	735986.66	1392693.08	22/04/2023	13:14:01	No Additional Comment
11.825	FJ-BM749	Field Joint - Bitumen Missing	735984.14	1392704.57	22/04/2023	13:14:50	No Additional Comment
11.837	FJ-BM750	Field Joint - Bitumen Missing	735980.40	1392716.07	22/04/2023	13:15:35	No Additional Comment
11.850	FJ-BM751	Field Joint - Bitumen Missing	735977.69	1392728.07	22/04/2023	13:16:22	No Additional Comment
11.862	FJ-BM752	Field Joint - Bitumen Missing	735974.82	1392739.83	22/04/2023	13:16:59	No Additional Comment
11.887	FJ-BM753	Field Joint - Bitumen Missing	735969.67	1392764.22	22/04/2023	13:18:21	No Additional Comment
11.900	FJ-BM754	Field Joint - Bitumen Missing	735965.09	1392776.55	22/04/2023	13:19:02	No Additional Comment
11.911	FJ-BM755	Field Joint - Bitumen Missing	735961.16	1392787.52	22/04/2023	13:19:46	No Additional Comment
11.924	FJ-BM756	Field Joint - Bitumen Missing	735958.40	1392799.37	22/04/2023	13:20:29	No Additional Comment
11.937	FJ-BM757	Field Joint - Bitumen Missing	735955.30	1392812.14	22/04/2023	13:21:17	No Additional Comment
11.948	FJ-BM758	Field Joint - Bitumen Missing	735952.46	1392823.00	22/04/2023	13:21:55	No Additional Comment
11.961	FJ-BM759	Field Joint - Bitumen Missing	735949.27	1392835.69	22/04/2023	13:22:45	No Additional Comment
11.967	FJ-BM760	Field Joint - Bitumen Missing	735947.88	1392841.52	22/04/2023	13:23:08	No Additional Comment
11.974	FJ-BM761	Field Joint - Bitumen Missing	735946.03	1392847.81	22/04/2023	13:23:36	No Additional Comment
11.986	FJ-BM762	Field Joint - Bitumen Missing	735943.09	1392859.69	22/04/2023	13:24:17	No Additional Comment
11.998	FJ-BM763	Field Joint - Bitumen Missing	735939.67	1392871.41	22/04/2023	13:25:22	No Additional Comment
12.010	FJ-BM764	Field Joint - Bitumen Missing	735936.96	1392882.85	22/04/2023	13:26:20	No Additional Comment
12.022	FJ-BM765	Field Joint - Bitumen Missing	735933.20	1392894.92	22/04/2023	13:27:45	No Additional Comment
12.036	FJ-BM766	Field Joint - Bitumen Missing	735930.99	1392907.58	22/04/2023	13:28:24	No Additional Comment
12.049	FJ-BM767	Field Joint - Bitumen Missing	735928.58	1392920.96	22/04/2023	13:29:05	No Additional Comment
12.074	FJ-BM768	Field Joint - Bitumen Missing	735921.07	1392945.01	22/04/2023	13:30:37	No Additional Comment
12.085	FJ-BM769	Field Joint - Bitumen Missing	735918.01	1392955.75	22/04/2023	13:31:12	No Additional Comment
12.110	FJ-BM770	Field Joint - Bitumen Missing	735912.03	1392980.42	22/04/2023	13:33:32	No Additional Comment
12.123	FJ-BM771	Field Joint - Bitumen Missing	735908.39	1392991.98	22/04/2023	13:34:15	No Additional Comment
12.134	FJ-BM772	Field Joint - Bitumen Missing	735905.70	1393003.27	22/04/2023	13:35:06	No Additional Comment
12.147	FJ-BM773	Field Joint - Bitumen Missing	735902.22	1393016.06	22/04/2023	13:35:52	No Additional Comment
12.159	FJ-BM774	Field Joint - Bitumen Missing	735899.36	1393027.54	22/04/2023	13:36:34	No Additional Comment
12.172	FJ-BM775	Field Joint - Bitumen Missing	735896.33	1393039.49	22/04/2023	13:37:16	No Additional Comment
12.185	FJ-BM776	Field Joint - Bitumen Missing	735892.62	1393052.45	22/04/2023	13:38:06	No Additional Comment
12.197	FJ-BM777	Field Joint - Bitumen Missing	735889.77	1393063.97	22/04/2023	13:39:03	No Additional Comment
12.215	FJ-BM778	Field Joint - Bitumen Missing	735885.29	1393081.40	22/04/2023	13:40:50	No Additional Comment
12.234	FJ-BM779	Field Joint - Bitumen Missing	735880.04	1393099.51	22/04/2023	13:44:46	No Additional Comment
12.284	FJ-BM780	Field Joint - Bitumen Missing	735867.85	1393147.74	22/04/2023	13:47:54	No Additional Comment
12.308	FJ-BM781	Field Joint - Bitumen Missing	735861.74	1393171.16	22/04/2023	13:49:21	No Additional Comment
12.320	FJ-BM782	Field Joint - Bitumen Missing	735858.29	1393182.83	22/04/2023	13:50:09	No Additional Comment
12.333	FJ-BM783	Field Joint - Bitumen Missing	735855.60	1393196.13	22/04/2023	13:51:41	No Additional Comment
12.347	FJ-BM784	Field Joint - Bitumen Missing	735852.57	1393209.23	22/04/2023	13:52:10	No Additional Comment
12.359	FJ-BM785	Field Joint - Bitumen Missing	735848.52	1393220.36	22/04/2023	13:53:27	No Additional Comment
12.419	FJ-BM786	Field Joint - Bitumen Missing	735833.78	1393278.93	23/04/2023	11:45:38	No Additional Comment
12.431	FJ-BM787	Field Joint - Bitumen Missing	735831.18	1393290.70	23/04/2023	11:46:37	No Additional Comment



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KP	Abbreviation	Description	East	North	Date	Time	Comments
13.718	FJ-BM830	Field Joint - Bitumen Missing	735503.48	1394534.98	23/04/2023	12:58:12	No Additional Comment
13.755	FJ-BM831	Field Joint - Bitumen Missing	735494.51	1394571.14	23/04/2023	13:19:14	No Additional Comment
13.793	FJ-BM832	Field Joint - Bitumen Missing	735486.32	1394607.37	23/04/2023	13:22:02	No Additional Comment
13.818	FJ-BM833	Field Joint - Bitumen Missing	735477.81	1394631.49	23/04/2023	13:22:44	No Additional Comment
13.829	FJ-BM834	Field Joint - Bitumen Missing	735474.93	1394642.41	23/04/2023	13:23:18	No Additional Comment
13.855	FJ-BM835	Field Joint - Bitumen Missing	735467.88	1394667.52	23/04/2023	13:24:38	No Additional Comment
13.867	FJ-BM836	Field Joint - Bitumen Missing	735465.33	1394679.71	23/04/2023	13:25:23	No Additional Comment
13.880	FJ-BM837	Field Joint - Bitumen Missing	735462.12	1394692.01	23/04/2023	13:26:08	No Additional Comment
13.892	FJ-BM838	Field Joint - Bitumen Missing	735458.96	1394703.39	23/04/2023	13:26:45	No Additional Comment
13.941	FJ-BM839	Field Joint - Bitumen Missing	735446.78	1394751.26	23/04/2023	13:29:14	No Additional Comment
13.966	FJ-BM840	Field Joint - Bitumen Missing	735440.56	1394774.81	23/04/2023	13:30:33	No Additional Comment
14.116	FJ-BM841	Field Joint - Bitumen Missing	735402.21	1394919.95	23/04/2023	13:38:21	No Additional Comment
14.151	FJ-BM842	Field Joint - Bitumen Missing	735393.20	1394953.54	23/04/2023	13:40:08	No Additional Comment
14.164	FJ-BM843	Field Joint - Bitumen Missing	735389.47	1394966.60	23/04/2023	13:40:49	No Additional Comment
14.176	FJ-BM844	Field Joint - Bitumen Missing	735386.65	1394978.24	23/04/2023	13:41:31	No Additional Comment
14.188	FJ-BM845	Field Joint - Bitumen Missing	735383.57	1394989.56	23/04/2023	13:42:15	No Additional Comment
14.200	FJ-BM846	Field Joint - Bitumen Missing	735380.59	1395001.47	23/04/2023	13:42:53	No Additional Comment
14.213	FJ-BM847	Field Joint - Bitumen Missing	735377.22	1395013.98	23/04/2023	13:43:42	No Additional Comment
14.225	FJ-BM848	Field Joint - Bitumen Missing	735374.19	1395025.65	23/04/2023	13:44:24	No Additional Comment
14.263	FJ-BM849	Field Joint - Bitumen Missing	735364.35	1395062.25	23/04/2023	13:46:18	No Additional Comment
14.288	FJ-BM850	Field Joint - Bitumen Missing	735359.19	1395086.05	23/04/2023	13:47:38	No Additional Comment
14.350	FJ-BM851	Field Joint - Bitumen Missing	735342.19	1395145.97	23/04/2023	13:55:03	No Additional Comment
14.374	FJ-BM852	Field Joint - Bitumen Missing	735336.09	1395169.47	23/04/2023	13:58:04	No Additional Comment
14.425	FJ-BM853	Field Joint - Bitumen Missing	735321.76	1395218.33	23/04/2023	14:02:27	No Additional Comment
14.448	FJ-BM854	Field Joint - Bitumen Missing	735317.88	1395241.10	23/04/2023	14:03:38	No Additional Comment
14.461	FJ-BM855	Field Joint - Bitumen Missing	735315.04	1395254.40	23/04/2023	14:04:17	No Additional Comment
14.474	FJ-BM856	Field Joint - Bitumen Missing	735311.55	1395265.97	23/04/2023	14:05:09	No Additional Comment
14.485	FJ-BM857	Field Joint - Bitumen Missing	735308.22	1395276.45	23/04/2023	14:05:43	No Additional Comment
14.509	FJ-BM858	Field Joint - Bitumen Missing	735302.09	1395300.60	23/04/2023	14:07:10	No Additional Comment
14.522	FJ-BM859	Field Joint - Bitumen Missing	735299.09	1395312.65	23/04/2023	14:07:47	No Additional Comment
14.534	FJ-BM860	Field Joint - Bitumen Missing	735295.91	1395324.48	23/04/2023	14:08:28	No Additional Comment
14.546	FJ-BM861	Field Joint - Bitumen Missing	735292.64	1395335.80	23/04/2023	14:09:08	No Additional Comment
14.558	FJ-BM862	Field Joint - Bitumen Missing	735289.59	1395347.99	23/04/2023	14:09:52	No Additional Comment
14.595	FJ-BM863	Field Joint - Bitumen Missing	735279.28	1395383.39	23/04/2023	14:12:00	No Additional Comment
14.608	FJ-BM864	Field Joint - Bitumen Missing	735276.40	1395395.63	23/04/2023	14:12:46	No Additional Comment
14.620	FJ-BM865	Field Joint - Bitumen Missing	735273.69	1395407.57	23/04/2023	14:13:22	No Additional Comment
14.633	FJ-BM866	Field Joint - Bitumen Missing	735270.27	1395420.06	23/04/2023	14:14:03	No Additional Comment
14.657	FJ-BM867	Field Joint - Bitumen Missing	735264.08	1395443.57	23/04/2023	14:15:10	No Additional Comment
14.682	FJ-BM868	Field Joint - Bitumen Missing	735257.80	1395467.58	23/04/2023	14:16:24	No Additional Comment
14.733	FJ-BM869	Field Joint - Bitumen Missing	735244.95	1395517.00	23/04/2023	14:18:54	No Additional Comment
14.744	FJ-BM870	Field Joint - Bitumen Missing	735242.53	1395527.72	23/04/2023	14:19:22	No Additional Comment
14.757	FJ-BM871	Field Joint - Bitumen Missing	735238.89	1395539.77	23/04/2023	14:19:59	No Additional Comment



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KP	Abbreviation	Description	East	North	Date	Time	Comments
12.443	FJ-BM788	Field Joint - Bitumen Missing	735828.63	1393301.83	23/04/2023	11:47:13	No Additional Comment
12.456	FJ-BM789	Field Joint - Bitumen Missing	735824.60	1393314.35	23/04/2023	11:47:47	No Additional Comment
12.481	FJ-BM790	Field Joint - Bitumen Missing	735818.66	1393339.27	23/04/2023	11:48:59	No Additional Comment
12.506	FJ-BM791	Field Joint - Bitumen Missing	735811.71	1393363.17	23/04/2023	11:50:17	No Additional Comment
12.518	FJ-BM792	Field Joint - Bitumen Missing	735809.44	1393374.60	23/04/2023	11:50:48	No Additional Comment
12.530	FJ-BM793	Field Joint - Bitumen Missing	735805.93	1393386.31	23/04/2023	11:51:23	No Additional Comment
12.545	FJ-BM794	Field Joint - Bitumen Missing	735802.32	1393400.42	23/04/2023	11:52:06	No Additional Comment
12.555	FJ-BM795	Field Joint - Bitumen Missing	735799.46	1393410.25	23/04/2023	11:52:44	No Additional Comment
12.617	FJ-BM796	Field Joint - Bitumen Missing	735783.81	1393470.26	23/04/2023	12:03:43	No Additional Comment
12.728	FJ-BM797	Field Joint - Bitumen Missing	735756.13	1393577.72	23/04/2023	12:08:25	No Additional Comment
12.878	FJ-BM798	Field Joint - Bitumen Missing	735717.89	1393722.89	23/04/2023	12:15:15	No Additional Comment
12.951	FJ-BM799	Field Joint - Bitumen Missing	735698.86	1393793.33	23/04/2023	12:18:32	No Additional Comment
12.963	FJ-BM800	Field Joint - Bitumen Missing	735695.69	1393805.00	23/04/2023	12:19:04	No Additional Comment
12.976	FJ-BM801	Field Joint - Bitumen Missing	735692.33	1393817.23	23/04/2023	12:19:38	No Additional Comment
13.038	FJ-BM802	Field Joint - Bitumen Missing	735676.44	1393877.52	23/04/2023	12:22:43	No Additional Comment
13.088	FJ-BM803	Field Joint - Bitumen Missing	735665.13	1393926.12	23/04/2023	12:24:47	No Additional Comment
13.110	FJ-BM804	Field Joint - Bitumen Missing	735656.04	1393946.96	23/04/2023	12:25:54	No Additional Comment
13.146	FJ-BM805	Field Joint - Bitumen Missing	735648.15	1393982.16	23/04/2023	12:27:47	No Additional Comment
13.185	FJ-BM806	Field Joint - Bitumen Missing	735638.61	1394019.88	23/04/2023	12:29:24	No Additional Comment
13.222	FJ-BM807	Field Joint - Bitumen Missing	735629.50	1394055.78	23/04/2023	12:32:16	No Additional Comment
13.254	FJ-BM808	Field Joint - Bitumen Missing	735626.43	1394067.32	23/04/2023	12:32:50	No Additional Comment
13.247	FJ-BM809	Field Joint - Bitumen Missing	735623.28	1394079.35	23/04/2023	12:33:22	No Additional Comment
13.259	FJ-BM810	Field Joint - Bitumen Missing	735619.76	1394090.96	23/04/2023	12:33:53	No Additional Comment
13.271	FJ-BM811	Field Joint - Bitumen Missing	735617.07	1394102.40	23/04/2023	12:34:29	No Additional Comment
13.283	FJ-BM812	Field Joint - Bitumen Missing	735613.72	1394114.58	23/04/2023	12:35:10	No Additional Comment
13.296	FJ-BM813	Field Joint - Bitumen Missing	735611.03	1394127.04	23/04/2023	12:35:51	No Additional Comment
13.308	FJ-BM814	Field Joint - Bitumen Missing	735607.63	1394138.86	23/04/2023	12:36:29	No Additional Comment
13.357	FJ-BM815	Field Joint - Bitumen Missing	735594.87	1394186.39	23/04/2023	12:38:47	No Additional Comment
13.407	FJ-BM816	Field Joint - Bitumen Missing	735582.35	1394234.78	23/04/2023	12:41:01	No Additional Comment
13.420	FJ-BM817	Field Joint - Bitumen Missing	735579.26	1394247.31	23/04/2023	12:41:39	No Additional Comment
13.432	FJ-BM818	Field Joint - Bitumen Missing	735576.22	1394258.66	23/04/2023	12:42:10	No Additional Comment
13.458	FJ-BM819	Field Joint - Bitumen Missing	735569.63	1394283.35	23/04/2023	12:43:14	No Additional Comment
13.471	FJ-BM820	Field Joint - Bitumen Missing	735566.39	1394296.44	23/04/2023	12:43:57	No Additional Comment
13.482	FJ-BM821	Field Joint - Bitumen Missing	735563.56	1394306.61	23/04/2023	12:44:29	No Additional Comment
13.532	FJ-BM822	Field Joint - Bitumen Missing	735553.04	1394354.70	23/04/2023	12:46:39	No Additional Comment
13.544	FJ-BM823	Field Joint - Bitumen Missing	735547.01	1394367.04	23/04/2023	12:47:13	No Additional Comment
13.557	FJ-BM824	Field Joint - Bitumen Missing	735543.71	1394378.90	23/04/2023	12:47:47	No Additional Comment
13.617	FJ-BM825	Field Joint - Bitumen Missing	735537.27	1394402.35	23/04/2023	12:49:32	No Additional Comment
13.594	FJ-BM826	Field Joint - Bitumen Missing	735534.45	1394415.41	23/04/2023	12:49:28	No Additional Comment
13.667	FJ-BM827	Field Joint - Bitumen Missing	735516.49	1394486.15	23/04/2023	12:55:31	No Additional Comment
13.674	FJ-BM828	Field Joint - Bitumen Missing	735514.77	1394492.39	23/04/2023	12:55:57	No Additional Comment
13.704	FJ-BM829	Field Joint - Bitumen Missing	735507.13	1394521.89	23/04/2023	12:57:31	No Additional Comment

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Table of Fishing Debris

KP	Abbreviation	Description	East	North	Date	Time	Comments
0.049	DBF-F01	Debris - Fish Trap	738989.76	138151.71	13/04/2023	13:08:23	No Additional Comment
0.059	DBF-F02	Debris - Fish Trap	738978.29	1381325.60	13/04/2023	13:10:41	Net
0.186	DBF-FG01	Debris - Fishing Gear	738950.41	1381449.31	14/04/2023	09:12:42	No Additional Comment
0.210	DBF-FG02	Debris - Fishing Gear	738942.61	1381472.55	15/04/2023	12:28:01	Net
0.271	DBF-FG03	Debris - Fishing Gear	738927.58	1381531.88	15/04/2023	12:36:58	Net
0.277	DBF-FG04	Debris - Fishing Gear	738926.54	1381537.13	15/04/2023	12:39:04	Net
0.279	DBF-F03	Debris - Fish Trap	738925.48	1381538.73	15/04/2023	13:42:28	No Additional Comment
0.280	DBF-F04	Debris - Fish Trap	738923.79	1381539.52	15/04/2023	13:49:10	No Additional Comment
0.283	DBF-F05	Debris - Fish Trap	738922.80	1381542.63	15/04/2023	13:50:10	No Additional Comment
0.287	DBF-F06	Debris - Fish Trap	738921.81	1381546.02	15/04/2023	13:51:15	No Additional Comment
0.305	DBF-FG05	Debris - Fishing Gear	738916.75	1381563.87	15/04/2023	13:54:48	No Additional Comment
0.345	DBF-FG06	Debris - Fishing Gear	738908.47	1381602.67	15/04/2023	14:00:34	No Additional Comment
0.348	DBF-FG07	Debris - Fishing Gear	738906.66	1381605.33	15/04/2023	14:03:49	No Additional Comment
0.353	DBF-FG08	Debris - Fishing Gear	738905.71	1381610.39	15/04/2023	14:05:09	No Additional Comment
0.458	DBF-FG09	Debris - Fishing Gear	738877.59	1381711.91	15/04/2023	14:18:57	No Additional Comment
0.496	DBF-FG10	Debris - Fishing Gear	738869.02	1381748.64	15/04/2023	15:23:23	No Additional Comment
0.559	DBF-FG11	Debris - Fishing Gear	738852.73	1381809.85	15/04/2023	15:30:53	No Additional Comment
0.655	DBF-FG12	Debris - Fishing Gear	738826.82	1381902.43	17/04/2023	10:18:16	Net
0.663	DBF-FG13	Debris - Fishing Gear	738824.76	1381909.84	17/04/2023	10:19:09	Net
0.672	DBF-FG14	Debris - Fishing Gear	738822.89	1381918.17	17/04/2023	10:20:33	Net
0.676	DBF-FG15	Debris - Fishing Gear	738821.71	1381922.60	17/04/2023	10:21:28	Net
0.702	DBF-FG16	Debris - Fishing Gear	738815.65	1381947.38	17/04/2023	10:24:43	No Additional Comment
0.709	DBF-FG17	Debris - Fishing Gear	738813.69	1381954.23	17/04/2023	10:24:32	No Additional Comment
0.712	DBF-FG18	Debris - Fishing Gear	738812.54	1381957.67	17/04/2023	10:25:06	No Additional Comment
0.719	DBF-FG19	Debris - Fishing Gear	738810.33	1381962.95	17/04/2023	10:25:44	No Additional Comment
0.721	DBF-FG20	Debris - Fishing Gear	738810.33	1381966.16	17/04/2023	10:26:15	No Additional Comment
0.731	DBF-FG21	Debris - Fishing Gear	738808.27	1381975.33	17/04/2023	10:28:24	No Additional Comment
0.775	DBF-FG22	Debris - Fishing Gear	738796.63	1382018.02	17/04/2023	10:31:17	No Additional Comment
0.837	DBF-FG23	Debris - Fishing Gear	738780.47	1382078.25	17/04/2023	10:37:21	No Additional Comment
1.228	DBF-FG24	Debris - Fishing Gear	738678.92	1382455.97	17/04/2023	11:41:38	No Additional Comment
1.283	DBF-FG25	Debris - Fishing Gear	738665.63	1382508.71	17/04/2023	11:46:27	No Additional Comment
1.351	DBF-FG26	Debris - Fishing Gear	738640.72	1382574.99	17/04/2023	11:51:45	No Additional Comment
1.369	DBF-FG27	Debris - Fishing Gear	738643.69	1382591.60	17/04/2023	11:53:01	No Additional Comment
1.450	DBF-FG28	Debris - Fishing Gear	738624.08	1382671.07	17/04/2023	12:01:14	No Additional Comment
1.469	DBF-FG29	Debris - Fishing Gear	738619.35	1382688.76	17/04/2023	12:02:34	No Additional Comment
1.569	DBF-FG30	Debris - Fishing Gear	738594.18	1382785.82	17/04/2023	13:58:21	No Additional Comment
1.673	DBF-FG31	Debris - Fishing Gear	738566.38	1382885.98	17/04/2023	14:41:57	No Additional Comment
2.173	DBF-FG32	Debris - Fishing Gear	738440.17	1383369.92	17/04/2023	15:59:07	No Additional Comment
2.539	DBF-FG33	Debris - Fishing Gear	738346.52	1383723.37	18/04/2023	09:37:25	No Additional Comment



Map Ta Phut 48" Subsea Crude Import Pipeline Report

Table of Metallic & Non-Metallic Debris

KP	Abbreviation	Description	East	North	Date	Time	Comments
0.049	DB-N01	Debris - Netting	738989.05	1381515.23	13/04/2023	13:06:22	No Additional Comment
0.073	DB-N02	Debris - Netting	738975.49	1381338.90	13/04/2023	14:45:23	No Additional Comment
0.078	DB-S01	Debris - Soft Debris	738973.59	1381344.09	13/04/2023	14:47:02	No Additional Comment
0.124	DB-N03	Debris - Netting	738960.92	1381388.22	13/04/2023	15:06:24	No Additional Comment
0.137	DB-N04	Debris - Netting	738957.77	1381401.04	13/04/2023	15:09:49	No Additional Comment
0.141	DB-O01	Debris - Other	738956.87	1381404.52	13/04/2023	15:10:32	No Additional Comment
0.171	DB-N05	Debris - Netting	738949.79	1381433.57	13/04/2023	15:15:20	No Additional Comment
0.180	DB-N06	Debris - Netting	738947.57	1381442.22	13/04/2023	15:16:43	No Additional Comment
0.188	DB-P01	Debris - Pipe	738951.92	1381452.21	15/04/2023	12:22:18	No Additional Comment
0.191	DB-O02	Debris - Other	738947.86	1381454.29	15/04/2023	12:24:17	Basket
0.206	DB-O03	Debris - Other	738944.53	1381468.36	15/04/2023	12:26:52	No Additional Comment
0.246	DB-O04	Debris - Other	738933.88	1381507.14	15/04/2023	12:32:25	No Additional Comment
0.256	DB-O05	Debris - Other	738931.61	1381516.51	15/04/2023	12:34:21	No Additional Comment
0.274	DB-O06	Debris - Other	738927.05	1381533.96	15/04/2023	12:37:53	No Additional Comment
0.401	DB-SR01	Debris - Soft Rope	738892.82	1381656.77	15/04/2023	14:13:09	No Additional Comment
0.461	DB-DF01	Debris - Debris Field	738877.34	1381714.43	15/04/2023	14:20:01	No Additional Comment
0.869	DB-N07	Debris - Netting	738772.15	1382108.40	17/04/2023	10:58:41	No Additional Comment
1.256	DB-SD02	Debris - Soft Debris	738672.46	1382482.80	17/04/2023	11:44:33	No Additional Comment
1.636	DB-SD03	Debris - Soft Debris	738576.68	1382850.95	17/04/2023	14:20:42	No Additional Comment
1.649	DB-N08	Debris - Netting	738575.32	1382882.73	17/04/2023	14:22:34	No Additional Comment
1.692	DB-SR02	Debris - Soft Rope	738561.96	1382904.31	17/04/2023	14:43:19	No Additional Comment
1.704	DB-SR03	Debris - Soft Rope	738559.68	1382916.26	17/04/2023	14:44:35	No Additional Comment
2.272	DB-SR04	Debris - Soft Rope	738416.29	1383466.21	18/04/2023	08:35:25	No Additional Comment
2.393	DB-O07	Debris - Other	738384.99	1383583.29	18/04/2023	08:46:35	No Additional Comment
2.463	DB-SR05	Debris - Soft Rope	738366.31	1383650.22	18/04/2023	09:07:55	No Additional Comment
4.733	DB-SR06	Debris - Soft Rope	737789.38	1385846.08	18/04/2023	15:11:35	No Additional Comment
5.094	DB-SR07	Debris - Soft Rope	737698.27	1386194.63	18/04/2023	15:39:50	No Additional Comment
5.559	DB-SR08	Debris - Soft Rope	737579.50	1386645.18	19/04/2023	08:56:58	No Additional Comment
6.067	DB-O08	Debris - Other	737450.94	1387136.17	19/04/2023	09:37:27	Metal Rod
6.221	DB-SR09	Debris - Soft Rope	737411.87	1387284.91	19/04/2023	09:49:22	No Additional Comment
6.533	DB-O09	Debris - Other	737332.12	1387587.13	19/04/2023	10:08:16	Canvas Sheet
6.902	DB-SR10	Debris - Soft Rope	737238.39	1387943.45	19/04/2023	11:02:35	No Additional Comment
6.953	DB-SR11	Debris - Soft Rope	737225.29	1387992.86	19/04/2023	11:05:40	No Additional Comment
7.562	DB-SR12	Debris - Soft Rope	737069.62	1388582.16	19/04/2023	13:32:18	No Additional Comment
7.745	DB-SR13	Debris - Soft Rope	737022.67	1388758.52	19/04/2023	13:43:19	No Additional Comment
8.233	DB-SR14	Debris - Soft Rope	736998.80	1389230.40	19/04/2023	14:48:16	No Additional Comment
9.010	DB-H01	Debris - Hard Debris	736699.17	1389981.19	19/04/2023	16:16:57	No Additional Comment
9.036	DB-WR01	Debris - Wire Rope	736692.68	1390006.91	19/04/2023	16:19:27	No Additional Comment
9.247	DB-WR02	Debris - Wire Rope	736640.31	1390211.61	22/04/2023	09:27:17	No Additional Comment



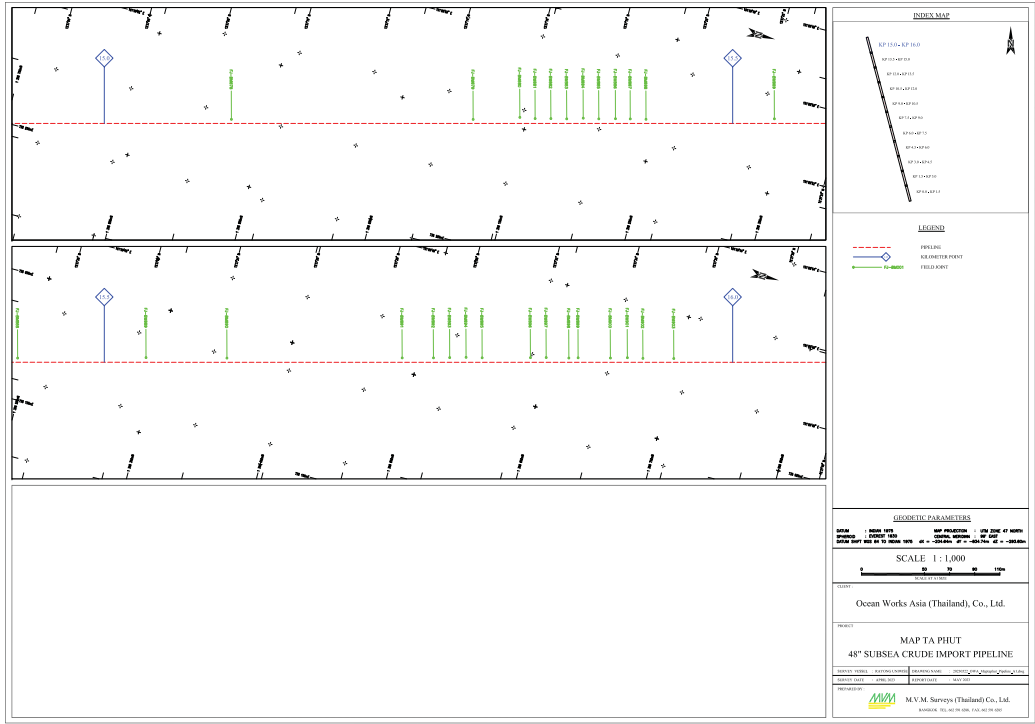
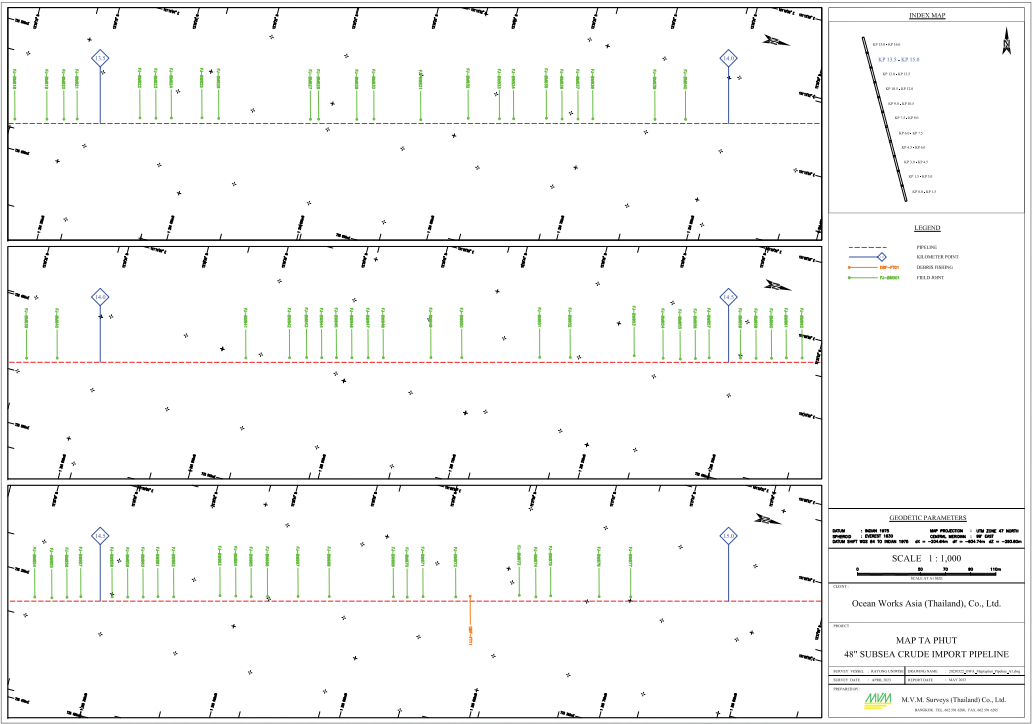
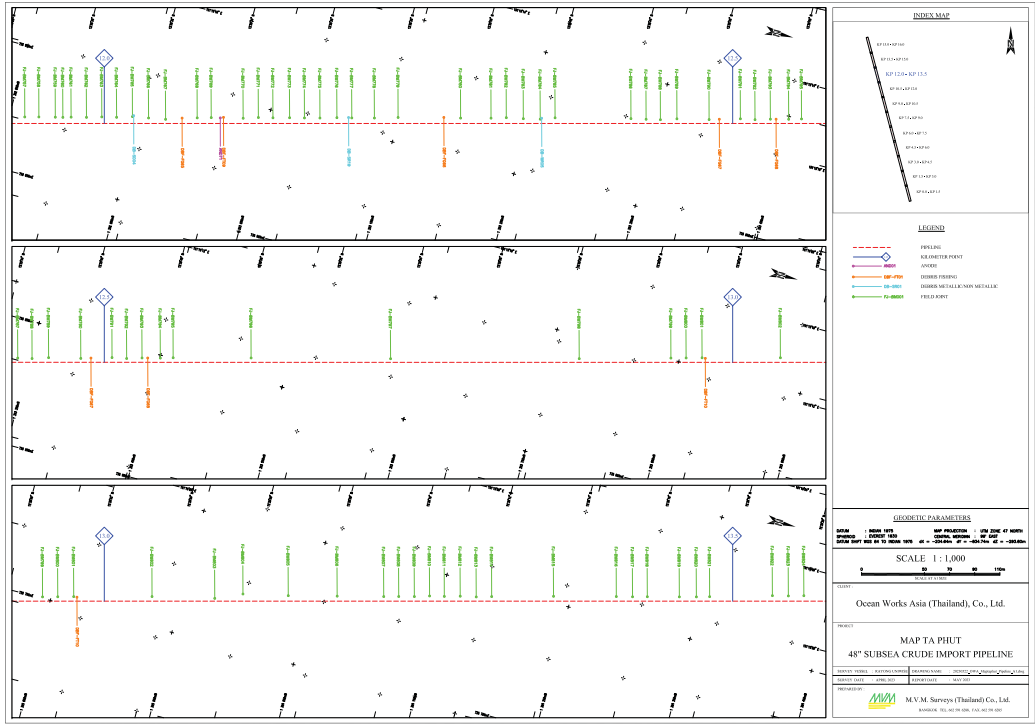
Map Ta Phut 48" Subsea Crude Import Pipeline Report

KP	Abbreviation	Description	East	North	Date	Time	Comments
2.848	DBF-FG34	Debris - Fishing Gear	738268.56	1384023.22	18/04/2023	10:40:20	No Additional Comment
3.131	DBF-FG35	Debris - Fishing Gear	738195.87	1384296.12	18/04/2023	11:03:45	No Additional Comment
3.387	DBF-FG36	Debris - Fishing Gear	738130.22	1384543.20	18/04/2023	11:36:40	No Additional Comment
3.442	DBF-FG37	Debris - Fishing Gear	738115.94	1384596.61	18/04/2023	11:41:46	No Additional Comment
3.815	DBF-FG38	Debris - Fishing Gear	738023.46	1384958.00	18/04/2023	13:36:31	No Additional Comment
4.445	DBF-FG39	Debris - Fishing Gear	737864.06	1385567.93	18/04/2023	14:31:01	No Additional Comment
4.474	DBF-FG40	Debris - Fishing Gear	737856.35	1385596.10	18/04/2023	14:33:26	No Additional Comment
4.559	DBF-FG41	Debris - Fishing Gear	737833.88	1385677.24	18/04/2023	14:58:20	No Additional Comment
4.817	DBF-FG42	Debris - Fishing Gear	737767.97	1385926.91	18/04/2023	15:18:20	No Additional Comment
4.914	DBF-F07	Debris - Fish Trap	737744.10	1386020.71	18/04/2023	15:25:09	Sitting on pipeline
5.152	DBF-FG43	Debris - Fishing Gear	737683.66	1386251.39	18/04/2023	15:43:27	No Additional Comment
5.304	DBF-FG44	Debris - Fishing Gear	737644.27	1386398.58	19/04/2023	08:16:34	No Additional Comment
6.108	DBF-FG45	Debris - Fishing Gear	737440.48	1387175.63	19/04/2023	09:40:02	No Additional Comment
6.849	DBF-FG46	Debris - Fishing Gear	737252.18	1387892.83	19/04/2023	10:59:04	Net
7.835	DBF-FG47	Debris - Fishing Gear	736999.79	1388845.41	19/04/2023	14:07:16	No Additional Comment
7.857	DBF-FG48	Debris - Fishing Gear	736994.17	1388867.24	19/04/2023	14:08:58	No Additional Comment
8.175	DBF-FG49	Debris - Fishing Gear	736911.77	1389174.21	19/04/2023	14:44:12	No Additional Comment
8.253	DBF-FG50	Debris - Fishing Gear	736893.16	1389249.31	19/04/2023	14:49:50	No Additional Comment
8.354	DBF-FG51	Debris - Fishing Gear	736867.45	1389347.57	19/04/2023	14:57:23	No Additional Comment
8.609	DBF-FG52	Debris - Fishing Gear	736801.38	1389594.29	19/04/2023	15:23:40	No Additional Comment
9.073	DBF-FG53	Debris - Fishing Gear	736683.97	1390043.07	22/04/2023	09:13:49	No Additional Comment
9.204	DBF-FG54	Debris - Fishing Gear	736651.27	1390169.74	22/04/2023	09:23:40	No Additional Comment
9.255	DBF-FG55	Debris - Fishing Gear	736638.23	1390218.47	22/04/2023	09:28:20	No Additional Comment
9.674	DBF-FG56	Debris - Fishing Gear	736532.25	1390623.70	22/04/2023	09:52:38	No Additional Comment
9.682	DBF-FG57	Debris - Fishing Gear	736530.04	1390632.11	22/04/2023	09:53:17	No Additional Comment
9.732	DBF-FG58	Debris - Fishing Gear	736517.01	1390680.06	22/04/2023	09:55:59	No Additional Comment
9.736	DBF-FG59	Debris - Fishing Gear	736516.02	1390683.70	22/04/2023	09:56:18	No Additional Comment
9.749	DBF-FG60	Debris - Fishing Gear	736512.94	1390696.32	22/04/2023	09:57:12	No Additional Comment
9.902	DBF-FG61	Debris - Fishing Gear	736473.65	1390844.35	22/04/2023	10:05:09	No Additional Comment
10.273	DBF-FG62	Debris - Fishing Gear	736379.50	1391203.89	22/04/2023	10:26:56	No Additional Comment
10.319	DBF-FG63	Debris - Fishing Gear	736367.74	1391247.42	22/04/2023	10:31:05	No Additional Comment
11.037	DBF-FG64	Debris - Fishing Gear	736184.72	1391942.05	22/04/2023	11:12:08	No Additional Comment
11.534	DBF-F08	Debris - Fish Trap	736058.06	1392422.88	22/04/2023	12:54:41	No Additional Comment
12.062	DBF-F09	Debris - Fishing Gear	735924.24	1392533.39	22/04/2023	13:29:55	No Additional Comment
12.095	DBF-FG65	Debris - Fish Trap	735915.33	1392965.13	22/04/2023	13:31:54	Sitting on top of pipeline
12.270	DBF-FG66	Debris - Fishing Gear	735870.71	1393134.70	22/04/2023	13:46:58	No Additional Comment
12.489	DBF-FG67	Debris - Fishing Gear	735816.30	1393347.02	23/04/2023	11:49:24	No Additional Comment
12.535	DBF-FG68	Debris - Fishing Gear	735804.77	1393390.70	23/04/2023	11:51:40	No Additional Comment
12.978	DBF-F010	Debris - Fish Trap	735692.10	1393819.84	23/04/2023	12:20:08	No Additional Comment
14.794	DBF-F011	Debris - Fish Trap	735229.01	1395575.96	23/04/2023	14:22:19	No Additional Comment



Map Ta Phut 48" Subsea Crude Import Pipeline Report

KP	Abbreviation	Description	East	North	Date	Time	Comments
9.417	DB-SR15	Debris - Soft Rope	736596.51	1390375.85	22/04/2023	09:38:50	No



การตรวจสอบเส้นท่อส่วนที่ลอย (Floating Hose)



Star Petroleum Refining Public Co., Ltd

Hydrostatic Test Certificate (SPM)

Report No. 01/2024 Rev: 0

This is hereby certified that the SPM Floating Hose Port, Starboard String and Submarine hoses as per S/N listed in attachment below were hydro static tested in accordance with HC-WI-PD-6091 Plant 65 Procedure for Hydrostatic Pressure Test of SPM Hose System

Testing Condition and Parameter:

Required Test Pressure: 15.75 Kg/Cm2

Holding Time: 5 hours

Testing Fluid: Sea water with Fluorescein dye

Test Section: Full hydrotest of both Port, Starboard String Hose and Submarine hoses including related components within the test loop.

Work Sequence

- Close moon pool valve, Port & Starboard Deck Valve and Open cross over line valve, then install pressure gauges. One (1) PG installed at the top of cross over pipe. Two (2) PG installed at the end flange of floating hose together with Digital Pressure Recorder.

Pressure Gauges Data:

- PG#1: Range 0-40 Kg/Cm2 S/N No. 96PI1005 Calibrated date 11/01/2024. Next due 11/07/2024(Analog)
- PG#2 Range 0-40 Kg/Cm2 S/N No. 96PI1006 Calibrated date 11/01/2024. Next due 11/07/2024 (Analog)
- PG#3 Range 0-40 Kg/Cm2 S/N No. 96PI1007 Calibrated date 11/01/2024. Next due 11/07/2024 (Analog)
- PG#4 Range 0-40 Kg/Cm2 S/N No. 96PI1008 Calibrated date 11/01/2024. Next due 11/07/2024 (Analog)
- PG#4 S/N No. 960910 Calibrated date 06/12/2024. Next due 06/06/2024 (Digital Recordable)

Observation & Test Results

After both string hoses fully filled water as mixed with fluorescent dye then operator eliminated the air at vent nozzle at the Buoy (highest position). The pressure was slowly built up until reaching the required test pressure at 15.75-16.5 Kg/Cm 2 (swing pressure) and holding for 5 hours under witnessing by ABS Surveyor and SPRC Representatives. No leak found. Justification: Accepted.

Test Date: 1 Feb 2024

Started Holding Time: 12:10 Hours

Finished Holding Time: 17:10 Hours

	Acknowledge	Co-Witnessed by:	Co-Witnessed by:	Witnessed by:
Name				
Signature				
Date	1 Feb 2024	1 Feb 2024	1 Feb 2024	1 Feb 2024
Company	SPRC, PM Manager	SPRC Inspection Engineer	PTTGC Inspection Engineer	ABS Surveyor

Hose Sequence

Port String Floating Hose											1-Feb-2024
No.	Type	Serial No.	Size	Last Position	Mnf.	1st Install		2nd Install		Total Service Time (Day)	
						Date Installed	Service Time (Day)	Date Installed	Service Time (Day)		
1	First-Off	02-23-012 ✓	24" x 30'	New	Alfagomma					0	
2	Second-Off	02-23-014 ✓	24" x 35'	New	Alfagomma					0	
3	Mainline	02-23-015 ✓	24" x 35'	New	Alfagomma					0	
4	Mainline	02-23-016 ✓	24" x 35'	New	Alfagomma					0	
5	Mainline	02-23-017 ✓	24" x 35'	New	Alfagomma					0	
6	Mainline	02-23-018 ✓	24" x 35'	New	Alfagomma					0	
7	Mainline	05-23-073 ✓	24" x 35'	New	Alfagomma					0	
8	Mainline	05-23-074 ✓	24" x 35'	New	Alfagomma					0	
9	Mainline	05-23-075 ✓	24" x 35'	New	Alfagomma					0	
10	Mainline	05-23-076 ✓	24" x 35'	New	Alfagomma					0	
11	Mainline	05-23-078 ✓	24" x 35'	New	Alfagomma					0	
12	Mainline	05-23-079 ✓	24" x 35'	New	Alfagomma					0	
13	Mainline	05-23-080 ✓	24" x 35'	New	Alfagomma					0	
14	Mainline	05-23-081 ✓	24" x 35'	New	Alfagomma					0	
15	Mainline	05-23-082 ✓	24" x 35'	New	Alfagomma					0	
16	Mainline	05-23-083 ✓	24" x 35'	New	Alfagomma					0	
17	Mainline	05-23-084 ✓	24" x 35'	New	Alfagomma					0	
18	Mainline	05-23-085 ✓	24" x 35'	New	Alfagomma					0	
19	Mainline	05-23-087 ✓	24" x 35'	New	Alfagomma					0	
20	Mainline	05-23-089 ✓	24" x 35'	New	Alfagomma					0	
21	Mainline	05-23-090 ✓	24" x 35'	New	Alfagomma					0	
22	Mainline	05-23-091 ✓	24" x 35'	New	Alfagomma					0	
23	24"/16" Taper	02-23-020 ✓	24/16" x 35"	New	Alfagomma					0	
Breakaway						GTM 2308	16"	Refurbished	Gall Thomson		
24	Extra Buoyancy	02-23-022 ✓	16" x 30'	New	Alfagomma					0	
25	Tail	02-23-023 ✓	16" x 30'	26P	Alfagomma					0	
26	Tail	02-23-024 ✓	16" x 30'	25P	Alfagomma					0	
27	Tail	02-23-025 ✓	16" x 30'	26S	Alfagomma					0	
28	Tail	02-23-026 ✓	16" x 30'	27S	Alfagomma					0	
29	Tanker Rail	02-23-027 ✓	16" x 30'	New	Alfagomma					0	
Port String Subsea Hose - (WEST)											
No.	Type	Serial No.	Size	Last Position	Mnf.	1st Install		2nd Install		Total Service Time (Day)	
						Date Installed	Service Time (Day)	Date Installed	Service Time (Day)		
1	Subsea Reinforced	10-22-204 ✓	24" x 35'	New	Alfagomma					#VALUE!	
2	Subsea Standard	12-22-244 ✓	24" x 35'	New	Alfagomma					0	
3	Subsea Reinforced	10-22-208 ✓	24" x 35'	New	Alfagomma					0	



Work Order: 5816250-A
First Visit Date: 17-Apr-2023
Last Visit Date: 17-May-2023
Vendor PO Number: Replacement
Survey Location: Ortona

Hose Sequence

Starboard String Floating Hose										
										1-Feb-2024
No.	Type	Serial No.	Size	Last Position	Mnf.	1st Install		2nd Install		Total Service Time (Day)
						Date Installed	Service Time (Day)	Date Installed	Service Time (Day)	
1	First-Off	09-22-196 ✓	24" x 35'	New	Alfagomma					0
2	Second-Off	09-22-194 ✓	24" x 35'	New	Alfagomma					0
3	Mainline	08-22-167 ✓	24" x 35'	New	Alfagomma					0
4	Mainline	08-22-168 ✓	24" x 35'	New	Alfagomma					0
5	Mainline	08-22-169 ✓	24" x 35'	New	Alfagomma					0
6	Mainline	08-22-170 ✓	24" x 35'	New	Alfagomma					0
7	Mainline	08-22-171 ✓	24" x 35'	New	Alfagomma					0
8	Mainline	08-22-172 ✓	24" x 35'	New	Alfagomma					0
9	Mainline	08-22-173 ✓	24" x 35'	New	Alfagomma					0
10	Mainline	08-22-174 ✓	24" x 35'	New	Alfagomma					0
11	Mainline	08-22-175 ✓	24" x 35'	New	Alfagomma					0
12	Mainline	08-22-176 ✓	24" x 35'	New	Alfagomma					0
13	Mainline	08-22-177 ✓	24" x 35'	New	Alfagomma					0
14	Mainline	08-22-178 ✓	24" x 35'	New	Alfagomma					0
15	Mainline	08-22-179 ✓	24" x 35'	New	Alfagomma					0
16	Mainline	08-22-180 ✓	24" x 35'	New	Alfagomma					0
17	Mainline	08-22-181 ✓	24" x 35'	New	Alfagomma					0
18	Mainline	08-22-182 ✓	24" x 35'	New	Alfagomma					0
19	Mainline	08-22-183 ✓	24" x 35'	New	Alfagomma					0
20	Mainline	08-22-184 ✓	24" x 35'	New	Alfagomma					0
21	Mainline	08-22-185 ✓	24" x 35'	New	Alfagomma					0
22	24"/16" Taper	03-23-048 ✓	24/16" x 35'	New	Alfagomma					0
	Breakaway	GTM 2117	16"	Refurbished	Gall Thomson					
23	Extra Buoyancy	08-22-187 ✓	16" x 30'	New	Alfagomma					0
24	Tail	09-22-188 ✓	16" x 30'	New	Alfagomma					0
25	Tail	09-22-190 ✓	16" x 30'	New	Alfagomma					0
26	Tail	09-22-191 ✓	16" x 30'	New	Alfagomma					0
27	Tail	03-23-049 ✓	16" x 30'	New	Alfagomma					0
28	Tanker Rail	08-22-186 ✓	16" x 30'	New	Alfagomma					0
Starboard String Subsea Hose - (EAST)										
No.	Type	Serial No.	Size	Last Position	Mnf.	1st Install		2nd Install		Total Service Time (Day)
						Date Installed	Service Time (Day)	Date Installed	Service Time (Day)	
1	Subsea Reinforced	10-22-203 ✓	24" x 35'	New	Alfagomma					0
2	Subsea Standard	12-22-243 ✓	24" x 35'	New	Alfagomma					0
3	Subsea Reinforced	10-22-207 ✓	24" x 35'	New	Alfagomma					0

Equipment Certification Report

Asset Type Pipe
Customer Name ALFAGOMMA OIL & MARINE SRL
WCN of Customer 468816
Location Ortona

This is to certify that the undersigned Surveyors to this Bureau did at the request of ALFAGOMMA OIL & MARINE SRL, from 17-Apr-2023 to 17-May-2023, carry out the following survey and report as follows:

Client Asset Name Quantity

Marine Rubber Hoses 1

Name Plate Data

ABS Label	Manufacturer	Purchaser	Designer	Destination Vessel
Marine Rubber Hoses	ALFAGOMMA OIL & MARINE SRL	STAR PETROLEUM REFINING PUBLIC COMPANY LIMITED	ALFAGOMMA OIL & MARINE SRL	-

Basic Identification Data

Serial Number	Owner Tag Number	Supplier Ref. Number
-	-	1802000070

Statement of Work - Classification Service - Certification -

- Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.
- Material test reports (MTR) were reviewed and found to be the satisfaction of the attending Surveyor. Where required by the Rules, ABS material certification reports have been verified.

- Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.
- Material test reports (MTR) were reviewed and found to be the satisfaction of the attending Surveyor. Where required by the Rules, ABS material certification reports have been verified.

Report Findings

Statement/Observation

Finding No	Asset	Survey Task	Date Created
53.0	-	Certification - Marine Rubber Hoses	17-May-2023

Found

NO. 2 (TWO) MARINE RUBBER HOSES AS SPECIFIED BELOW WERE SUBJECTED WITH SATISFACTORY RESULTS TO RANDOM INLINE INSPECTION AND, UPON COMPLETION, TO FINAL INSPECTION.

NOTE: This Report evidences that the survey reported herein was carried out in compliance with one or more of the Rules, guides, standards or other criteria of the American Bureau of Shipping and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. This Report is a representation only that the vessel, structure, item of material equipment, machinery or any other item covered by this Report has been examined for compliance with, or has met one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping. The validity, applicability and interpretation of this Report is governed by the Rules and standards of American Bureau of Shipping who shall remain the sole judge thereof. Nothing contained in this Report or in any notation made in contemplation of this Report shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairs, operator or other entity of any warranty express or implied.



Work Order: 5816250-A
First Visit Date: 17-Apr-2023
Last Visit Date: 17-May-2023
Vendor PO Number: Replacement
Survey Location: Ortona



Work Order: 5816250-A
First Visit Date: 17-Apr-2023
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Vendor PO Number: Replacement
Survey Location: Ortona

FOLLOWING TESTS ACCORDING WITH GUIDE TO MANUFACTURING AND PURCHASING HOSES FOR OFFSHORE MOORINGS 5TH EDITION (GMPHOM 2009), PIM-SU-3092-G (CHEVRON) SPECIFICATION AND INSPECTION TEST PLAN ITP 22AG0052 REPLACEMENT Rev. 00 DATED 11 APRIL 2023:

Work Order Reviewer: Cappiello, Carmine
Work Order Credit Date: 22-May-2023

NO. 1 (ONE) SAFEWAVE F SC M REDUCER EB SIZE 24"/16x35'

S. NO. 0323048

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (HOSE CONTINUOUS)

NO. 1 (ONE) SAFEWAVE F SC M TAIL SIZE 16"x30'

S. NO. 0323049

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (HOSE DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT

UPON SATISFACTORY COMPLETION OF TESTS, MANUFACTURER'S TEST REPORTS SIGNED.

Closing Paragraph:

The component/equipment was surveyed in accordance with the Rules, specifications, and approved drawings, as applicable, and is eligible for installation on board an ABS classed vessel subject to satisfactory installation and testing, as necessary.

Attending Surveyor(s):

De Angelis, Antonino
Signed-off Date: 17-May-2023

Reviewing Surveyor(s)



Work Order: 5689514-A
First Visit Date: 06-Mar-2023
Last Visit Date: 17-May-2023
Vendor PO Number: PO45050207
Survey Location: Ortona

Equipment Certification Report

Asset Type Pipe
Customer Name ALFAGOMMA OIL & MARINE SRL
WCN of Customer 468816
Location Ortona

This is to certify that the undersigned Surveyors to this Bureau did at the request of ALFAGOMMA OIL & MARINE SRL, from 06-Mar-2023 to 17-May-2023, carry out the following survey and report as follows:

Client Asset Name Quantity

Marine Rubber Hoses 1

Name Plate Data

ABS Label	Manufacturer	Purchaser	Designer	Destination Vessel
Marine Rubber Hoses	ALFAGOMMA OIL & MARINE SRL	STAR PETROLEUM REFINING PUBLIC COMPANY LIMITED	ALFAGOMMA OIL & MARINE SRL	-

Basic Identification Data

Serial Number Owner Tag Number Supplier Ref. Number
- - 1802000064

Statement of Work - Classification Service - Certification -

- Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.
- Pressure and/or proof-load testing of the equipment/component was witnessed to the satisfaction of the attending Surveyor.
- Material test reports (MTR) were reviewed and found to be the satisfaction of the attending Surveyor. Where required by the Rules, ABS material certification reports have been verified.

- Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.
- Pressure and/or proof-load testing of the equipment/component was witnessed to the satisfaction of the attending Surveyor.
- Material test reports (MTR) were reviewed and found to be the satisfaction of the attending Surveyor. Where required by the Rules, ABS material certification reports have been verified.

Report Findings

Statement/Observation

Finding No	Asset	Survey Task	Date Created
47.0	-	Certification - Marine Rubber Hoses	17-May-2023

Found

NOTE: This Report evidences that the survey reported herein was carried out in compliance with one or more of the Rules, guides, standards or other criteria of the American Bureau of Shipping and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. This Report is a representation only that the vessel, structure, item of material equipment, machinery or any other item covered by this Report has been examined for compliance with, or has met one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping. The validity, applicability and interpretation of this Report is governed by the Rules and standards of American Bureau of Shipping who shall remain the sole judge thereof. Nothing contained in this Report or in any notation made in contemplation of this Report shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied.



Work Order: 5689514-A
First Visit Date: 06-Mar-2023
Last Visit Date: 17-May-2023
Vendor PO Number: PO45050207
Survey Location: Ortona

NO. 18 (EIGHTEEN) MARINE RUBBER HOSES AS SPECIFIED BELOW WERE SUBJECTED WITH SATISFACTORY RESULTS TO RANDOM INLINE INSPECTION OF 50% OF PRODUCTION AND, UPON COMPLETION, TO FINAL INSPECTION.

FOLLOWING TESTS ACCORDING WITH GUIDE TO MANUFACTURING AND PURCHASING HOSES FOR OFFSHORE MOORINGS 5TH EDITION (GMPHOM 2009), PIM-SU-3092-G (CHEVRON) SPECIFICATION AND INSPECTION TEST PLAN ITP 22AG0142 Rev. 01 DATED 06 MARCH 2023:

NO. 2 (TWO) SAFEWAVE F SC M FOB PU SIZE 24"x30'

S. NO. 0223011 - 0223012

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 0223011)
- BEND TEST (S. NO. 0223011)
- STIFFNESS TEST (S. NO. 0223011)
- TORSION TEST (S. NO. 0223011)
- TENSILE TEST (S. NO. 0223011)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES CONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 2 (TWO) SAFEWAVE F SC M MAINLINE PU SIZE 24"x35'

S. NO. 0223013 - 0223014

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 0223013)
- BEND TEST (S. NO. 0223013)
- STIFFNESS TEST (S. NO. 0223013)
- TORSION TEST (S. NO. 0223013)
- TENSILE TEST (S. NO. 0223013)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES CONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 4 (FOUR) SAFEWAVE F SC M MAINLINE SIZE 24"x35'

S. NO. 0223015 - 0223016 - 0223017 - 0223018

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 0223015)
- BEND TEST (S. NO. 0223015)
- STIFFNESS TEST (S. NO. 0223015)



Work Order: 5689514-A
First Visit Date: 06-Mar-2023
Last Visit Date: 17-May-2023
Vendor PO Number: PO45050207
Survey Location: Ortona

- TORSION TEST (S. NO. 0223015)
- TENSILE TEST (S. NO. 0223015)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES CONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 2 (TWO) SAFEWAVE F SC M TAPER EB SIZE 24/16"x35'

S. NO. 0223019 - 0223020 (020)

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 0223019)
- BEND TEST (S. NO. 0223019)
- STIFFNESS TEST (S. NO. 0223019)
- TORSION TEST (S. NO. 0223019)
- TENSILE TEST (S. NO. 0223019)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES CONTINUOUS)

NO. 2 (TWO) SAFEWAVE F SC M TAIL EB SIZE 16"x30'

S. NO. 0223021 - 0223022

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 0223021)
- BEND TEST (S. NO. 0223021)
- STIFFNESS TEST (S. NO. 0223021)
- TORSION TEST (S. NO. 0223021)
- TENSILE TEST (S. NO. 0223021)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 4 (FOUR) SAFEWAVE F SC M TAIL SIZE 16"x30'

S. NO. 0223023 - 0223024 - 0223025 - 0223026

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 0223023)
- BEND TEST (S. NO. 0223023)



Work Order: 5689514-A
First Visit Date: 06-Mar-2023
Last Visit Date: 17-May-2023
Vendor PO Number: PO45050207
Survey Location: Ortona

- STIFFNESS TEST (S. NO. 0223023)
- TORSION TEST (S. NO. 0223023)
- TENSILE TEST (S. NO. 0223023)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 2 (TWO) SAFEWAVE F SC M TANKER PU SIZE 16"x30'

S. NO. 0223027 - 0223028

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 0223027)
- BEND TEST (S. NO. 0223027)
- STIFFNESS TEST (S. NO. 0223027)
- TORSION TEST (S. NO. 0223027)
- TENSILE TEST (S. NO. 0223027)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

UPON SATISFACTORY COMPLETION OF TESTS, MANUFACTURER'S TEST REPORTS SIGNED.

Closing Paragraph:

The component/equipment was surveyed in accordance with the Rules, specifications, and approved drawings, as applicable, and is eligible for installation on board an ABS classed vessel subject to satisfactory installation and testing, as necessary.

Attending Surveyor(s):

De Angelis, Antonino
Signed-off Date: 17-May-2023

Reviewing Surveyor(s)

Work Order Reviewer: Cappiello, Carmine
Work Order Credit Date: 22-May-2023



Work Order: 5457248-A
First Visit Date: 12-Sep-2022
Last Visit Date: 16-Nov-2022
Vendor PO Number: 45048759
Survey Location: Ortona



Work Order: 5457248-A
First Visit Date: 12-Sep-2022
Last Visit Date: 16-Nov-2022
Vendor PO Number: 45048759
Survey Location: Ortona

Equipment Certification Report

Asset Type Pipe
Customer Name ALFAGOMMA OIL & MARINE SRL
WCN of Customer 468816
Location Ortona

This is to certify that the undersigned Surveyors to this Bureau did at the request of ALFAGOMMA OIL & MARINE SRL, from 12-Sep-2022 to 16-Nov-2022, carry out the following survey and report as follows:

Client Asset Name Quantity

Marine Rubber Hoses 1

Name Plate Data

ABS Label	Manufacturer	Purchaser	Designer	Destination Vessel
Marine Rubber Hoses	ALFAGOMMA OIL & MARINE SRL	STAR PETROLEUM REFINING PUBLIC COMPANY LIMITED	ALFAGOMMA OIL & MARINE SRL	-

Basic Identification Data

Serial Number Owner Tag Number Supplier Ref. Number
- - 1802000051

Statement of Work - Classification Service - Certification -

- All testing (pressure/load/operational/etc.) has been carried out as applicable and verified in accordance with the applicable Rules/specifications.
- Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.
- Traceability of materials used on this project has been verified.

Report Findings

Statement/Observation

Finding No	Asset	Survey Task	Date Created
36.0	Marine Rubber Hoses	Certification - Marine Rubber Hoses	16-Nov-2022

Found

NO. 28 (TWENTYEIGHT) MARINE RUBBER HOSES AS SPECIFIED BELOW WERE SUBJECTED WITH SATISFACTORY RESULTS TO INLINE INSPECTION AND, UPON COMPLETION, TO FINAL INSPECTION.

FOLLOWING TESTS ACCORDING WITH GUIDE TO MANUFACTURING AND PURCHASING HOSES FOR OFFSHORE MOORINGS 5TH EDITION (GMPHOM 2009), PIM-SU-3092-G (CHEVRON) SPECIFICATION AND INSPECTION TEST PLAN ITP 22AG0052 Rev.04 DATED 17 OCTOBER

NOTE: This Report evidences that the survey reported herein was carried out in compliance with one or more of the Rules, guides, standards or other criteria of the American Bureau of Shipping and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. This Report is a representation only that the vessel, structure, item of material equipment, machinery or any other item covered by this Report has been examined for compliance with, or has met one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping. The validity, applicability and interpretation of this Report is governed by the Rules and standards of American Bureau of Shipping who shall remain the sole judge thereof. Nothing contained in this Report or in any notation made in contemplation of this Report shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied.

2022:

NO. 19 (NINETEEN) SAFEWAVE F SC M MAIN SIZE 24"x35'

S. NOS. 0822167 - 0822168 - 0822169 - 0822170 - 0822171 - 0822172 - 0822173 - 0822174 - 0822175 - 0822176 - 0822177 - 0822178 - 0822179 - 0822180 - 0822181 - 0822182 - 0822183 - 0822184 - 0822185

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NOS. 0822167 - 0822177)
- BEND TEST (S. NOS. 0822168 - 0822177)
- STIFFNESS TEST (S. NOS. 0822168 - 0822177)
- TORSION TEST (S. NOS. 0822168 - 0822177)
- TENSILE TEST (S. NOS. 0822168 - 0822177)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES CONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 1 (ONE) SAFEWAVE SC F MAIN PU SIZE 24"x35'

S. NO. 0922194

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (HOSE CONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT

NO. 1 (ONE) SAFEWAVE SC F FOB PU SIZE 24"x30'

S. NO. 0922196

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST



Work Order: 5457248-A
First Visit Date: 12-Sep-2022
Last Visit Date: 16-Nov-2022
Vendor PO Number: 45048759
Survey Location: Ortona

- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (HOSE CONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT

NO. 1 (ONE) SAFEWAVE F SC M REDUCER EB SIZE 24"/16"x35'

S. NO. 0922195

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (HOSE CONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT

NO. 1 (ONE) SAFEWAVE F SC M TAIL EB SIZE 16"x30'

S. NO. 0822187

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (HOSE DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT

NO. 4 (FOUR) SAFEWAVE F SC M TAIL SIZE 16"x30'

S. NO. 0922188 - 0922189 - 0922190 - 0922191

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 0922188)
- BEND TEST (S. NO. 0922188)
- STIFFNESS TEST (S. NO. 0922188)



Work Order: 5457248-A
First Visit Date: 12-Sep-2022
Last Visit Date: 16-Nov-2022
Vendor PO Number: 45048759
Survey Location: Ortona

- TORSION TEST (S. NO. 0922188)
- TENSILE TEST (S. NO. 0922188)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 1 (ONE) SAFEWAVE F SC M TANKER PU SIZE 16"x30'

S. NO. 0822186

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (HOSE DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT

UPON SATISFACTORY COMPLETION OF TESTS, MANUFACTURER'S TEST REPORTS SIGNED.

Closing Paragraph:

The component/equipment was surveyed in accordance with the Rules, specifications, and approved drawings, as applicable, and is eligible for installation on board an ABS classed vessel subject to satisfactory installation and testing, as necessary.

Attending Surveyor(s):

De Angelis, Antonino
Signed-off Date: 17-Nov-2022

Reviewing Surveyor(s)

Work Order Reviewer: Cappiello, Carmine
Work Order Credit Date: 18-Nov-2022



Work Order: 5876370-A
First Visit Date: 01-Jun-2023
Last Visit Date: 28-Sep-2023
Vendor PO Number: 45051092
Survey Location: Ortona



Work Order: 5876370-A
First Visit Date: 01-Jun-2023
Last Visit Date: 28-Sep-2023
Vendor PO Number: 45051092
Survey Location: Ortona

Equipment Certification Report

Asset Type Pipe
Customer Name ALFAGOMMA OIL & MARINE SRL
WCN of Customer 468816
Location Ortona

This is to certify that the undersigned Surveyors to this Bureau did at the request of ALFAGOMMA OIL & MARINE SRL, from 01-Jun-2023 to 28-Sep-2023, carry out the following survey and report as follows:

Client Asset Name Quantity

Marine Rubber Hoses - 1 1

Name Plate Data

ABS Label	Manufacturer	Purchaser	Designer	Destination Vessel
Marine Rubber Hoses - 1	ALFAGOMMA OIL & MARINE SRL	STAR PETROLEUM REFINING PUBLIC COMPANY LIMITED	ALFAGOMMA OIL & MARINE SRL	-

Basic Identification Data

Serial Number Supplier Ref. Number
- 1802000078

Statement of Work - Classification Service - Certification -

- Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.
- Material test reports (MTR) were reviewed and found to be the satisfaction of the attending Surveyor. Where required by the Rules, ABS material certification reports have been verified.

Report Findings

Statement/Observation

Finding No	Asset	Survey Task	Date Created
56.0	-	Certification - Marine Rubber Hoses - 1	28-Sep-2023

Found

NO. 29 (TWENTYNINE) MARINE RUBBER HOSES AS SPECIFIED BELOW WERE SUBJECTED WITH SATISFACTORY RESULTS TO RANDOM INLINE INSPECTION OF 50% OF PRODUCTION AND, UPON COMPLETION, TO FINAL INSPECTION.

FOLLOWING TESTS ACCORDING WITH GUIDE TO MANUFACTURING AND PURCHASING HOSES FOR OFFSHORE MOORINGS 5TH EDITION (GMPHOM 2009), PIM-SU-3092-G (CHEVRON) SPECIFICATION AND INSPECTION TEST PLAN ITP 23AG0067 Rev. 00 DATED 30 MAY 2023:

NO. 1 (ONE) SAFEWAVE F SC M FOB PU SIZE 24"x30'

S. NO. 0523070

NOTE: This Report evidences that the survey reported herein was carried out in compliance with one or more of the Rules, guides, standards or other criteria of the American Bureau of Shipping and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. This Report is a representation only that the vessel, structure, item of material equipment, machinery or any other item covered by this Report has been examined by this Report in accordance with one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping. The validity, applicability and interpretation of this Report is governed by the Rules and standards of American Bureau of Shipping who shall remain the sole judge thereof. Nothing contained in this Report or in any notation made in contemplation of this Report shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty, express or implied.

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (CONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT

NO. 1 (ONE) SAFEWAVE F SC M MAINLINE PU SIZE 24"x35'

S. NO. 0523071

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (CONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT

NO. 20 (TWENTY) SAFEWAVE F SC M MAINLINE SIZE 24"x35'

S. NO. 0523072 - 0523073 - 0523074 - 0523075 - 0523076 - 0523077 - 0523078 - 0523079 - 0523080 - 0523081 - 0523082 - 0523083 - 0523084 - 0523085 - 0523086 - 0523087 - 0523088 - 0523089 - 0523090 - 0523091

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)

- ADHESION TEST (S. NO. 0523074 - 0523082)

- BEND TEST (S. NO. 0523072 - 0523082)

- STIFFNESS TEST (S. NO. 0523072 - 0523082)

- TORSION TEST (S. NO. 0523072 - 0523082)

- TENSILE TEST (S. NO. 0523072 - 0523082)

- KEROSENE TEST (ALL HOSES)

- VACUUM TEST (ALL HOSES)

- ELECTRICAL CONTINUITY TEST (ALL HOSES CONTINUOUS)

- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 1 (ONE) SAFEWAVE F SC M TAPER EB 24"/16"x 35'

S. NO. 0523092



Work Order: 5876370-A
First Visit Date: 01-Jun-2023
Last Visit Date: 28-Sep-2023
Vendor PO Number: 45051092
Survey Location: Ortona

-
- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
 - ADHESION TEST
 - BEND TEST
 - STIFFNESS TEST
 - TORSION TEST
 - TENSILE TEST
 - KEROSENE TEST
 - VACUUM TEST
 - ELECTRICAL CONTINUITY TEST (CONTINUOUS)

NO. 1 (ONE) SAFEWAVE F SC M TAIL EB SIZE 16"x30'

S. NO. 0523093

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT

NO. 4 (FOUR) SAFEWAVE F SC M TAIL SIZE 16"x30'

S. NO. 0523094 - 0523095 - 0523096 - 0523097

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 0523094)
- BEND TEST (S. NO. 0523094 - 0523097)
- STIFFNESS TEST (S. NO. 0523094 - 0523097)
- TORSION TEST (S. NO. 0523094 - 0523097)
- TENSILE TEST (S. NO. 0523094 - 0523097)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 1 (ONE) SAFEWAVE F SC M TANKER PU SIZE 16"x30'

S. NO. 0523098

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST



Work Order: 5876370-A
First Visit Date: 01-Jun-2023
Last Visit Date: 28-Sep-2023
Vendor PO Number: 45051092
Survey Location: Ortona

-
- BEND TEST
 - STIFFNESS TEST
 - TORSION TEST
 - TENSILE TEST
 - KEROSENE TEST
 - VACUUM TEST
 - ELECTRICAL CONTINUITY TEST (DISCONTINUOUS)
 - FLANGE BOLT HOLE ALIGNMENT

UPON SATISFACTORY COMPLETION OF TESTS, MANUFACTURER'S TEST REPORTS SIGNED.

Closing Paragraph:

The component/equipment was surveyed in accordance with the Rules, specifications, and approved drawings, as applicable, and is eligible for installation on board an ABS classed vessel subject to satisfactory installation and testing, as necessary.

Attending Surveyor(s):

De Angelis, Antonino

Signed-off Date: 28-Sep-2023

Reviewing Surveyor(s)

Work Order Reviewer: Capiello, Carmine

Work Order Credit Date: 29-Sep-2023



Work Order: 5552983-A
First Visit Date: 16-Nov-2022
Last Visit Date: 02-Mar-2023
Vendor PO Number: 45048938
Survey Location: Ortona



Work Order: 5552983-A
First Visit Date: 16-Nov-2022
Last Visit Date: 02-Mar-2023
Vendor PO Number: 45048938
Survey Location: Ortona

Equipment Certification Report

Asset Type Pipe
Customer Name ALFAGOMMA OIL & MARINE SRL
WCN of Customer 468816
Location Ortona

This is to certify that the undersigned Surveyors to this Bureau did at the request of ALFAGOMMA OIL & MARINE SRL, from 16-Nov-2022 to 02-Mar-2023, carry out the following survey and report as follows:

Client Asset Name Quantity

Marine Rubber Hoses - 1 1

Name Plate Data

ABS Label	Manufacturer	Purchaser	Designer	Destination Vessel
Marine Rubber Hoses - 1	ALFAGOMMA OIL & MARINE SRL	STAR PETROLEUM REFINING PUBLIC COMPANY LIMITED	ALFAGOMMA OIL & MARINE SRL	-

Basic Identification Data

Serial Number Owner Tag Number Supplier Ref. Number
- - 1802000053

Statement of Work - Classification Service - Certification -

- Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.
- Pressure and/or proof-load testing of the equipment/component was witnessed to the satisfaction of the attending Surveyor.
- Material test reports (MTR) were reviewed and found to be the satisfaction of the attending Surveyor. Where required by the Rules, ABS material certification reports have been verified.

Report Findings

Statement/Observation

Finding No	Asset	Survey Task	Date Created
39.0	Marine Rubber Hoses - 1	Certification - Marine Rubber Hoses - 1	02-Mar-2023

Found

NO. 6 (SIX) MARINE RUBBER HOSES AS SPECIFIED BELOW WERE SUBJECTED WITH SATISFACTORY RESULTS TO INLINE INSPECTION AND, UPON COMPLETION, TO FINAL INSPECTION.

FOLLOWING TESTS ACCORDING WITH GUIDE TO MANUFACTURING AND PURCHASING HOSES FOR OFFSHORE MOORINGS 5TH EDITION (GMPHOM 2009), PIM-SU-3092-G (CHEVRON) SPECIFICATION AND INSPECTION TEST PLAN ITP 22AG0056 Rev. 02 DATED 16 NOVEMBER

NOTE: This Report evidences that the survey reported herein was carried out in compliance with one or more of the Rules, guides, standards or other criteria of the American Bureau of Shipping and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. This Report is a representation only that the vessel, structure, item of material equipment, machinery or any other item covered by this Report has been examined for compliance with, or has met one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping. The validity, applicability and interpretation of this Report is governed by the Rules and standards of American Bureau of Shipping who shall remain the sole judge thereof. Nothing contained in this Report or in any notation made in contemplation of this Report shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied.

2022:

NO. 2 (TWO) SAFEWAVE S SC M FOB PU SIZE 24"x35'

S. NO. 1022203 - 1022204

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 1022203)
- BEND TEST (S. NO. 1022203)
- STIFFNESS TEST (S. NO. 1022203)
- TORSION TEST (S. NO. 1022203)
- TENSILE TEST (S. NO. 1022203)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 2 (TWO) SAFEWAVE S SC M FOP C PU SIZE 24"x35'

S. NO. 1022207 - 1022208

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 1022207)
- BEND TEST (S. NO. 1022207)
- STIFFNESS TEST (S. NO. 1022207)
- TORSION TEST (S. NO. 1022207)
- TENSILE TEST (S. NO. 1022207)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 2 (TWO) SAFEWAVE S SC M MAILINE C PU SIZE 24"x35'

S. NO. 1222243 - 1222244

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 1222243)
- BEND TEST (S. NO. 1222243)
- STIFFNESS TEST (S. NO. 1222243)
- TORSION TEST (S. NO. 1222243)
- TENSILE TEST (S. NO. 1222243)
- KEROSENE TEST (ALL HOSES)



Work Order: 5552983-A
First Visit Date: 16-Nov-2022
Last Visit Date: 02-Mar-2023
Vendor PO Number: 45048938
Survey Location: Ortona

- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

UPON SATISFACTORY COMPLETION OF TESTS, MANUFACTURER'S TEST REPORTS SIGNED.

Closing Paragraph:

The component/equipment was surveyed in accordance with the Rules, specifications, and approved drawings, as applicable, and is eligible for installation on board an ABS classed vessel subject to satisfactory installation and testing, as necessary.

Attending Surveyor(s):

De Angelis, Antonino
Signed-off Date: 02-Mar-2023

Reviewing Surveyor(s)

Work Order Reviewer: Cappiello, Carmine
Work Order Credit Date: 07-Mar-2023

CERTIFICATE OF CALIBRATION

Issued By Marske Machine Hire & Calibration Centre
Date of Issue 06 December 2023



Certificate Number
P232659

Page 1 of 2 Pages

Marske Machine (Thailand) Co., Ltd
267/382-383 Sukhumvit Rd., MapTaPhut
Muangrayong, Rayong 21150
Tel : (038) 682992-3, (038) 691563-4 Fax : (038) 682988
Email : sales@mme-thai.com

Approved Signature:

☐ Prasit K. ☒ Marut L.

Customer : CR3 (Thailand) Co., Ltd.
15/1 Moo 3 Bankoh-Mabkha, T. Mapkha Nikompattana Sub. Rayong
21180

Date Received : 02 December 2023

Instrument -	System ID :	PC13068	Job Number : 0000235538
	Description :	Digital Test Gauge	Ref. Number : CRAT-DG-003
	Manufacturer :	Crystal	
	Model Number :	0 to 3000 PSI	
	Serial Number :	960910	Last Certificate Number : P223084
	Procedure Version :	PP0001	Last Calibration Date : 30/11/2022

Environmental Conditions

Temperature : 23°C +/- 2°C
Relative Humidity : 50% +/- 15%

Mains Voltage : 220V +/- 20V
Mains Frequency : 50Hz +/- 1Hz

Comments

Instrument (UUC) was placed in lab and allowed to stabilize before calibration.
Reference level has been set at UUC's inlet and calibrated in vertical position.
Hydraulic oil with density 870 kg/m³ has been used as media for calibration.
All test pass manufacturer's specification.

Traceability Information

Instrument description	Serial number	Certificate number	Cal. Date	Cal. Period
CPS5800 Dead-Weight Tester (Lab)	770N	MP-0038-21	05/03/2021	156

Calibrated By : Woraphon Y.

Date of Calibration : 06 December 2023

This Certificate provides traceability of measurement to the SI System of unit, and to the units of measurement realised at the National Physical Laboratory or other recognised National Standard Laboratories.
Copyright of this Certificate is owned by the issuing laboratory and may not be reproduced except with the prior written approval of the issuing laboratory.

CERTIFICATE OF CALIBRATION



Certificate Number
P232659

Page 2 of 2 Pages

Test Title Tolerance STD Value UUC Reading % Of Spec. Uncertainties

Calibration Information

The uncertainty limits quoted refer to the measured values only, with no account being taken of the instrument ability to maintain its calibration.

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by a coverage factor $k=2$ corresponding to a coverage probability of approximately 95%.

Units :

The SI unit of pressure is the pascal. To convert from pascal to PSI multiply by 0.0001450377.

Calibration Method :

The instrument was calibrated in accordance with the instruction based on DKD R6-1.

Function : Pressure Measurement (Mean Value Including Hysteresis)
Range : 0 to 3000 PSI

0 PSI	0.60PSI	0.00PSI	0.0PSI	0%	0.21PSI
300 PSI	0.60PSI	299.21PSI	299.2PSI	2%	0.21PSI
600 PSI	0.60PSI	598.43PSI	598.4PSI	5%	0.21PSI
900 PSI	0.90PSI	897.51PSI	897.4PSI	12%	0.21PSI
1200 PSI	1.2PSI	1 196.25PSI	1 196.2PSI	4%	0.21PSI
1500 PSI	1.5PSI	1 495.47PSI	1 495.4PSI	5%	0.21PSI
1800 PSI	1.8PSI	1 794.53PSI	1 794.4PSI	7%	0.21PSI
2100 PSI	2.1PSI	2 094.44PSI	2 094.3PSI	7%	0.21PSI
2400 PSI	2.4PSI	2 393.49PSI	2 393.4PSI	4%	0.21PSI
2700 PSI	2.7PSI	2 692.72PSI	2 692.6PSI	4%	0.21PSI
3000 PSI	3PSI	2 991.45PSI	2 991.4PSI	2%	0.21PSI

End of calibration



CALIBRATION CERTIFICATE

Certificate Number: SPRC/22276/2023

Printed: 01/02/2024 11:49:05
Printed by: Sutha Puttanapokrutana

Star Petroleum Refining Public Company Limited

POSITION ID: 96PI1005

POSITION
Position Name: SPM HOSE TEST
Work Order Number:
Location:
Plant Structure: SPRC/IPD/Production Marine/

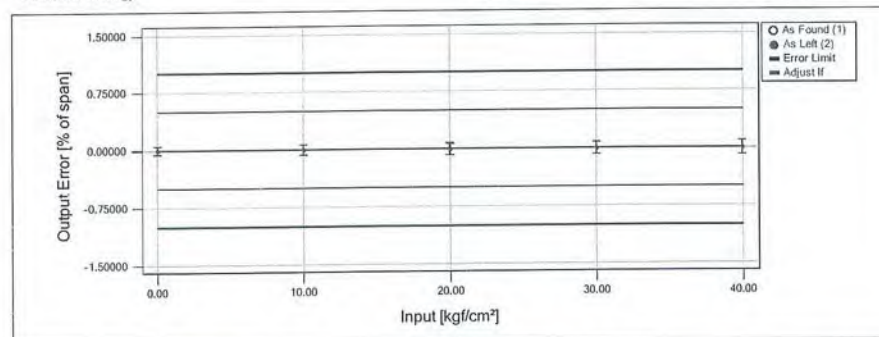
DEVICE
Device ID: 96PI1005
Serial Number:
Manufacturer Model: ASHCROFT T5500 EN837-1
Operating Range:
Operating Temp.:
Humidity:

FUNCTION
Function: Pressure Indicator (pi)
Transfer Function: Linear
Range (I/O): 0.00 to 40.00 kgf/cm² (G) 0.00 to 40.00 kgf/cm² (G)

CALIBRATION EVENT
Calibration Date: 11/01/2024, 13:31:00
Next Cal. Date: 11/07/2024
Environment Temp.: 0.00 °F
Humidity: 0.00 %

PROCEDURE
Due Date: 11/07/2024 Interval: 6 months
Reject If Error >: 1.00 % of span Adjust To <: 0.00 % of span
Classification:
Calibration Strategy:

CALIBRATORS
Input Calibrator:
Input Module: EXT160-IS : 36146
Output Calibrator:
Output Module:
Due Date: 18/05/2024
Due Date: 12/05/2024
Due Date:
Due Date:



1. As Found

Max Error: 0.00 % of span

Nominal Input [kgf/cm ²]	Actual Input [kgf/cm ²]	Nominal Output [kgf/cm ²]	Actual Output [kgf/cm ²]	Found Error [% of span]
0.000	0.000	0.000	0.000	0.0000
10.000	10.000	10.000	10.000	0.0000
20.000	20.001	20.000	20.000	-0.0025
30.000	30.000	30.000	30.000	0.0000
40.000	40.000	40.000	40.000	0.0000
30.000	30.000	30.000	30.000	0.0000
20.000	20.002	20.000	20.000	-0.0050
10.000	10.000	10.000	10.000	0.0000
0.000	0.000	0.000	0.000	0.0000

PASSED 2. As Left

Max Error: 0.00 % of span

Nominal Input [kgf/cm ²]	Actual Input [kgf/cm ²]	Nominal Output [kgf/cm ²]	Actual Output [kgf/cm ²]	Found Error [% of span]
0.000	0.000	0.000	0.000	0.0000
10.000	10.000	10.000	10.000	0.0000
20.000	20.000	20.000	20.000	0.0000
30.000	30.000	30.000	30.000	0.0000
40.000	39.999	40.000	40.000	0.0025
30.000	30.000	30.000	30.000	0.0000
20.000	20.000	20.000	20.000	0.0000
10.000	10.000	10.000	10.000	0.0000
0.000	0.000	0.000	0.000	0.0000

Calibration Note:

Calibrated by: Sutha Puttanapokrutana
11/01/2024, 13:31:00

Approved:



CALIBRATION CERTIFICATE

Certificate Number: SPRC/22277/2023

Printed: 01.02.2024 11:49:06
Printed by: Sutha Puttanapokrittana

Star Petroleum Refining Public Company Limited

POSITION ID: 96PI1006

POSITION

Position Name: SPM HOSE TEST
Work Order Number:
Location:
Plant Structure: SPRC/IPD/Production Marine/

DEVICE

Device ID: 96PI1006
Serial Number:
Manufacturer Model: ASHCROFT T5500 EN837-1
Operating Range:
Operating Temp.: Humidity:

FUNCTION

Function: Pressure Indicator (pi)
Transfer Function: Linear
Range (I/O): 0.00 to 40.00 bar (G) 0.00 to 40.00 bar (G)

CALIBRATION EVENT

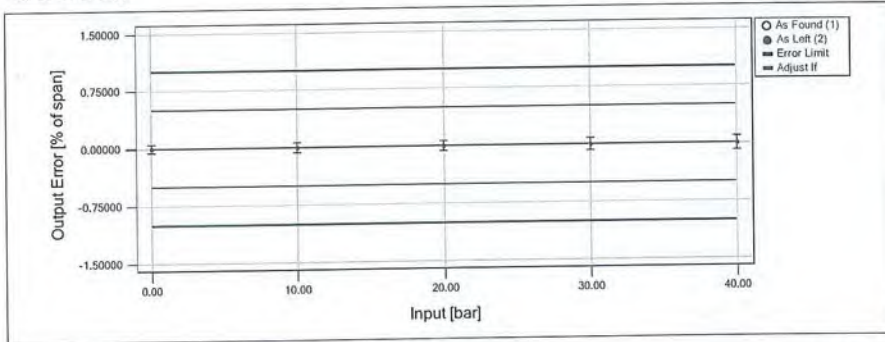
Calibration Date: 11/01/2024, 14:05:00
Next Cal. Date: 11/07/2024
Environment Temp.: 0.00 °F Humidity: 0.00 %

PROCEDURE

Due Date: 11/07/2024 Interval: 6 months
Reject if Error >: 1.00 % of span Adjust To <: 0.00 % of span
Classification:
Calibration Strategy:

CALIBRATORS

Input Calibrator:
Input Module: EXT160-IS : 36146 Due Date: 18/05/2024
Output Calibrator:
Output Module: Due Date: 12/05/2024



1. As Found

Max Error: 0.00 % of span

Nominal Input [bar]	Actual Input [bar]	Nominal Output [bar]	Actual Output [bar]	Found Error [% of span]
0.000	0.000	0.000	0.000	0.0000
10.000	10.000	10.000	10.000	0.0000
20.000	20.000	20.000	20.000	0.0000
30.000	30.000	30.000	30.000	0.0000
40.000	40.001	40.000	40.000	-0.0025
30.000	30.000	30.000	30.000	0.0000
20.000	20.000	20.000	20.000	0.0000
10.000	10.000	10.000	10.000	0.0000
0.000	0.000	0.000	0.000	0.0000

2. As Left

Max Error: 0.00 % of span

Nominal Input [bar]	Actual Input [bar]	Nominal Output [bar]	Actual Output [bar]	Found Error [% of span]
0.000	0.000	0.000	0.000	0.0000
10.000	10.000	10.000	10.000	0.0000
20.000	20.000	20.000	20.000	0.0000
30.000	30.000	30.000	30.000	0.0000
40.000	40.001	40.000	40.000	-0.0025
30.000	30.000	30.000	30.000	0.0000
20.000	20.000	20.000	20.000	0.0000
10.000	10.000	10.000	10.000	0.0000
0.000	0.000	0.000	0.000	0.0000

Calibration Note:

Calibrated by: Sutha Puttanapokrittana
11/01/2024, 14:05:00

Approved:



CALIBRATION CERTIFICATE

Certificate Number: SPRC/22278/2023

Printed: 01.02.2024 11:49:06
Printed by: Sutha Puttanapokrittana

Star Petroleum Refining Public Company Limited

POSITION ID: 96PI1007

POSITION

Position Name: SPM HOSE TEST
Work Order Number:
Location:
Plant Structure: SPRC/IPD/Production Marine/

DEVICE

Device ID: 96PI1007
Serial Number:
Manufacturer Model: ASHCROFT T5500 EN837-1
Operating Range:
Operating Temp.: Humidity:

FUNCTION

Function: Pressure Indicator (pi)
Transfer Function: Linear
Range (I/O): 0.00 to 40.00 kgf/cm² (G) 0.00 to 40.00 kgf/cm² (G)

CALIBRATION EVENT

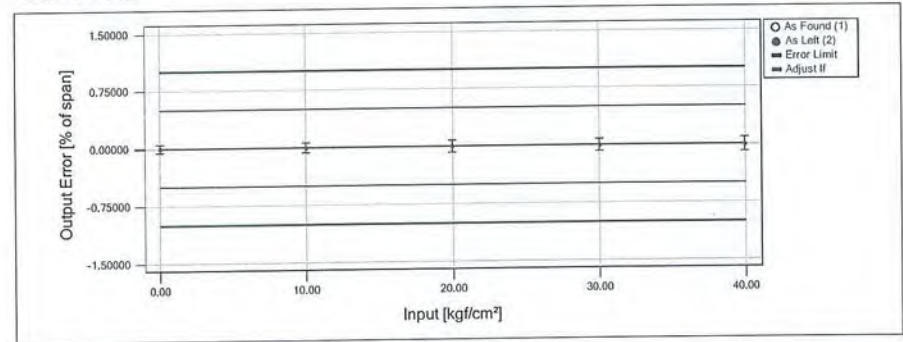
Calibration Date: 11/01/2024, 14:29:00
Next Cal. Date: 11/07/2024
Environment Temp.: 0.00 °F Humidity: 0.00 %

PROCEDURE

Due Date: 11/07/2024 Interval: 6 months
Reject if Error >: 1.00 % of span Adjust To <: 0.00 % of span
Classification:
Calibration Strategy:

CALIBRATORS

Input Calibrator:
Input Module: EXT160-IS : 36146 Due Date: 18/05/2024
Output Calibrator:
Output Module: Due Date: 12/05/2024



1. As Found

Max Error: 0.00 % of span

Nominal Input [kgf/cm²]	Actual Input [kgf/cm²]	Nominal Output [kgf/cm²]	Actual Output [kgf/cm²]	Found Error [% of span]
0.000	0.000	0.000	0.000	0.0000
10.000	10.000	10.000	10.000	0.0000
20.000	20.000	20.000	20.000	0.0000
30.000	30.000	30.000	30.000	0.0000
40.000	39.999	40.000	40.000	0.0025
30.000	30.000	30.000	30.000	0.0000
20.000	20.000	20.000	20.000	0.0000
10.000	10.000	10.000	10.000	0.0000
0.000	0.000	0.000	0.000	0.0000

2. As Left

Max Error: 0.00 % of span

Nominal Input [kgf/cm²]	Actual Input [kgf/cm²]	Nominal Output [kgf/cm²]	Actual Output [kgf/cm²]	Found Error [% of span]
0.000	0.000	0.000	0.000	0.0000
10.000	10.000	10.000	10.000	0.0000
20.000	20.000	20.000	20.000	0.0000
30.000	30.000	30.000	30.000	0.0000
40.000	40.000	40.000	40.000	0.0000
30.000	30.000	30.000	30.000	0.0000
20.000	20.000	20.000	20.000	0.0000
10.000	10.000	10.000	10.000	0.0000
0.000	0.000	0.000	0.000	0.0000

Calibration Note:

Calibrated by: Sutha Puttanapokrittana
11/01/2024, 14:29:00

Approved:



CALIBRATION CERTIFICATE

Certificate Number: SPRC/22279/2023

Printed: 01.02.2024 11:49:06
Printed by: Sutha Puttanapokrutana

Star Petroleum Refining Public Company Limited

POSITION ID: 96PI1008

POSITION

Position Name: SPM HOSE TEST
Work Order Number:
Location:
Plant Structure: SPRC/IPD/Production Marine/

DEVICE

Device ID: 96PI1008
Serial Number:
Manufacturer Model: ASHCROFT T5500 EN837-1
Operating Range:
Operating Temp.:
Humidity:

FUNCTION

Function: Pressure Indicator (pi)
Transfer Function: Linear
Range (I/O): 0.00 to 40.00 kgf/cm² (G) 0.00 to 40.00 kgf/cm² (G)

CALIBRATION EVENT

Calibration Date: 11/01/2024, 14:48:00
Next Cal. Date: 11/07/2024
Environment Temp.: 0.00 °F

Humidity: 0.00 %

PROCEDURE

Due Date: 11/07/2024 Interval: 6 months
Reject if Error >: 1.00 % of span Adjust To <: 0.00 % of span
Classification:
Calibration Strategy:

CALIBRATORS

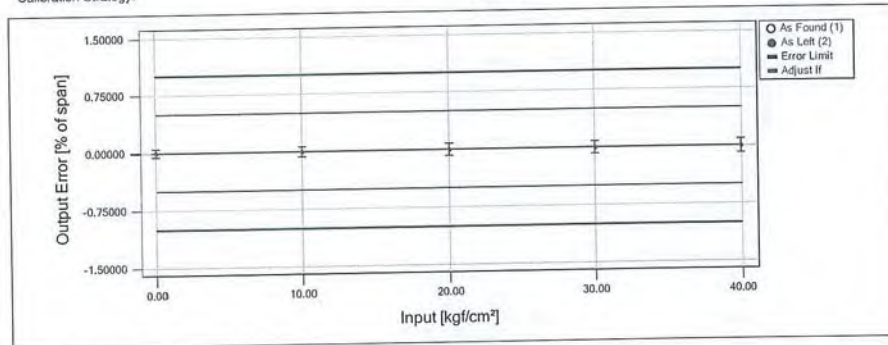
Input Calibrator:
Input Module: EXT160-IS : 36146
Output Calibrator:
Output Module:

Due Date: 18/05/2024

Due Date: 12/05/2024

Due Date:

Due Date:



1. As Found

Max Error: 0.00 % of span

Nominal Input [kgf/cm²]	Actual Input [kgf/cm²]	Nominal Output [kgf/cm²]	Actual Output [kgf/cm²]	Found Error [% of span]
0.000	0.000	0.000	0.000	0.0000
10.000	10.000	10.000	10.000	0.0000
20.000	20.000	20.000	20.000	0.0000
30.000	30.000	30.000	30.000	0.0000
40.000	39.999	40.000	40.000	0.0025
30.000	30.000	30.000	30.000	0.0000
20.000	20.000	20.000	20.000	0.0000
10.000	10.000	10.000	10.000	0.0000
0.000	-0.001	0.000	0.000	0.0025
0.000	0.000	0.000	0.000	0.0000

PASSED 2. As Left

Max Error: 0.00 % of span

Nominal Input [kgf/cm²]	Actual Input [kgf/cm²]	Nominal Output [kgf/cm²]	Actual Output [kgf/cm²]	Found Error [% of span]
0.000	0.000	0.000	0.000	0.0000
10.000	10.000	10.000	10.000	0.0000
20.000	20.000	20.000	20.000	0.0000
30.000	30.000	30.000	30.000	0.0000
40.000	39.999	40.000	40.000	0.0025
30.000	30.000	30.000	30.000	0.0000
20.000	20.000	20.000	20.000	0.0000
10.000	10.000	10.000	10.000	0.0000
0.000	-0.001	0.000	0.000	0.0025
0.000	0.000	0.000	0.000	0.0000

Calibration Note:

Calibrated by: Sutha Puttanapokrutana
11/01/2024, 14:48:00

Approved:



CR3 Thailand CO.,LD

15/1 M3. Bangkoh-Mabkha Rd,Nikomattana Rayong 21180 THAILAND

Project	Supply Manpower
Test Medium	Water
Test Pressure	15 Bar
Test Location	Uniwise Rayong
Test Date	1-Feb-24

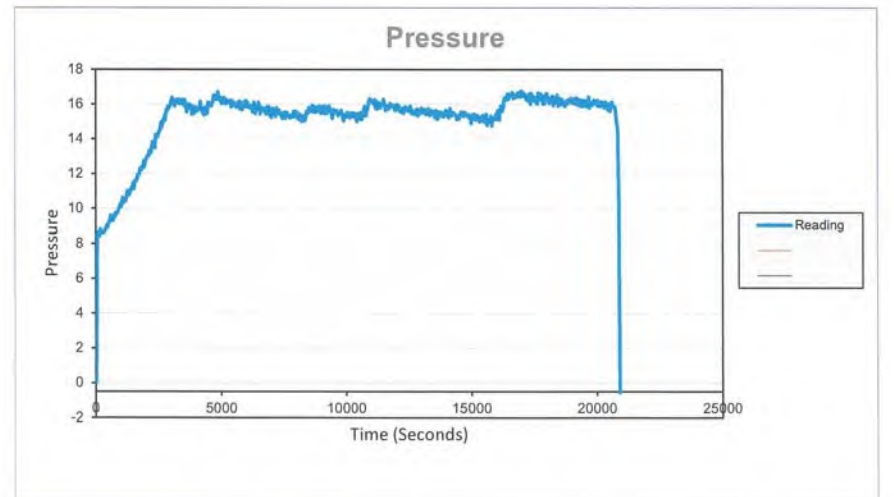
Data Collection Report

Gauge Information

Serial Number	960910
Model	3KPSIXP2I
Message Store	-----
Units	bar

Run Info

Start Time	2/1/24 11:22:18 AM
Stop Time	2/1/24 5:10:48 PM
Logging Interval	30



Comment

Name	Job Title	Signature	Date
CR3T Representative	Rachanon Sutjarit	Engineer	2-Feb-2024

CERTIFICATE OF CALIBRATION

Issued By Marske Machine Hire & Calibration Centre
Date of Issue 06 December 2023



Certificate Number
P232659

Page 1 of 2 Pages

Marske Machine (Thailand) Co.,Ltd
267/382-383 Sukhumvit Rd., MapTaPhut
Muangrayong, Rayong 21150
Tel : (038) 682992-3, (038) 691563-4 Fax : (038) 682988
Email : sales@mmc-thai.com

Approved Signatory

☐ Prasit K. ☒ Marut L.

Customer : CR3 (Thailand) Co., Ltd.
15/1 Moo 3 Bankoh-Mabkha, T. Mapkha Nikompattana Sub. Rayong
21180

Date Received : 02 December 2023

Instrument -	System ID :	PC13068	Job Number : 0000235538
	Description :	Digital Test Gauge	Ref. Number : CRAT-DG-003
	Manufacturer :	Crystal	
	Model Number :	0 to 3000 PSI	
	Serial Number :	960910	Last Certificate Number : P223084
	Procedure Version :	PP0001	Last Calibration Date : 30/11/2022

Environmental Conditions

Temperature : 23°C +/- 2°C
Relative Humidity : 50% +/- 15%

Mains Voltage : 220V +/- 20V
Mains Frequency : 50Hz +/- 1Hz

Comments

Instrument (UUC) was placed in lab and allowed to stabilize before calibration.
Reference level has been set at UUC's inlet and calibrated in vertical position.
Hydraulic oil with density 870 kg/m³ has been used as media for calibration.
All test pass manufacturer's specification.

Traceability Information

Instrument description	Serial number	Certificate number	Cal. Date	Cal. Period
CPS5800 Dead-Weight Tester (Lab)	770N	MP-0038-21	05/03/2021	156

Calibrated By : Woraphon Y.

Date of Calibration : 06 December 2023

This Certificate provides traceability of measurement to the SI System of unit, and to the units of measurement realised at the National Physical Laboratory or other recognised National Standard Laboratories.

Copyright of this Certificate is owned by the issuing laboratory and may not be reproduced except with the prior written approval of the issuing laboratory.

CERTIFICATE OF CALIBRATION



Certificate Number
P232659

Page 2 of 2 Pages

Test Title Tolerance STD Value UUC Reading % Of Spec. Uncertainties

Calibration Information

The uncertainty limits quoted refer to the measured values only, with no account being taken of the instrument ability to maintain its calibration.

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by a coverage factor $k=2$ corresponding to a coverage probability of approximately 95%.

Units :

The SI unit of pressure is the pascal. To convert from pascal to PSI multiply by 0.0001450377.


Calibration Method :

The instrument was calibrated in accordance with the instruction based on DKD R6-1.

Function : Pressure Measurement (Mean Value Including Hysteresis)
Range : 0 to 3000 PSI

0 PSI	0.60PSI	0.00PSI	0.0PSI	0%	0.21PSI
300 PSI	0.60PSI	299.21PSI	299.2PSI	2%	0.21PSI
600 PSI	0.60PSI	598.43PSI	598.4PSI	5%	0.21PSI
900 PSI	0.90PSI	897.51PSI	897.4PSI	12%	0.21PSI
1200 PSI	1.2PSI	1 196.25PSI	1 196.2PSI	4%	0.21PSI
1500 PSI	1.5PSI	1 495.47PSI	1 495.4PSI	5%	0.21PSI
1800 PSI	1.8PSI	1 794.53PSI	1 794.4PSI	7%	0.21PSI
2100 PSI	2.1PSI	2 094.44PSI	2 094.3PSI	7%	0.21PSI
2400 PSI	2.4PSI	2 393.49PSI	2 393.4PSI	4%	0.21PSI
2700 PSI	2.7PSI	2 692.72PSI	2 692.6PSI	4%	0.21PSI
3000 PSI	3PSI	2 991.45PSI	2 991.4PSI	2%	0.21PSI

End of calibration

 Star Petroleum Refining Public Co., Ltd	Hydrostatic Test Certificate (SPM) Report No. 03/2024 Rev: 0
--	--

This is hereby certified that the SPM Floating Hose Port, Starboard String and Submarine hoses as per S/N listed in attachment below were hydro static tested in accordance with HC-WI-PD-6091 Plant 65 Procedure for Hydrostatic Pressure Test of SPM Hose System

Testing Condition and Parameter:

Required Test Pressure: 15.75 Kg/Cm2

Holding Time: 3 hours

Testing Fluid: Sea water with Fluorescein dye 40

Test Section: Full hydrotest of both Port, Starboard String Hose and Submarine hoses including related components within the test loop.

Work Sequence

- All hydro test step follows with procedure no. HC-WI-PD-6091 Plant 65 Procedure for Hydrostatic Pressure, install pressure gauges. One (1) PG installed at the top of cross over pipe. Two (2) PG installed at the end flange of floating hose together with Digital Pressure Recorder.

Pressure Gauges Data:

- PG#1: Range 0-40 Kg/Cm2 S/N No.: 96PI1005, Cert. No.: SPRC/23007/2023 Calibrated date 7 Jun 2024. Next due 7 Dec 2024.
- PG#2 Range 0-40 Kg/Cm2 S/N No.: 96PI1006, Cert. No.: SPRC/23008/2023 Calibrated date 7 Jun 2024. Next due 7 Dec 2024.
- PG#-3 Range 0-40 Kg/Cm2 S/N No.: 96PI1008, Cert. No.: SPRC/23010/2023 Calibrated date 7 Jun 2024. Next due 7 Dec 2024.
- Pressure Recorder S/N No.: 574900, Cert. No.: P24-0431 Calibrated date 23 Aug 2024. Next due 23 Aug 2025.

Observation & Test Results


After both string hoses fully filled water as mixed with fluorescent dye then operator eliminated the air at vent nozzle at the Buoy (highest position). The pressure was slowly built up until reaching the required test pressure at 15.4-16.5 Kg/Cm 2 (swing pressure) and holding for 3 hours under witnessing by ABS Surveyor and SPRC Representatives. No leak found. Justification: Accepted.

Test Date: 24 Nov 2024

Starting Time: 11:35 Hrs

Finished Time: 14:35 Hrs

	SPM	Co-Witnessed by:	Co-Witnessed by:	Witnessed by:
Name				
Signature				
Date	24 Nov 2024	24 Nov 2024	24 - Nov -24	24/11/24

 Star Petroleum Refining Public Co., Ltd.	Hydro Test Check List
---	------------------------------

IN SITU TESTING – SPM MARINE HOSES CHECK LIST			
Date: 24 Nov 2024 Location: SPM – CLAM BUOY Scope: Hydro test for floating and sub marine hoses Contractor: Uniwise Rayong & OWA		Test Medium: Sea Water @ ambient temperature Pressure Gauge S/N: 96PI1005, 96PI1006, 96PI1008, 574900 Test Pressure: 15.75 kg/cm2 @ holding time 3 hours Dye Type and Ratio: Fluorescent dye 40	
Weather Condition: Sunny	Weve Hight: 0.8-1.0 m.	Wind Speed: 10 knots	
Task Descriptions	YES	NO	Note
Preparation			
1 The system is full of water (Completed vent and drain)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2 Pressure gauges install as minimum requirement 2 Ea. and recorder provide	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3 The pressure gauges are calibrated and within 6-month period	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4 The gauge has a range from zero to between 1.5 and 3 times the intended test pressure.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5 The system is isolate by closed and open valve as specific in procedure no. HC-WI-PD-6091 Plant 65 Procedure for Hydrostatic Pressure	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6 Dye is correct mix ratio and adequate	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7 The testing area shall be barricaded and provide a warning sign to prevent personnel entry. Supervisor shall be safety toolbox talk at work location before start testing activities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
During Testing			
1 All hydro test step follows with procedure no. HC-WI-PD-6091 Plant 65 Procedure for Hydrostatic Pressure	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2 Visual inspection above water line and the system leak-free?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3 Under water visual inspection and the system leak-free?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5 Care shall be taken to avoid over-pressuring the system due to thermal expansion of the test fluid	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5 Complete holding time at minimum requirement 3 hours	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
After Testing			
1 Depressurize to zero and reinstatement the system	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2 All PLEM valve is open and close as normal position	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3 All report has sign and review by SPRC/PTTGC/ABS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

	SPM	Co-Witnessed by:	Co-Witnessed by:	Witnessed by:
Name				
Signature				
Date	24 Nov 2024	24 - Nov - 2024	24 - Nov - 2024	24/11/24
	IR/21		T-11-1P2	



PRESSURE TEST CONTROL SHEET

LOCATION: SPM (In-Situ Test) DATE: 24-Dec-24 REPORT NO.: 03/2024 Rev: 0
DETAIL: Floating Hose Port, Starboard Storing and Submarine boxes as per SPN listed in attachment below were hydro static tested
WITNESS BY: SPRC/PTTGC/ABS AREA/UNIT: A6 - SPM (Marine Terminal)
PROCEDURE NO: HC-WI-PD-6091 Plant 65 Procedure for Hydrostatic Pressure

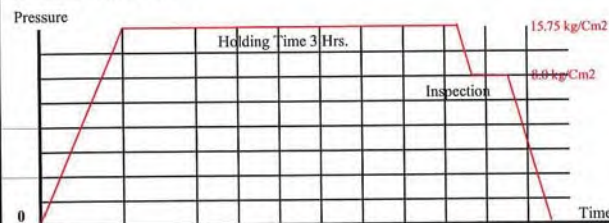
1 TYPE OF PRESSURE TEST: ☒ Hydrostatic Test ☐ Pneumatic Test
2 TEST MEDIUM: ☐ Fresh Water ☐ Air ☐ Oil
☒ Sea Water ☒ Fluorescent dye 40
3 ACCEPTANCE CRITERIA: (Refer by SPRC Specification)
4 TEST CONDITION:
Weather Condition: Sunny Wave Hight: 0.8-1.0 m. Wind Speed: 10 knots
5 TEST PRESSURE: 15.4-16.5 Kg/Cm 2 (swing pressure) kg/cm³
HOLDING TIME: 3 Hrs.
START: 11.35 Hrs
COMPLETE: 14.35 Hrs

6 PRESSURE GAUGE
Tag No. PG#1 Range 40 kg/cm2 Certificate No. 96P11005 Cal.Date 07/06/2024
Tag No. PG#2 Range 40 kg/cm2 Certificate No. 96P11006 Cal.Date 07/06/2024
Tag No. PG#3 Range 40 kg/cm2 Certificate No. 96P11008 Cal.Date 07/06/2024

7 PRESSURE RECORDER
Tag No. 574900 Range 0-300 bar Certificate No. P24-0431 Cal.Date 30/08/2024

8 LOCATION OF TESTING: ☐ ON SHORE ☒ IN-SITU
9 TEST RESULT: ☒ ACCEPTED ☐ LEAKAGE / REJECTED

10 TEST DIAGRAM:



NOTE AND SUGGESTION

CO.SIGN	WITNESS BY:	WITNESS BY:	WITNESS BY:
SIGNATURE			
NAME			
DATE	24 Nov 2024	24 - Nov - 24	24/11/24
POSITION	Inspection Eng. SPRC	Inspection Engineer (PTTGC)	SURVEYOR

UniThai Group Co., Ltd.

301/57 SOI PANITCHANAN, SUKHUMVIT 71 RD.
KLONGTON-NUA, WATTANA, BANGKOK 10110, THAILAND
☎ 0 2713 0375 ✉ SALES@UNITHAI.CO.TH 🌐 WWW.UNITHAI.CO.TH



Certificate No.: P24-0431

Page.: 1 of 3 Pages

Issued by: Pressure Laboratory

CALIBRATION CERTIFICATE

Equipment name : Reference Recorder
Manufacturer : Ametek Crystal
Model : nVision
Serial number : 574900
TAG / ID number : -
Customer : Star Petroleum Refining Public Company Limited.
Address : No.1, I-3B Road, Map Ta Phut, Muang Rayong 21150 Thailand

Calibrated by:

Approved by:

(Miss Nuttayarux Palakum)

(Mr. Thanasit Prakobkij)

Technical Manager

Laboratory Manager

Date report issued : August 23, 2024

THE UNCERTAINTIES ARE FOR A CONFIDENCE PROBABILITY OF APPROXIMATELY 95%

THIS CERTIFICATE MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED IN WRITING FROM THE LABORATORY.



UniThai Group Co. Ltd.

CALIBRATION LABORATORY



Certificate No.: P24-0431 Page.: 2 of 3 Pages

Equipment name : Reference Recorder
Manufacturer : Ametek Crystal
Model : nVision
Serial number : 574900
TAG / ID number : -
Received date : 15 August 2024
Calibration date : 23 August 2024
UniThai Job No.: P0431/24

Reference Standards :

1. Pressure Balance Model : DOS-0008 S/N : 224463 Due date : 28 February 2025

Calibration Procedure :

Calibration were conducted using in-house calibration method as Standard Operation Procedure; SOP-CAL-P02
The unit under calibration (UUC) was calibrated by direct comparison method with pressure balance according to the sequence A of DKD R 6-1: Calibration of Pressure Gauges, edition 03/2014.

Calibration Conditions :

Ambient Temperature : (23 ± 2) °C Pressure Medium : Hydraulic oil (DWT 812)
Relative Humidity : (50 ± 15) % Installation : Vertical Orientation
Atmospheric pressure : (990 to 1030) mbar Reference level : Upper of pressure connection port

Measurement Uncertainty :

This uncertainty calculation is consistent with the requirements of the ISO Guide to the Expression of Uncertainty in Measurement (the 'GUM') and EA-4/02 • Evaluation of the Uncertainty of Measurement in calibration. The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k , such that the coverage probability corresponds to approximately 95 %.

Traceability Information :

This calibration certificate provides traceability of measurement to the International System of Units (SI) and/or to units of measurement realised at the National Institute of Metrology (THAILAND) or other recognised national metrology institute through the certification certificate number NIMT / MP-0025-20.



UniThai Group Co. Ltd.

CALIBRATION LABORATORY



Certificate No.: P24-0431 Page.: 3 of 3 Pages

Result of Calibration :- (X) Without Adjustment () With Adjustment

Function : Pressure performance test

Range : 0 bar to 300 bar

MEASUREMENT RESULT:

The UUC was first preloaded by applying full span pressure 3 times. Then two cycle of known pressure were applied. During the cycle, a waiting time of 30 seconds after each pressure change was observed before recording. Between increasing and decreasing pressure series, the UUC remained loaded for 2 minutes with the full span pressure value of the measurement series. The actual of standard applied pressure, the mean of UUC readings, and the associated measurement uncertainties are reported in the table below.

This equipment was connected with Upper Module S/N.: 905513

Applied Pressure	UUC* Reading	Error	Uncertainty of Measurement
bar	bar	bar	(\pm bar)
0.000	0.00	0.00	0.015
29.926	29.92	-0.01	0.016
60.102	60.10	0.00	0.017
90.028	90.02	-0.01	0.018
119.954	119.94	-0.01	0.021
150.131	150.11	-0.02	0.020
180.057	180.04	-0.02	0.021
209.984	209.96	-0.02	0.023
239.912	239.89	-0.02	0.025
270.089	270.06	-0.03	0.027
300.017	299.99	-0.03	0.028

Positive Gauge Pressure Calibration Result

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by a coverage factor $k = 2$, corresponding to a coverage probability of approximately 95%.

Notes and supplemental information :

*** The results reported in this certificate refer to the condition of the instrument on the date of calibration only.

*** The pressure applied which referred to the UUC's reference level.

*** The conversion factor between pressure units and SI unit is 1 bar = 100000 Pa

*** UUC* = Unit Under Calibration



CALIBRATION CERTIFICATE

Certificate Number: SPRC/23010/2023

Printed: 18.06.2024 09:15:14
Printed by: Sutha Puttanapokrutana

Star Petroleum Refining Public Company Limited

POSITION ID: 96P1008

POSITION
Position Name: SPM HOSE TEST
Work Order Number:
Location:
Plant Structure: SPRC/IPD/Production Marine/

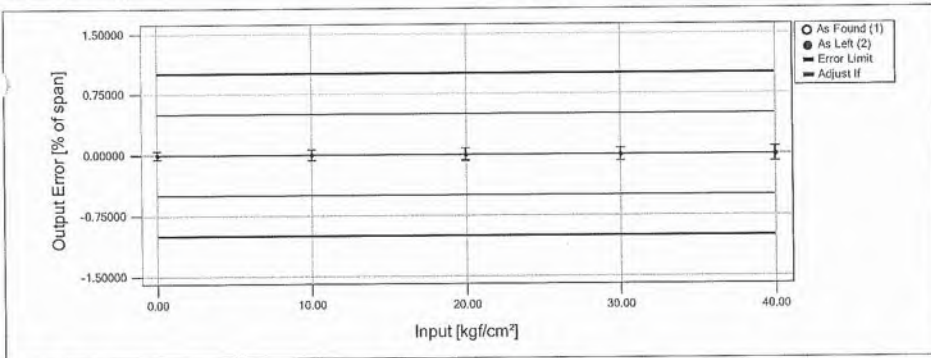
DEVICE
Device ID: 96P1008
Serial Number:
Manufacturer Model: ASHCROFT T5500 EN837-1
Operating Range:
Operating Temp.: Humidity:

FUNCTION
Function: Pressure Indicator (pi)
Transfer Function: Linear
Range (I/O): 0.00 to 40.00 kgf/cm² (G) 0.00 to 40.00 kgf/cm² (G)

CALIBRATION EVENT
Calibration Date: 07/06/2024, 09:51:00
Next Cal. Date: 07/12/2024
Environment Temp.: 0.00 °F Humidity: 0.00 %

PROCEDURE
Due Date: 07/12/2024 Interval: 6 months
Reject If Error >: 1.00 % of span Adjust To <: 0.00 % of span
Classification:
Calibration Strategy:

CALIBRATORS
Input Calibrator: Due Date: 03/05/2026
Input Module: EXT160-IS : 36146 Due Date: 22/04/2026
Output Calibrator: Due Date:
Output Module: Due Date:



1. As Found

Max Error: 0.00 % of span

Nominal Input [kgf/cm ²]	Actual Input [kgf/cm ²]	Nominal Output [kgf/cm ²]	Actual Output [kgf/cm ²]	Found Error [% of span]
0.000	0.000	0.000	0.000	0.0000
10.000	10.000	10.000	10.000	0.0000
20.000	19.999	20.000	20.000	0.0025
30.000	30.000	30.000	30.000	0.0000
40.000	40.001	40.000	40.000	-0.0025
30.000	30.000	30.000	30.000	0.0000
20.000	20.000	20.000	20.000	0.0000
10.000	10.000	10.000	10.000	0.0000
0.000	0.000	0.000	0.000	0.0000

2. As Left

Max Error: 0.00 % of span

Nominal Input [kgf/cm ²]	Actual Input [kgf/cm ²]	Nominal Output [kgf/cm ²]	Actual Output [kgf/cm ²]	Found Error [% of span]
0.000	0.000	0.000	0.000	0.0000
10.000	10.000	10.000	10.000	0.0000
20.000	20.000	20.000	20.000	0.0000
30.000	29.999	30.000	30.000	0.0025
40.000	40.000	40.000	40.000	0.0000
30.000	30.000	30.000	30.000	0.0000
20.000	20.000	20.000	20.000	0.0000
10.000	10.000	10.000	10.000	0.0000
0.000	0.000	0.000	0.000	0.0000

Calibration Note:

Calibrated by: Sutha Puttanapokrutana
07/06/2024, 09:51:00

Approved:



CALIBRATION CERTIFICATE

Certificate Number: SPRC/23008/2023

Printed: 18.06.2024 09:15:14
Printed by: Sutha Puttanapokrutana

Star Petroleum Refining Public Company Limited

POSITION ID: 96P1006

POSITION
Position Name: SPM HOSE TEST
Work Order Number:
Location:
Plant Structure: SPRC/IPD/Production Marine/

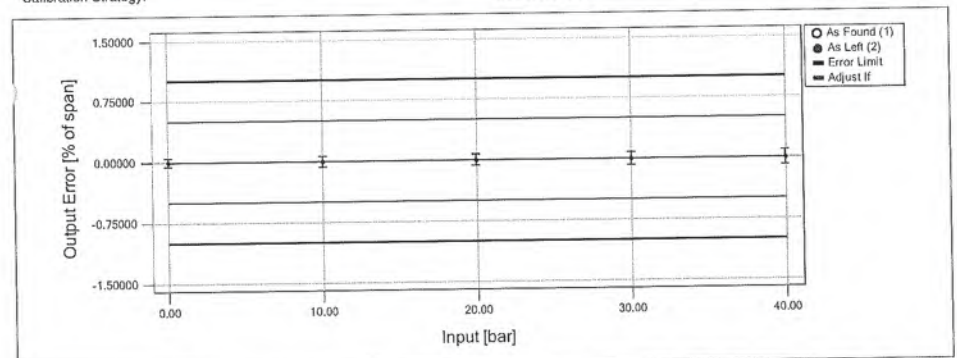
DEVICE
Device ID: 96P1006
Serial Number:
Manufacturer Model: ASHCROFT T5500 EN837-1
Operating Range:
Operating Temp.: Humidity:

FUNCTION
Function: Pressure Indicator (pi)
Transfer Function: Linear
Range (I/O): 0.00 to 40.00 bar (G) 0.00 to 40.00 bar (G)

CALIBRATION EVENT
Calibration Date: 07/08/2024, 09:19:00
Next Cal. Date: 07/12/2024
Environment Temp.: 0.00 °F Humidity: 0.00 %

PROCEDURE
Due Date: 07/12/2024 Interval: 6 months
Reject If Error >: 1.00 % of span Adjust To <: 0.00 % of span
Classification:
Calibration Strategy:

CALIBRATORS
Input Calibrator: Due Date: 03/05/2026
Input Module: EXT160-IS : 36146 Due Date: 22/04/2026
Output Calibrator: Due Date:
Output Module: Due Date:



1. As Found

Max Error: 0.00 % of span

Nominal Input [bar]	Actual Input [bar]	Nominal Output [bar]	Actual Output [bar]	Found Error [% of span]
0.000	0.000	0.000	0.000	0.0000
10.000	10.000	10.000	10.000	0.0000
20.000	19.999	20.000	20.000	0.0025
30.000	30.000	30.000	30.000	0.0000
40.000	39.999	40.000	40.000	0.0025
30.000	29.999	30.000	30.000	0.0025
20.000	20.000	20.000	20.000	0.0000
10.000	10.000	10.000	10.000	0.0000
0.000	0.000	0.000	0.000	0.0000

2. As Left

Max Error: 0.00 % of span

Nominal Input [bar]	Actual Input [bar]	Nominal Output [bar]	Actual Output [bar]	Found Error [% of span]
0.000	0.000	0.000	0.000	0.0000
10.000	10.000	10.000	10.000	0.0000
20.000	20.000	20.000	20.000	0.0000
30.000	29.999	30.000	30.000	0.0025
40.000	40.000	40.000	40.000	0.0000
30.000	29.999	30.000	30.000	0.0025
20.000	20.000	20.000	20.000	0.0000
10.000	10.000	10.000	10.000	0.0000
0.000	0.000	0.000	0.000	0.0000

Calibration Note:

Calibrated by: Sutha Puttanapokrutana
07/06/2024, 09:19:00

Approved:



CALIBRATION CERTIFICATE

Certificate Number: SPRC/23007/2023

Printed: 18.06.2024 09:15:14
Printed by: Sutha Puttanapokrutana

Star Petroleum Refining Public Company Limited

POSITION ID: 96PI1005

POSITION
Position Name: SPM HOSE TEST
Work Order Number:
Location:
Plant Structure: SPRC/IPD/Production Marine/

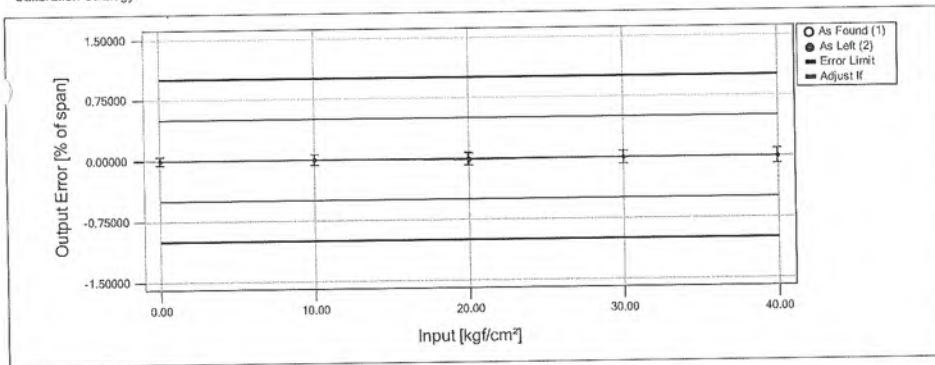
DEVICE
Device ID: 96PI1005
Serial Number:
Manufacturer Model: ASHCROFT T5500 EN837-1
Operating Range:
Operating Temp.: Humidity:

FUNCTION
Function: Pressure Indicator (pi)
Transfer Function: Linear
Range (I/O): 0.00 to 40.00 kgf/cm² (G) 0.00 to 40.00 kgf/cm² (G)

CALIBRATION EVENT
Calibration Date: 07/06/2024, 08:57:00
Next Cal. Date: 07/12/2024
Environment Temp.: 0.00 °F Humidity: 0.00 %

PROCEDURE
Due Date: 07/12/2024 Interval: 6 months
Reject if Error >: 1.00 % of span Adjust To <: 0.00 % of span
Classification:
Calibration Strategy:

CALIBRATORS
Input Calibrator: Due Date: 03/05/2026
Input Module: EXT160-IS : 36146 Due Date: 22/04/2026
Output Calibrator: Due Date:
Output Module: Due Date:



1. As Found

Max Error: -0.01 % of span

Nominal Input [kgf/cm ²]	Actual Input [kgf/cm ²]	Nominal Output [kgf/cm ²]	Actual Output [kgf/cm ²]	Found Error [% of span]
0.000	0.000	0.000	0.000	0.0000
10.000	10.000	10.000	10.000	0.0000
20.000	20.001	20.000	20.000	-0.0025
30.000	30.001	30.000	30.000	-0.0025
40.000	39.999	40.000	40.000	0.0025
30.000	30.000	30.000	30.000	0.0000
20.000	20.004	20.000	20.000	-0.0100
10.000	10.000	10.000	10.000	0.0000
0.000	0.000	0.000	0.000	0.0000

PASSED 2. As Left

Max Error: 0.00 % of span

Nominal Input [kgf/cm ²]	Actual Input [kgf/cm ²]	Nominal Output [kgf/cm ²]	Actual Output [kgf/cm ²]	Found Error [% of span]
0.000	0.000	0.000	0.000	0.0000
10.000	10.000	10.000	10.000	0.0000
20.000	20.000	20.000	20.000	0.0000
30.000	30.000	30.000	30.000	0.0000
40.000	40.000	40.000	40.000	0.0000
30.000	30.000	30.000	30.000	0.0000
20.000	20.000	20.000	20.000	0.0000
10.000	10.000	10.000	10.000	0.0000
0.000	0.000	0.000	0.000	0.0000

Calibration Note:

Calibrated by: Sutha Puttanapokrutana
07/06/2024, 08:57:00

Approved:

Hose Sequence

Starboard String Floating Hose

22-Nov-2024

No.	Type	Serial No.	Size	Last Position	Mnf.	1st Install		2nd Install		Total Service Time (Day)
						Date Installed	Service Time (Day)	Date Installed	Service Time (Day)	
1	First-Off	03-24-148	24" x 30'	New	Alfagomma					0
2	Second-Off	09-22-194	24" x 35'	New	Alfagomma					0
3	Mainline	08-22-167	24" x 35'	New	Alfagomma					0
4	Mainline	08-22-168	24" x 35'	New	Alfagomma					0
5	Mainline	08-22-169	24" x 35'	New	Alfagomma					0
6	Mainline	08-22-170	24" x 35'	New	Alfagomma					0
7	Mainline	08-22-171	24" x 35'	New	Alfagomma					0
8	Mainline	08-22-172	24" x 35'	New	Alfagomma					0
9	Mainline	08-22-173	24" x 35'	New	Alfagomma					0
10	Mainline	08-22-174	24" x 35'	New	Alfagomma					0
11	Mainline	08-22-175	24" x 35'	New	Alfagomma					0
12	Mainline	08-22-176	24" x 35'	New	Alfagomma					0
13	Mainline	08-22-177	24" x 35'	New	Alfagomma					0
14	Mainline	08-22-178	24" x 35'	New	Alfagomma					0
15	Mainline	08-22-179	24" x 35'	New	Alfagomma					0
16	Mainline	08-22-180	24" x 35'	New	Alfagomma					0
17	Mainline	08-22-181	24" x 35'	New	Alfagomma					0
18	Mainline	08-22-182	24" x 35'	New	Alfagomma					0
19	Mainline	08-22-183	24" x 35'	New	Alfagomma					0
20	Mainline	08-22-184	24" x 35'	New	Alfagomma					0
21	Mainline	08-22-185	24" x 35'	New	Alfagomma					0
22	24"/16" Taper	03-23-048	24/16" x 35'	New	Alfagomma					0
	Breakaway	GTM 2117	16"	Refurbished	Gall Thomson					
23	Extra Buoyancy	08-22-187	16" x 30'	New	Alfagomma					0
24	Tail	09-22-188	16" x 30'	New	Alfagomma					0
25	Tail	09-22-190	16" x 30'	New	Alfagomma					0
26	Tail	09-22-191	16" x 30'	New	Alfagomma					0
27	Tail	03-23-049	16" x 30'	New	Alfagomma					0
28	Tanker Rail	05-23-098	16" x 30'	New	Alfagomma					0

Starboard String Subsea Hose - (EAST)

No.	Type	Serial No.	Size	Last Position	Mnf.	1st Install		2nd Install		Total Service Time (Day)
						Date Installed	Service Time (Day)	Date Installed	Service Time (Day)	
1	Subsea Reinforced	10-22-203	24" x 35'	New	Alfagomma					0
2	Subsea Standard	12-22-243	24" x 35'	New	Alfagomma					0
3	Subsea Reinforced	10-22-207	24" x 35'	New	Alfagomma					0



Work Order: 6364496-A
First Visit Date: 08-Apr-2024
Last Visit Date: 23-Jul-2024
Vendor Purchase Order Number: 45053456
Survey Location: Ortona

Miscellaneous Report

Asset Type Pipe
Customer Name ALFAGOMMA OIL & MARINE SRL
Customer WCN 468816
Location Ortona

This is to certify that the undersigned Surveyors to this Bureau did at the request of ALFAGOMMA OIL & MARINE SRL, from 08 April 2024 to 23 July 2024, carry out the following survey and report as follows:

Client Asset Name Quantity
MARINE RUBBER HOSES 1

Name Plate Data

ABS Label	Manufacturer	Purchaser	Designer
MARINE RUBBER HOSES	ALFAGOMMA OIL & MARINE SRL	STAR PETROLEUM REFINING PUBLIC COMPANY LIMITED	ALFAGOMMA OIL & MARINE SRL

Basic Identification Data

Serial Number Supplier Reference Number
SEE BELOW 1802000107

Statement of Work - Classification Service - Miscellaneous Survey

- Material test reports (MTR) were reviewed and found to be the satisfaction of the attending Surveyor. Where required by the Rules, ABS material certification reports have been verified.
- The scope of work was as agreed.
- Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.

Statement/Observation

NO. 21 (TWENTYONE) MARINE RUBBER HOSES AS SPECIFIED BELOW WERE SUBJECTED WITH SATISFACTORY RESULTS TO RANDOM INLINE INSPECTION OF 50% OF PRODUCTION AND, UPON COMPLETION, TO FINAL INSPECTION.

FOLLOWING TESTS ACCORDING WITH GUIDE TO MANUFACTURING AND PURCHASING HOSES FOR OFFSHORE MOORINGS 5TH EDITION (GMPHOM 2009), PIM-SU-3092-G (CHEVRON) SPECIFICATION AND INSPECTION TEST PLAN ITP 1802000107 Rev. 00 DATED 01 APRIL 2024:

NO. 17 (SEVENTEEN) SAFEWAVE F SC M MAINLINE SIZE 24"x35"

S. NO. FROM 0324130 TO 0324147

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 0324130 - 0324140)
- BEND TEST (S. NO. 0324130 - 0324140))
- STIFFNESS TEST (S. NO. 0324130 - 0324140))
- TORSION TEST (S. NO. 0324130 - 0324140))
- TENSILE TEST (S. NO. 0324130 - 0324140))

This Report does not constitute validation of any ABS Rule requirement relating to the captioned equipment or documentation, as no evaluation of acceptance or rejection is made by the signatory. This Report is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. Parties are advised to review the Rules for the scope and conditions of classification and to review the survey records for a fuller description of any restrictions or limitation on the vessel's service or surveys. The validity, applicability and interpretation of this Report is governed by the Rules and standards of American Bureau of Shipping who shall remain the sole judge thereof. Nothing contained in this Report or in any notation made in contemplation of this Report shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied.



Work Order: 6364496-A
First Visit Date: 08-Apr-2024
Last Visit Date: 23-Jul-2024
Vendor Purchase Order Number: 45053456
Survey Location: Ortona

- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES CONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 1 (ONE) SAFEWAVE F SC M FOB PU SIZE 24"x30"

S. NO. 0324148

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (CONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT

NO. 2 (TWO) SAFEWAVE F SC M TAIL SIZE 16"x30"

S. NO. 0324149 - 0324150

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 0324149)
- BEND TEST (S. NO. 0324149)
- STIFFNESS TEST (S. NO. 0324149)
- TORSION TEST (S. NO. 0324149)
- TENSILE TEST (S. NO. 0324149)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 1 (ONE) SAFEWAVE F SC M TANKER PU SIZE 16"x30"

S. NO. 0324151

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST



Work Order: 6364496-A
First Visit Date: 08-Apr-2024
Last Visit Date: 23-Jul-2024
Vendor Purchase Order Number: 45053456
Survey Location: Ortona

- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (HOSE DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT

UPON SATISFACTORY COMPLETION OF TESTS, MANUFACTURER'S TEST REPORTS SIGNED.

Attending Surveyor(s):

De Angelis, Antonino
Signed-off Date: 23-Jul-2024

Reviewing Surveyor(s)

Work Order Reviewer: Cappiello, Carmine
Work Order Credit Date: 24-Jul-2024



Work Order: 5457248-A
First Visit Date: 12-Sep-2022
Last Visit Date: 16-Nov-2022
Vendor PO Number: 45048759
Survey Location: Ortona

Equipment Certification Report

Asset Type Pipe
Customer Name ALFAGOMMA OIL & MARINE SRL
WCN of Customer 468816
Location Ortona

This is to certify that the undersigned Surveyors to this Bureau did at the request of ALFAGOMMA OIL & MARINE SRL , from 12-Sep-2022 to 16-Nov-2022, carry out the following survey and report as follows:

Client Asset Name Quantity
Marine Rubber Hoses 1

Name Plate Data

ABS Label	Manufacturer	Purchaser	Designer	Destination Vessel
Marine Rubber Hoses	ALFAGOMMA OIL & MARINE SRL	STAR PETROLEUM REFINING PUBLIC COMPANY LIMITED	ALFAGOMMA OIL & MARINE SRL	-

Basic Identification Data

Serial Number	Owner Tag Number	Supplier Ref. Number
-	-	1802000051

Statement of Work - Classification Service - Certification -

- All testing (pressure/load/operational/etc.) has been carried out as applicable and verified in accordance with the applicable Rules/specifications.
- Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.
- Traceability of materials used on this project has been verified.

Report Findings

Statement/Observation

Finding No	Asset	Survey Task	Date Created
36.0	Marine Rubber Hoses	Certification - Marine Rubber Hoses	16-Nov-2022

Found

NO. 28 (TWENTYEIGHT) MARINE RUBBER HOSES AS SPECIFIED BELOW WERE SUBJECTED WITH SATISFACTORY RESULTS TO INLINE INSPECTION AND, UPON COMPLETION, TO FINAL INSPECTION.

FOLLOWING TESTS ACCORDING WITH GUIDE TO MANUFACTURING AND PURCHASING HOSES FOR OFFSHORE MOORINGS 5TH EDITION (GMPHOM 2009), PIM-SU-3092-G (CHEVRON) SPECIFICATION AND INSPECTION TEST PLAN ITP 22AG0052 Rev.04 DATED 17 OCTOBER 2022. NOTE: This Report evidences that the survey reported herein was carried out in compliance with one or more of the Rules, guides, standards or other criteria of the American Bureau of Shipping and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. This Report is a representation only that the vessel, structure, item of material equipment, machinery or any other item covered by this Report has been examined for compliance with, or has met one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping. The validity, applicability and interpretation of this Report is governed by the Rules and standards of American Bureau of Shipping who shall remain the sole judge thereof. Nothing contained in this Report or in any notation made in contemplation of this Report shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairs, operator or other entity of any warranty express or implied.



Work Order: 5457248-A
First Visit Date: 12-Sep-2022
Last Visit Date: 16-Nov-2022
Vendor PO Number: 45048759
Survey Location: Ortona

2022:

NO. 19 (NINETEEN) SAFEWAVE F SC M MAIN SIZE 24"x35'

S. NOS. 0822167 - 0822168 - 0822169 - 0822170 - 0822171 - 0822172 - 0822173 - 0822174 - 0822175 - 0822176 - 0822177 - 0822178 - 0822179 - 0822180 - 0822181 - 0822182 - 0822183 - 0822184 - 0822185

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NOS. 0822167 - 0822177)
- BEND TEST (S. NOS. 0822168 - 0822177)
- STIFFNESS TEST (S. NOS. 0822168 - 0822177)
- TORSION TEST (S. NOS. 0822168 - 0822177)
- TENSILE TEST (S. NOS. 0822168 - 0822177)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES CONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 1 (ONE) SAFEWAVE SC F MAIN PU SIZE 24"x35'

S. NO. 0922194

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (HOSE CONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT

NO. 1 (ONE) SAFEWAVE SC F FOB PU SIZE 24"x30'

S. NO. 0922196

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST



Work Order: 5457248-A
First Visit Date: 12-Sep-2022
Last Visit Date: 16-Nov-2022
Vendor PO Number: 45048759
Survey Location: Ortona

- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (HOSE CONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT

NO. 1 (ONE) SAFEWAVE F SC M REDUCER EB SIZE 24"/16"x35'

S. NO. 0922195

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (HOSE CONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT

NO. 1 (ONE) SAFEWAVE F SC M TAIL EB SIZE 16"x30'

S. NO. 0822187

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (HOSE DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT

NO. 4 (FOUR) SAFEWAVE F SC M TAIL SIZE 16"x30'

S. NOS. 0922188 - 0922189 - 0922190 - 0922191

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 0922188)
- BEND TEST (S. NO. 0922188)
- STIFFNESS TEST (S. NO. 0922188)



Work Order: 5457248-A
First Visit Date: 12-Sep-2022
Last Visit Date: 16-Nov-2022
Vendor PO Number: 45048759
Survey Location: Ortona

- TORSION TEST (S. NO. 0922188)
- TENSILE TEST (S. NO. 0922188)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 1 (ONE) SAFEWAVE F SC M TANKER PU SIZE 16"x30"
S. NO. 0822186
- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (HOSE DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT

UPON SATISFACTORY COMPLETION OF TESTS, MANUFACTURER'S TEST REPORTS SIGNED.

Closing Paragraph:

The component/equipment was surveyed in accordance with the Rules, specifications, and approved drawings, as applicable, and is eligible for installation on board an ABS classed vessel subject to satisfactory installation and testing, as necessary.

Attending Surveyor(s):

De Angelis, Antonino
Signed-off Date: 17-Nov-2022

Reviewing Surveyor(s)

Work Order Reviewer: Cappiello, Carmine
Work Order Credit Date: 18-Nov-2022



Work Order: 5816250-A
First Visit Date: 17-Apr-2023
Last Visit Date: 17-May-2023
Vendor PO Number: Replacement
Survey Location: Ortona

Equipment Certification Report

Asset Type Pipe
Customer Name ALFAGOMMA OIL & MARINE SRL
WCN of Customer 468816
Location Ortona

This is to certify that the undersigned Surveyors to this Bureau did at the request of ALFAGOMMA OIL & MARINE SRL, from 17-Apr-2023 to 17-May-2023, carry out the following survey and report as follows:

Client Asset Name Quantity

Marine Rubber Hoses 1

Name Plate Data

ABS Label	Manufacturer	Purchaser	Designer	Destination Vessel
Marine Rubber Hoses	ALFAGOMMA OIL & MARINE SRL	STAR PETROLEUM REFINING PUBLIC COMPANY LIMITED	ALFAGOMMA OIL & MARINE SRL	-

Basic Identification Data

Serial Number	Owner Tag Number	Supplier Ref. Number
-	-	1802000070

Statement of Work - Classification Service - Certification -

- Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.
- Material test reports (MTR) were reviewed and found to be the satisfaction of the attending Surveyor. Where required by the Rules, ABS material certification reports have been verified.

- Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.
- Material test reports (MTR) were reviewed and found to be the satisfaction of the attending Surveyor. Where required by the Rules, ABS material certification reports have been verified.

Report Findings

Statement/Observation

Finding No	Asset	Survey Task	Date Created
53.0	-	Certification - Marine Rubber Hoses	17-May-2023

Found

NO. 2 (TWO) MARINE RUBBER HOSES AS SPECIFIED BELOW WERE SUBJECTED WITH SATISFACTORY RESULTS TO RANDOM INLINE INSPECTION AND, UPON COMPLETION, TO FINAL INSPECTION.

NOTE: This Report evidences that the survey reported herein was carried out in compliance with one or more of the Rules, guides, standards or other criteria of the American Bureau of Shipping and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. This Report is a representation only that the vessel, structure, item of material equipment, machinery or any other item covered by this Report has been examined for compliance with, or has met one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping. The validity, applicability and interpretation of this Report is governed by the Rules and standards of American Bureau of Shipping who shall remain the sole judge thereof. Nothing contained in this Report or in any notation made in contemplation of this Report shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied.



Work Order: 5816250-A
First Visit Date: 17-Apr-2023
Last Visit Date: 17-May-2023
Vendor PO Number: Replacement
Survey Location: Ortona

FOLLOWING TESTS ACCORDING WITH GUIDE TO MANUFACTURING AND PURCHASING HOSES FOR OFFSHORE MOORINGS 5TH EDITION (GMPHOM 2009), PIM-SU-3092-G (CHEVRON) SPECIFICATION AND INSPECTION TEST PLAN ITP 22AG0052 REPLACEMENT Rev. 00 DATED 11 APRIL 2023:

NO. 1 (ONE) SAFEWAVE F SC M REDUCER EB SIZE 24"/16x35'

S. NO. 0323048

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (HOSE CONTINUOUS)

NO. 1 (ONE) SAFEWAVE F SC M TAIL SIZE 16"x30'

S. NO. 0323049

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (HOSE DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT

UPON SATISFACTORY COMPLETION OF TESTS, MANUFACTURER'S TEST REPORTS SIGNED.

Closing Paragraph:

The component/equipment was surveyed in accordance with the Rules, specifications, and approved drawings, as applicable, and is eligible for installation on board an ABS classed vessel subject to satisfactory installation and testing, as necessary.

Attending Surveyor(s):

De Angelis, Antonino
Signed-off Date: 17-May-2023

Reviewing Surveyor(s)



Work Order: 5816250-A
First Visit Date: 17-Apr-2023
Last Visit Date: 17-May-2023
Vendor PO Number: Replacement
Survey Location: Ortona

Work Order Reviewer: Cappiello, Carmine
Work Order Credit Date: 22-May-2023



Work Order: 5876370-A
First Visit Date: 01-Jun-2023
Last Visit Date: 28-Sep-2023
Vendor PO Number: 45051092
Survey Location: Ortona



Work Order: 5876370-A
First Visit Date: 01-Jun-2023
Last Visit Date: 28-Sep-2023
Vendor PO Number: 45051092
Survey Location: Ortona

Equipment Certification Report

Asset Type Pipe
Customer Name ALFAGOMMA OIL & MARINE SRL
WCN of Customer 468816
Location Ortona

This is to certify that the undersigned Surveyors to this Bureau did at the request of ALFAGOMMA OIL & MARINE SRL, from 01-Jun-2023 to 28-Sep-2023, carry out the following survey and report as follows:

Client Asset Name Quantity

Marine Rubber Hoses - 1 1

Name Plate Data

ABS Label	Manufacturer	Purchaser	Designer	Destination Vessel
Marine Rubber Hoses - 1	ALFAGOMMA OIL & MARINE SRL	STAR PETROLEUM REFINING PUBLIC COMPANY LIMITED	ALFAGOMMA OIL & MARINE SRL	-

Basic Identification Data

Serial Number Supplier Ref. Number

- 1802000078

Statement of Work - Classification Service - Certification -

- Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.
- Material test reports (MTR) were reviewed and found to be the satisfaction of the attending Surveyor. Where required by the Rules, ABS material certification reports have been verified.

Report Findings

Statement/Observation

Finding No	Asset	Survey Task	Date Created
56.0	-	Certification - Marine Rubber Hoses - 1	28-Sep-2023

Found

NO. 29 (TWENTYNINE) MARINE RUBBER HOSES AS SPECIFIED BELOW WERE SUBJECTED WITH SATISFACTORY RESULTS TO RANDOM INLINE INSPECTION OF 50% OF PRODUCTION AND, UPON COMPLETION, TO FINAL INSPECTION.

FOLLOWING TESTS ACCORDING WITH GUIDE TO MANUFACTURING AND PURCHASING HOSES FOR OFFSHORE MOORINGS 5TH EDITION (GMPHOM 2009), PIM-SU-3092-G (CHEVRON) SPECIFICATION AND INSPECTION TEST PLAN ITP 23AG0067 Rev. 00 DATED 30 MAY 2023:

NO. 1 (ONE) SAFEWAVE F SC M FOB PU SIZE 24"x30'

S. NO. 0523070

NOTE: This Report evidences that the survey reported herein was carried out in compliance with one or more of the Rules, guides, standards or other criteria of the American Bureau of Shipping and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. This Report is a representation only that the vessel, structure, item of material equipment, machinery or any other item covered by this Report has been examined for compliance with, or has met one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping. The validity, applicability and interpretation of this Report is governed by the Rules and standards of American Bureau of Shipping who shall remain the sole judge thereof. Nothing contained in this Report or in any notation made in contemplation of this Report shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied.

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT

- ADHESION TEST

- BEND TEST

- STIFFNESS TEST

- TORSION TEST

- TENSILE TEST

- KEROSENE TEST

- VACUUM TEST

- ELECTRICAL CONTINUITY TEST (CONTINUOUS)

- FLANGE BOLT HOLE ALIGNMENT

NO. 1 (ONE) SAFEWAVE F SC M MAINLINE PU SIZE 24"x35'

S. NO. 0523071

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT

- ADHESION TEST

- BEND TEST

- STIFFNESS TEST

- TORSION TEST

- TENSILE TEST

- KEROSENE TEST

- VACUUM TEST

- ELECTRICAL CONTINUITY TEST (CONTINUOUS)

- FLANGE BOLT HOLE ALIGNMENT

NO. 20 (TWENTY) SAFEWAVE F SC M MAINLINE SIZE 24"x35'

S. NO. 0523072 - 0523073 - 0523074 - 0523075 - 0523076 - 0523077 - 0523078 - 0523079 - 0523080 - 0523081 - 0523082 - 0523083 - 0523084 - 0523085 - 0523086 - 0523087 - 0523088 - 0523089 - 0523090 - 0523091

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)

- ADHESION TEST (S. NO. 0523074 - 0523082)

- BEND TEST (S. NO. 0523072 - 0523082)

- STIFFNESS TEST (S. NO. 0523072 - 0523082)

- TORSION TEST (S. NO. 0523072 - 0523082)

- TENSILE TEST (S. NO. 0523072 - 0523082)

- KEROSENE TEST (ALL HOSES)

- VACUUM TEST (ALL HOSES)

- ELECTRICAL CONTINUITY TEST (ALL HOSES CONTINUOUS)

- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 1 (ONE) SAFEWAVE F SC M TAPER EB 24"/16"x 35'

S. NO. 0523092



Work Order: 5876370-A
First Visit Date: 01-Jun-2023
Last Visit Date: 28-Sep-2023
Vendor PO Number: 45051092
Survey Location: Ortona

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST

- ELECTRICAL CONTINUITY TEST (CONTINUOUS)
NO. 1 (ONE) SAFEWAVE F SC M TAIL EB SIZE 16"x30"
S. NO. 0523093

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST

- ELECTRICAL CONTINUITY TEST (DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT

NO. 4 (FOUR) SAFEWAVE F SC M TAIL SIZE 16"x30"
S. NO. 0523094 - 0523095 - 0523096 - 0523097

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 0523094)
- BEND TEST (S. NO. 0523094 - 0523097)
- STIFFNESS TEST (S. NO. 0523094 - 0523097)
- TORSION TEST (S. NO. 0523094 - 0523097)
- TENSILE TEST (S. NO. 0523094 - 0523097)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 1 (ONE) SAFEWAVE F SC M TANKER PU SIZE 16"x30"
S. NO. 0523098

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST



Work Order: 5876370-A
First Visit Date: 01-Jun-2023
Last Visit Date: 28-Sep-2023
Vendor PO Number: 45051092
Survey Location: Ortona

- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT

UPON SATISFACTORY COMPLETION OF TESTS, MANUFACTURER'S TEST REPORTS SIGNED.

Closing Paragraph:

The component/equipment was surveyed in accordance with the Rules, specifications, and approved drawings, as applicable, and is eligible for installation on board an ABS classed vessel subject to satisfactory installation and testing, as necessary.

Attending Surveyor(s):

De Angelis, Antonino
Signed-off Date: 28-Sep-2023

Reviewing Surveyor(s)

Work Order Reviewer: Cappiello, Carmine
Work Order Credit Date: 29-Sep-2023



Work Order: 5552983-A
First Visit Date: 16-Nov-2022
Last Visit Date: 02-Mar-2023
Vendor PO Number: 45048938
Survey Location: Ortona



Work Order: 5552983-A
First Visit Date: 16-Nov-2022
Last Visit Date: 02-Mar-2023
Vendor PO Number: 45048938
Survey Location: Ortona

Equipment Certification Report

Asset Type Pipe
Customer Name ALFAGOMMA OIL & MARINE SRL
WCN of Customer 468816
Location Ortona

This is to certify that the undersigned Surveyors to this Bureau did at the request of ALFAGOMMA OIL & MARINE SRL, from 16-Nov-2022 to 02-Mar-2023, carry out the following survey and report as follows:

Client Asset Name Quantity
Marine Rubber Hoses - 1 1

Name Plate Data				
ABS Label	Manufacturer	Purchaser	Designer	Destination Vessel
Marine Rubber Hoses - 1	ALFAGOMMA OIL & MARINE SRL	STAR PETROLEUM REFINING PUBLIC COMPANY LIMITED	ALFAGOMMA OIL & MARINE SRL	-

Basic Identification Data

Serial Number Owner Tag Number Supplier Ref. Number
- - 1802000053

Statement of Work - Classification Service - Certification -

- Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.
- Pressure and/or proof-load testing of the equipment/component was witnessed to the satisfaction of the attending Surveyor.
- Material test reports (MTR) were reviewed and found to be the satisfaction of the attending Surveyor. Where required by the Rules, ABS material certification reports have been verified.

Report Findings

Statement/Observation

Finding No	Asset	Survey Task	Date Created
39.0	Marine Rubber Hoses - 1	Certification - Marine Rubber Hoses - 1	02-Mar-2023

Found

NO. 6 (SIX) MARINE RUBBER HOSES AS SPECIFIED BELOW WERE SUBJECTED WITH SATISFACTORY RESULTS TO INLINE INSPECTION AND, UPON COMPLETION, TO FINAL INSPECTION.

FOLLOWING TESTS ACCORDING WITH GUIDE TO MANUFACTURING AND PURCHASING HOSES FOR OFFSHORE MOORINGS 5TH EDITION (GMPHOM 2009), PIM-SU-3092-G (CHEVRON) SPECIFICATION AND INSPECTION TEST PLAN ITP 22AG0056 Rev. 02 DATED 16 NOVEMBER

NOTE: This Report evidences that the survey reported herein was carried out in compliance with one or more of the Rules, guides, standards or other criteria of the American Bureau of Shipping and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. This Report is a representation only that the vessel, structure, item of material equipment, machinery or any other item covered by this Report has been examined for compliance with, or has met one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping. The validity, applicability and interpretation of this Report is governed by the Rules and standards of American Bureau of Shipping who shall remain the sole judge thereof. Nothing contained in this Report or in any notation made in contemplation of this Report shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied.

2022:

NO. 2 (TWO) SAFEWAVE S SC M FOB PU SIZE 24"x35'
S. NO. 1022203 - 1022204
- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 1022203)
- BEND TEST (S. NO. 1022203)
- STIFFNESS TEST (S. NO. 1022203)
- TORSION TEST (S. NO. 1022203)
- TENSILE TEST (S. NO. 1022203)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 2 (TWO) SAFEWAVE S SC M FOP C PU SIZE 24"x35'
S. NO. 1022207 - 1022208
- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 1022207)
- BEND TEST (S. NO. 1022207)
- STIFFNESS TEST (S. NO. 1022207)
- TORSION TEST (S. NO. 1022207)
- TENSILE TEST (S. NO. 1022207)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 2 (TWO) SAFEWAVE S SC M MAILINE C PU SIZE 24"x35'
S. NO. 1222243 - 1222244
- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 1222243)
- BEND TEST (S. NO. 1222243)
- STIFFNESS TEST (S. NO. 1222243)
- TORSION TEST (S. NO. 1222243)
- TENSILE TEST (S. NO. 1222243)
- KEROSENE TEST (ALL HOSES)



Work Order: 5552983-A
First Visit Date: 16-Nov-2022
Last Visit Date: 02-Mar-2023
Vendor PO Number: 45048938
Survey Location: Ortona

- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

UPON SATISFACTORY COMPLETION OF TESTS, MANUFACTURER'S TEST REPORTS SIGNED.

Closing Paragraph:

The component/equipment was surveyed in accordance with the Rules, specifications, and approved drawings, as applicable, and is eligible for installation on board an ABS classed vessel subject to satisfactory installation and testing, as necessary.

Attending Surveyor(s):

De Angelis, Antonino
Signed-off Date: 02-Mar-2023

Reviewing Surveyor(s)

Work Order Reviewer: Cappiello, Carmine
Work Order Credit Date: 07-Mar-2023

Hose Sequence

Port String Floating Hose										22-Nov-2024
No.	Type	Serial No.	Size	Last Position	Mnf.	1st Install		2nd Install		Total Service Time (Day)
						Date Installed	Service Time (Day)	Date Installed	Service Time (Day)	
1	First-Off	02-23-012	24" x 30'	New	Alfagomma					0
2	Second-Off	02-23-014	24" x 35'	New	Alfagomma					0
3	Mainline	02-23-015	24" x 35'	New	Alfagomma					0
4	Mainline	02-23-016	24" x 35'	New	Alfagomma					0
5	Mainline	02-23-017	24" x 35'	New	Alfagomma					0
6	Mainline	02-23-018	24" x 35'	New	Alfagomma					0
7	Mainline	05-23-073	24" x 35'	New	Alfagomma					0
8	Mainline	05-23-074	24" x 35'	New	Alfagomma					0
9	Mainline	05-23-075	24" x 35'	New	Alfagomma					0
10	Mainline	05-23-076	24" x 35'	New	Alfagomma					0
11	Mainline	05-23-078	24" x 35'	New	Alfagomma					0
12	Mainline	05-23-079	24" x 35'	New	Alfagomma					0
13	Mainline	05-23-080	24" x 35'	New	Alfagomma					0
14	Mainline	05-23-081	24" x 35'	New	Alfagomma					0
15	Mainline	05-23-082	24" x 35'	New	Alfagomma					0
16	Mainline	05-23-083	24" x 35'	New	Alfagomma					0
17	Mainline	05-23-084	24" x 35'	New	Alfagomma					0
18	Mainline	05-23-085	24" x 35'	New	Alfagomma					0
19	Mainline	05-23-087	24" x 35'	New	Alfagomma					0
20	Mainline	05-23-089	24" x 35'	New	Alfagomma					0
21	Mainline	05-23-090	24" x 35'	New	Alfagomma					0
22	Mainline	05-23-091	24" x 35'	New	Alfagomma					0
23	24"/16" Taper	02-23-020	24/16" x 35"	New	Alfagomma					0
24	Breakaway	GTM 2308	16"	Refurbished	Gall Thomson					
24	Extra Buoyancy	02-23-022	16" x 30'	New	Alfagomma					0
25	Tail	02-23-023	16" x 30'	26P	Alfagomma					0
26	Tail	02-23-024	16" x 30'	25P	Alfagomma					0
27	Tail	02-23-025	16" x 30'	26S	Alfagomma					0
28	Tail	02-23-026	16" x 30'	27S	Alfagomma					0
29	Tanker Rail	03-24-151	16" x 30'	New	Alfagomma					0
Port String Subsea Hose - (WEST)										
No	Type	Serial No.	Size	Last Position	Mnf.	1st Install		2nd Install		Total Service Time (Day)
						Date Installed	Service Time (Day)	Date Installed	Service Time (Day)	
1	Subsea Reinforced	10-22-204	24" x 35'	New	Alfagomma					#VALUE!
2	Subsea Standard	12-22-244	24" x 35'	New	Alfagomma					0
3	Subsea Reinforced	10-22-208	24" x 35'	New	Alfagomma					0



Work Order: 5689514-A
First Visit Date: 06-Mar-2023
Last Visit Date: 17-May-2023
Vendor PO Number: PO45050207
Survey Location: Ortona



Work Order: 5689514-A
First Visit Date: 06-Mar-2023
Last Visit Date: 17-May-2023
Vendor PO Number: PO45050207
Survey Location: Ortona

Equipment Certification Report

Asset Type Pipe
Customer Name ALFAGOMMA OIL & MARINE SRL
WCN of Customer 468816
Location Ortona

This is to certify that the undersigned Surveyors to this Bureau did at the request of ALFAGOMMA OIL & MARINE SRL, from 06-Mar-2023 to 17-May-2023, carry out the following survey and report as follows:

Client Asset Name Quantity

Marine Rubber Hoses 1

Name Plate Data

ABS Label	Manufacturer	Purchaser	Designer	Destination Vessel
Marine Rubber Hoses	ALFAGOMMA OIL & MARINE SRL	STAR PETROLEUM REFINING PUBLIC COMPANY LIMITED	ALFAGOMMA OIL & MARINE SRL	-

Basic Identification Data

Serial Number Owner Tag Number Supplier Ref. Number
- - 1802000064

Statement of Work - Classification Service - Certification -

- Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.
- Pressure and/or proof-load testing of the equipment/component was witnessed to the satisfaction of the attending Surveyor.
- Material test reports (MTR) were reviewed and found to be the satisfaction of the attending Surveyor. Where required by the Rules, ABS material certification reports have been verified.

- Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.
- Pressure and/or proof-load testing of the equipment/component was witnessed to the satisfaction of the attending Surveyor.
- Material test reports (MTR) were reviewed and found to be the satisfaction of the attending Surveyor. Where required by the Rules, ABS material certification reports have been verified.

Report Findings

Statement/Observation

Finding No	Asset	Survey Task	Date Created
47.0	-	Certification - Marine Rubber Hoses	17-May-2023

Found

NOTE: This Report evidences that the survey reported herein was carried out in compliance with one or more of the Rules, guides, standards or other criteria of the American Bureau of Shipping and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. This Report is a representation only that the vessel, structure, item of material equipment, machinery or any other item covered by this Report has been examined for compliance with, or has met one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping. The validity, applicability and interpretation of this Report is governed by the Rules and standards of American Bureau of Shipping who shall remain the sole judge thereof. Nothing contained in this Report or in any notation made in contemplation of this Report shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied.

NO. 18 (EIGHTEEN) MARINE RUBBER HOSES AS SPECIFIED BELOW WERE SUBJECTED WITH SATISFACTORY RESULTS TO RANDOM INLINE INSPECTION OF 50% OF PRODUCTION AND, UPON COMPLETION, TO FINAL INSPECTION.

FOLLOWING TESTS ACCORDING WITH GUIDE TO MANUFACTURING AND PURCHASING HOSES FOR OFFSHORE MOORINGS 5TH EDITION (GMPHOM 2009), PIM-SU-3092-G (CHEVRON) SPECIFICATION AND INSPECTION TEST PLAN ITP 22AG0142 Rev. 01 DATED 06 MARCH 2023:

NO. 2 (TWO) SAFEWAVE F SC M FOB PU SIZE 24"x30'

- S. NO. 0223011 - 0223012
- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
 - ADHESION TEST (S. NO. 0223011)
 - BEND TEST (S. NO. 0223011)
 - STIFFNESS TEST (S. NO. 0223011)
 - TORSION TEST (S. NO. 0223011)
 - TENSILE TEST (S. NO. 0223011)
 - KEROSENE TEST (ALL HOSES)
 - VACUUM TEST (ALL HOSES)
 - ELECTRICAL CONTINUITY TEST (ALL HOSES CONTINUOUS)
 - FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 2 (TWO) SAFEWAVE F SC M MAINLINE PU SIZE 24"x35'

- S. NO. 0223013 - 0223014
- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
 - ADHESION TEST (S. NO. 0223013)
 - BEND TEST (S. NO. 0223013)
 - STIFFNESS TEST (S. NO. 0223013)
 - TORSION TEST (S. NO. 0223013)
 - TENSILE TEST (S. NO. 0223013)
 - KEROSENE TEST (ALL HOSES)
 - VACUUM TEST (ALL HOSES)
 - ELECTRICAL CONTINUITY TEST (ALL HOSES CONTINUOUS)
 - FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 4 (FOUR) SAFEWAVE F SC M MAINLINE SIZE 24"x35'

- S. NO. 0223015 - 0223016 - 0223017 - 0223018
- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
 - ADHESION TEST (S. NO. 0223015)
 - BEND TEST (S. NO. 0223015)
 - STIFFNESS TEST (S. NO. 0223015)



Work Order: 5689514-A
First Visit Date: 06-Mar-2023
Last Visit Date: 17-May-2023
Vendor PO Number: PO45050207
Survey Location: Ortona

- TORSION TEST (S. NO. 0223015)
- TENSILE TEST (S. NO. 0223015)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES CONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 2 (TWO) SAFEWAVE F SC M TAPER EB SIZE 24/16"x35"

S. NO. 0223019 - 0223020

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 0223019)
- BEND TEST (S. NO. 0223019)
- STIFFNESS TEST (S. NO. 0223019)
- TORSION TEST (S. NO. 0223019)
- TENSILE TEST (S. NO. 0223019)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES CONTINUOUS)

NO. 2 (TWO) SAFEWAVE F SC M TAIL EB SIZE 16"x30"

S. NO. 0223021 - 0223022

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 0223021)
- BEND TEST (S. NO. 0223021)
- STIFFNESS TEST (S. NO. 0223021)
- TORSION TEST (S. NO. 0223021)
- TENSILE TEST (S. NO. 0223021)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 4 (FOUR) SAFEWAVE F SC M TAIL SIZE 16"x30"

S. NO. 0223023 - 0223024 - 0223025 - 0223026

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 0223023)
- BEND TEST (S. NO. 0223023)



Work Order: 5689514-A
First Visit Date: 06-Mar-2023
Last Visit Date: 17-May-2023
Vendor PO Number: PO45050207
Survey Location: Ortona

- STIFFNESS TEST (S. NO. 0223023)
- TORSION TEST (S. NO. 0223023)
- TENSILE TEST (S. NO. 0223023)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 2 (TWO) SAFEWAVE F SC M TANKER PU SIZE 16"x30"

S. NO. 0223027 - 0223028

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 0223027)
- BEND TEST (S. NO. 0223027)
- STIFFNESS TEST (S. NO. 0223027)
- TORSION TEST (S. NO. 0223027)
- TENSILE TEST (S. NO. 0223027)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

UPON SATISFACTORY COMPLETION OF TESTS, MANUFACTURER'S TEST REPORTS SIGNED.

Closing Paragraph:

The component/equipment was surveyed in accordance with the Rules, specifications, and approved drawings, as applicable, and is eligible for installation on board an ABS classed vessel subject to satisfactory installation and testing, as necessary.

Attending Surveyor(s):

De Angelis, Antonino
Signed-off Date: 17-May-2023

Reviewing Surveyor(s)

Work Order Reviewer: Capiello, Carmine
Work Order Credit Date: 22-May-2023



Work Order: 5876370-A
First Visit Date: 01-Jun-2023
Last Visit Date: 28-Sep-2023
Vendor PO Number: 45051092
Survey Location: Ortona



Work Order: 5876370-A
First Visit Date: 01-Jun-2023
Last Visit Date: 28-Sep-2023
Vendor PO Number: 45051092
Survey Location: Ortona

Equipment Certification Report

Asset Type Pipe
Customer Name ALFAGOMMA OIL & MARINE SRL
WCN of Customer 468816
Location Ortona

This is to certify that the undersigned Surveyors to this Bureau did at the request of ALFAGOMMA OIL & MARINE SRL, from 01-Jun-2023 to 28-Sep-2023, carry out the following survey and report as follows:

Client Asset Name Quantity
Marine Rubber Hoses - 1 1

Name Plate Data

ABS Label	Manufacturer	Purchaser	Designer	Destination Vessel
Marine Rubber Hoses - 1	ALFAGOMMA OIL & MARINE SRL	STAR PETROLEUM REFINING PUBLIC COMPANY LIMITED	ALFAGOMMA OIL & MARINE SRL	-

Basic Identification Data

Serial Number Supplier Ref. Number
- 1802000078

Statement of Work - Classification Service - Certification -

- Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.
- Material test reports (MTR) were reviewed and found to be the satisfaction of the attending Surveyor. Where required by the Rules, ABS material certification reports have been verified.

Report Findings

Statement/Observation

Finding No	Asset	Survey Task	Date Created
56.0	-	Certification - Marine Rubber Hoses - 1	28-Sep-2023

Found

NO. 29 (TWENTYNINE) MARINE RUBBER HOSES AS SPECIFIED BELOW WERE SUBJECTED WITH SATISFACTORY RESULTS TO RANDOM INLINE INSPECTION OF 50% OF PRODUCTION AND, UPON COMPLETION, TO FINAL INSPECTION.

FOLLOWING TESTS ACCORDING WITH GUIDE TO MANUFACTURING AND PURCHASING HOSES FOR OFFSHORE MOORINGS 5TH EDITION (GMPHOM 2009), PIM-SU-3092-G (CHEVRON) SPECIFICATION AND INSPECTION TEST PLAN ITP 23AG0067 Rev. 00 DATED 30 MAY 2023:

NO. 1 (ONE) SAFEWAVE F SC M FOB PU SIZE 24"x30'

S. NO. 0523070

NOTE: This Report evidences that the survey reported herein was carried out in compliance with one or more of the Rules, guides, standards or other criteria of the American Bureau of Shipping and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. This Report is a representation only that the vessel, structure, item of material equipment, machinery or any other item covered by this Report has been examined for compliance with, or has met one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping. The validity, applicability and interpretation of this Report is governed by the Rules and standards of American Bureau of Shipping who shall remain the sole judge thereof. Nothing contained in this Report or in any notation made in contemplation of this Report shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied.

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (CONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT
NO. 1 (ONE) SAFEWAVE F SC M MAINLINE PU SIZE 24"x35'
S. NO. 0523071
- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (CONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT
NO. 20 (TWENTY) SAFEWAVE F SC M MAINLINE SIZE 24"x35'
S. NO. 0523072 - 0523073 - 0523074 - 0523075 - 0523076 - 0523077 - 0523078 - 0523079 - 0523080 - 0523081 - 0523082 - 0523083 - 0523084 - 0523085 - 0523086 - 0523087 - 0523088 - 0523089 - 0523090 - 0523091
- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 0523074 - 0523082)
- BEND TEST (S. NO. 0523072 - 0523082)
- STIFFNESS TEST (S. NO. 0523072 - 0523082)
- TORSION TEST (S. NO. 0523072 - 0523082)
- TENSILE TEST (S. NO. 0523072 - 0523082)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES CONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)
NO. 1 (ONE) SAFEWAVE F SC M TAPER EB 24"/16"x 35'
S. NO. 0523092



Work Order: 5876370-A
First Visit Date: 01-Jun-2023
Last Visit Date: 28-Sep-2023
Vendor PO Number: 45051092
Survey Location: Ortona

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT

- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST

- ELECTRICAL CONTINUITY TEST (CONTINUOUS)

NO. 1 (ONE) SAFEWAVE F SC M TAIL EB SIZE 16"x30'

S. NO. 0523093

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT

- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST

- ELECTRICAL CONTINUITY TEST (DISCONTINUOUS)

- FLANGE BOLT HOLE ALIGNMENT

NO. 4 (FOUR) SAFEWAVE F SC M TAIL SIZE 16"x30'

S. NO. 0523094 - 0523095 - 0523096 - 0523097

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)

- ADHESION TEST (S. NO. 0523094)
- BEND TEST (S. NO. 0523094 - 0523097)
- STIFFNESS TEST (S. NO. 0523094 - 0523097)
- TORSION TEST (S. NO. 0523094 - 0523097)
- TENSILE TEST (S. NO. 0523094 - 0523097)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 1 (ONE) SAFEWAVE F SC M TANKER PU SIZE 16"x30'

S. NO. 0523098

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST



Work Order: 5876370-A
First Visit Date: 01-Jun-2023
Last Visit Date: 28-Sep-2023
Vendor PO Number: 45051092
Survey Location: Ortona

- BEND TEST

- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST

- ELECTRICAL CONTINUITY TEST (DISCONTINUOUS)

- FLANGE BOLT HOLE ALIGNMENT

UPON SATISFACTORY COMPLETION OF TESTS, MANUFACTURER'S TEST REPORTS SIGNED.

Closing Paragraph:

The component/equipment was surveyed in accordance with the Rules, specifications, and approved drawings, as applicable, and is eligible for installation on board an ABS classed vessel subject to satisfactory installation and testing, as necessary.

Attending Surveyor(s):

De Angelis, Antonino

Signed-off Date: 28-Sep-2023

Reviewing Surveyor(s)

Work Order Reviewer: Cappiello, Carmine

Work Order Credit Date: 29-Sep-2023



Work Order: 6364496-A
First Visit Date: 08-Apr-2024
Last Visit Date: 23-Jul-2024
Vendor Purchase Order Number: 45053456
Survey Location: Ortona

Miscellaneous Report

Asset Type Pipe
Customer Name ALFAGOMMA OIL & MARINE SRL
Customer WCN 468816
Location Ortona

This is to certify that the undersigned Surveyors to this Bureau did at the request of ALFAGOMMA OIL & MARINE SRL, from 08 April 2024 to 23 July 2024, carry out the following survey and report as follows:

Client Asset Name Quantity
MARINE RUBBER HOSES 1

Name Plate Data			
ABS Label	Manufacturer	Purchaser	Designer
MARINE RUBBER HOSES	ALFAGOMMA OIL & MARINE SRL	STAR PETROLEUM REFINING PUBLIC COMPANY LIMITED	ALFAGOMMA OIL & MARINE SRL

Basic Identification Data
Serial Number Supplier Reference Number
SEE BELOW 1802000107

Statement of Work - Classification Service - Miscellaneous Survey

- Material test reports (MTR) were reviewed and found to be the satisfaction of the attending Surveyor. Where required by the Rules, ABS material certification reports have been verified.
- The scope of work was as agreed.
- Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.

Statement/Observation

NO. 21 (TWENTYONE) MARINE RUBBER HOSES AS SPECIFIED BELOW WERE SUBJECTED WITH SATISFACTORY RESULTS TO RANDOM INLINE INSPECTION OF 50% OF PRODUCTION AND, UPON COMPLETION, TO FINAL INSPECTION.

FOLLOWING TESTS ACCORDING WITH GUIDE TO MANUFACTURING AND PURCHASING HOSES FOR OFFSHORE MOORINGS 5TH EDITION (GMPHOM 2009), PIM-SU-3092-G (CHEVRON) SPECIFICATION AND INSPECTION TEST PLAN ITP 1802000107 Rev. 00 DATED 01 APRIL 2024:

NO. 17 (SEVENTEEN) SAFEWAVE F SC M MAINLINE SIZE 24"x30"
S. NO. FROM 0324130 TO 0324147
- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 0324130 - 0324140)
- BEND TEST (S. NO. 0324130 - 0324140))
- STIFFNESS TEST (S. NO. 0324130 - 0324140))
- TORSION TEST (S. NO. 0324130 - 0324140))
- TENSILE TEST (S. NO. 0324130 - 0324140))

This Report does not constitute validation of any ABS Rule requirement relating to the captioned equipment or documentation, as no evaluation of acceptance or rejection is made by the signatory. This Report is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. Parties are advised to review the Rules for the scope and conditions of classification and to review the survey records for a fuller description of any restrictions or limitation on the vessel's service or surveys. The validity, applicability and interpretation of this Report is governed by the Rules and standards of American Bureau of Shipping who shall remain the sole judge thereof. Nothing contained in this Report or in any notation made in contemplation of this Report shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied.



Work Order: 6364496-A
First Visit Date: 08-Apr-2024
Last Visit Date: 23-Jul-2024
Vendor Purchase Order Number: 45053456
Survey Location: Ortona

- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES CONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 1 (ONE) SAFEWAVE F SC M FOB PU SIZE 24"x30"
S. NO. 0324148
- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST
- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (CONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT

NO. 2 (TWO) SAFEWAVE F SC M TAIL SIZE 16"x30"
S. NO. 0324149 - 0324150
- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 0324149)
- BEND TEST (S. NO. 0324149)
- STIFFNESS TEST (S. NO. 0324149)
- TORSION TEST (S. NO. 0324149)
- TENSILE TEST (S. NO. 0324149)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 1 (ONE) SAFEWAVE F SC M TANKER PU SIZE 16"x30"
S. NO. 0324151
- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT
- ADHESION TEST
- BEND TEST
- STIFFNESS TEST
- TORSION TEST



Work Order: 6364496-A
First Visit Date: 08-Apr-2024
Last Visit Date: 23-Jul-2024
Vendor Purchase Order Number: 45053456
Survey Location: Ortona

- TENSILE TEST
- KEROSENE TEST
- VACUUM TEST
- ELECTRICAL CONTINUITY TEST (HOSE DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT

UPON SATISFACTORY COMPLETION OF TESTS, MANUFACTURER'S TEST REPORTS SIGNED.

Attending Surveyor(s):
De Angelis, Antonino
Signed-off Date: 23-Jul-2024

Reviewing Surveyor(s)
Work Order Reviewer: Cappiello, Carmine
Work Order Credit Date: 24-Jul-2024



Work Order: 5552983-A
First Visit Date: 16-Nov-2022
Last Visit Date: 02-Mar-2023
Vendor PO Number: 45048938
Survey Location: Ortona

Equipment Certification Report

Asset Type Pipe
Customer Name ALFAGOMMA OIL & MARINE SRL
WCN of Customer 468816
Location Ortona

This is to certify that the undersigned Surveyors to this Bureau did at the request of ALFAGOMMA OIL & MARINE SRL, from 16-Nov-2022 to 02-Mar-2023, carry out the following survey and report as follows:

Client Asset Name Quantity
Marine Rubber Hoses - 1 1

Name Plate Data

ABS Label	Manufacturer	Purchaser	Designer	Destination Vessel
Marine Rubber Hoses - 1	ALFAGOMMA OIL & MARINE SRL	STAR PETROLEUM REFINING PUBLIC COMPANY LIMITED	ALFAGOMMA OIL & MARINE SRL	-

Basic Identification Data

Serial Number	Owner Tag Number	Supplier Ref. Number
-	-	1802000053

Statement of Work - Classification Service - Certification -

- Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.
- Pressure and/or proof-load testing of the equipment/component was witnessed to the satisfaction of the attending Surveyor.
- Material test reports (MTR) were reviewed and found to be the satisfaction of the attending Surveyor. Where required by the Rules, ABS material certification reports have been verified.

Report Findings

Statement/Observation

Finding No	Asset	Survey Task	Date Created
39.0	Marine Rubber Hoses - 1	Certification - Marine Rubber Hoses - 1	02-Mar-2023

Found

NO. 6 (SIX) MARINE RUBBER HOSES AS SPECIFIED BELOW WERE SUBJECTED WITH SATISFACTORY RESULTS TO INLINE INSPECTION AND, UPON COMPLETION, TO FINAL INSPECTION.

FOLLOWING TESTS ACCORDING WITH GUIDE TO MANUFACTURING AND PURCHASING HOSES FOR OFFSHORE MOORINGS 5TH EDITION (GMPHOM 2009), PIM-SU-3092-G (CHEVRON) SPECIFICATION AND INSPECTION TEST PLAN ITP 22AG0056 Rev. 02 DATED 16 NOVEMBER

NOTE: This Report evidences that the survey reported herein was carried out in compliance with one or more of the Rules, guides, standards or other criteria of the American Bureau of Shipping and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. This Report is a representation only that the vessel, structure, item of material equipment, machinery or any other item covered by this Report has been examined for compliance with, or has met one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping. The validity, applicability and interpretation of this Report is governed by the Rules and standards of American Bureau of Shipping who shall remain the sole judge thereof. Nothing contained in this Report or in any notation made in contemplation of this Report shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied.



Work Order: 5552983-A
First Visit Date: 16-Nov-2022
Last Visit Date: 02-Mar-2023
Vendor PO Number: 45048938
Survey Location: Ortona

2022:

NO. 2 (TWO) SAFEWAVE S SC M FOB PU SIZE 24"x35"

S. NO. 1022203 - 1022204

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 1022203)
- BEND TEST (S. NO. 1022203)
- STIFFNESS TEST (S. NO. 1022203)
- TORSION TEST (S. NO. 1022203)
- TENSILE TEST (S. NO. 1022203)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 2 (TWO) SAFEWAVE S SC M FOP C PU SIZE 24"x35"

S. NO. 1022207 - 1022208

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 1022207)
- BEND TEST (S. NO. 1022207)
- STIFFNESS TEST (S. NO. 1022207)
- TORSION TEST (S. NO. 1022207)
- TENSILE TEST (S. NO. 1022207)
- KEROSENE TEST (ALL HOSES)
- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

NO. 2 (TWO) SAFEWAVE S SC M MAILINE C PU SIZE 24"x35"

S. NO. 1222243 - 1222244

- HYDROSTATIC TEST WITH ELONGATION MEASUREMENT (ALL HOSES)
- ADHESION TEST (S. NO. 1222243)
- BEND TEST (S. NO. 1222243)
- STIFFNESS TEST (S. NO. 1222243)
- TORSION TEST (S. NO. 1222243)
- TENSILE TEST (S. NO. 1222243)
- KEROSENE TEST (ALL HOSES)



Work Order: 5552983-A
First Visit Date: 16-Nov-2022
Last Visit Date: 02-Mar-2023
Vendor PO Number: 45048938
Survey Location: Ortona

- VACUUM TEST (ALL HOSES)
- ELECTRICAL CONTINUITY TEST (ALL HOSES DISCONTINUOUS)
- FLANGE BOLT HOLE ALIGNMENT (ALL HOSES)

UPON SATISFACTORY COMPLETION OF TESTS, MANUFACTURER'S TEST REPORTS SIGNED.

Closing Paragraph:

The component/equipment was surveyed in accordance with the Rules, specifications, and approved drawings, as applicable, and is eligible for installation on board an ABS classed vessel subject to satisfactory installation and testing, as necessary.

Attending Surveyor(s):

De Angelis, Antonino
Signed-off Date: 02-Mar-2023

Reviewing Surveyor(s)

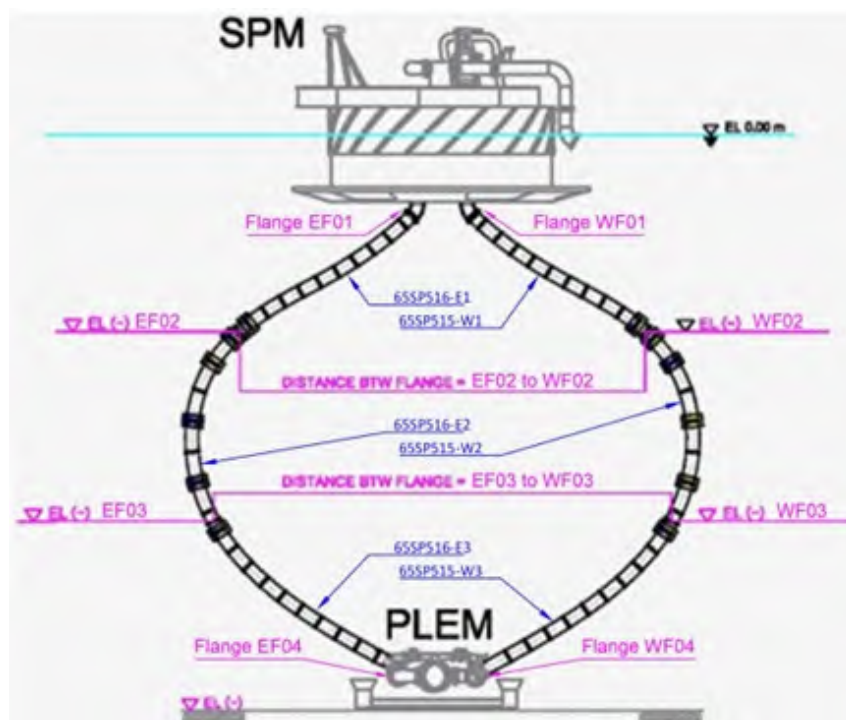
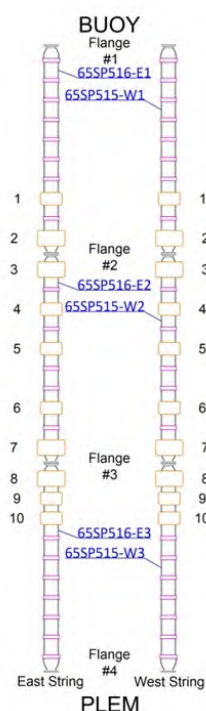
Work Order Reviewer: Cappiello, Carmine
Work Order Credit Date: 07-Mar-2023

การตรวจสอบการรั่วไหล รูปทรงของท่อใต้ทะเล (Sub Sea Hose)

4.0 East and West Subsea Hose Inspection

The inspection on the subsea hose(s) was carried out on both hoses from the SPM connection to the PLEM connection. The inspection consists of;

- Hose bead inspection
- Hose configuration measurements
- Flange and nipple connections



4.1 Hose Bead Inspection

The ten (10) bead floats on each hose were inspected and depth readings were taken. at each bead. During the inspection the following was noted;

- All the securing bolts and nuts on the bead float were present.
- The bead floats were secure with no signs of slippage noted.
- There were no signs of damage
- Overall there was 60-70% marine growth coverage of approximately 20mm thickness

Bead Float		1	2	3	4	5	6	7	8	9	10	Seabed
East Hose	Depth (ft)	30	33	35	39	44	54	59	63	68	70	90
	Depth (ft)	30	33	36	40	46	55	60	64	69	71	
Note: All measurements to be taken TDC outside of Floatation Bead								Time Start: 0930hrs		Time End: 1020hrs		

4.2 Hose configuration measurements

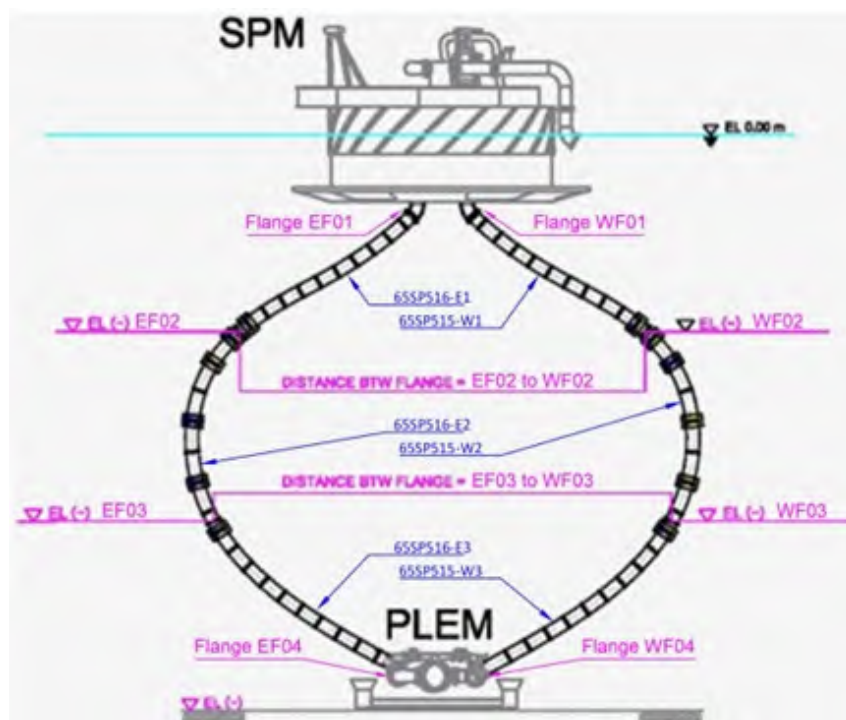
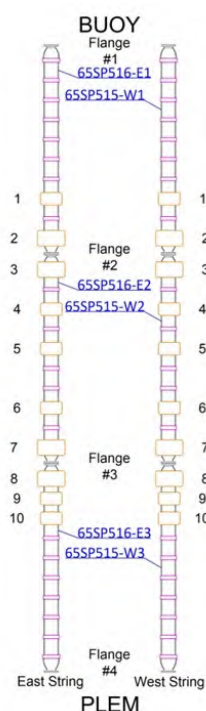
Hose configuration measurements were taken and the following was noted:

- Distance between the upper flanges of EF02 to WF02 was 18.4m.
- Distance between the lower flanges of the EF03 to WF03 was 22.7m.

4.0 East and West Subsea Hose Inspection

The inspection on the subsea hose(s) was carried out on both hoses from the SPM connection to the PLEM connection. The inspection consists of;

- Hose bead inspection
- Hose configuration measurements
- Flange and nipple connections



4.1 Hose Bead Inspection

The ten (10) bead floats on each hose were inspected and depth readings were taken. at each bead. During the inspection the following was noted;

- All the securing bolts and nuts on the bead float were present.
- The bead floats were secure with no signs of slippage noted.
- There were no signs of damage
- Overall there was 60-80% marine growth coverage of approximately 30mm thickness

Bead Float		1	2	3	4	5	6	7	8	9	10	Seabed
East Hose	Depth (ft)	30	33	36	42	45	51	63	68	73	75	-
	Depth (ft)	32	36	37	41	47	56	62	67	67	74	-
Note: All measurements to be taken TDC outside of Floatation Bead								Time Start: 1551hrs		Time End: 1515hrs		

4.2 Hose configuration measurements

Hose configuration measurements were taken and the following was noted:

- Distance between the upper flanges of EF02 to WF02 was 18.30m.
- Distance between the lower flanges of the EF03 to WF03 was 22.84m.

การตรวจสอบความแข็งแรงของทุ่นรับน้ำมัน (SPM)



STAR PETROLEUM REFINING COMPANY AND PTT GLOBAL CHEMICAL

MAP TA PHUT SPM

Ocean Works Asia (Thailand) Co., Ltd.

Quarterly Inspection Report (SPM & PLEM)

1	22-Aug-2024	Initial Submission	KS	SA	MAD
REV	DATE	DESCRIPTION	APRD	CHKD	PREP'D
Client Document No.			OWA Document No.		
N/A			54-66001-01-FIR-01		

OCEAN WORKS ASIA (OWA)
<https://www.owa.com.sg>

OCEAN WORKS ASIA (THAILAND) Co., Ltd.
54 B.B Building 9th Floor, Room No. 3909 Sukhumvit 21 (Asoke) Klongtoey Nua, Wattana,
Bangkok 10110 Thailand


MAP TA PHUT SPM	Page 2 of 15	
	22-Aug-24	
	Rev. 1	
Quarterly Inspection Report (SPM & PLEM)		

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STAR PETROLEUM REFINING COMPANY AND PTT GLOBAL CHEMICAL
Printed 22 August 2024. Uncontrolled when printed.

OCEAN WORKS ASIA
54-66001-01-FIR-01




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	22-Aug-24	
Quarterly Inspection Report (SPM & PLEM)	Rev. 1	

Table 1. Document History

Revision	Date	Description of Change
1	22-Aug-2024	Initial submission for client review and comment

MAP TA PHUT SPM	Page 4 of 15		
	22-Aug-24		
Quarterly Inspection Report (SPM & PLEM)	Rev. 1		

1.0 General

1.1 Introduction

Ocean Works Asia (Thailand) Co., Ltd. has been requested by Star Petroleum Refining Company (SPRC) for the provision of surface supplied air diving services, to support the ongoing inspection, repair and maintenance (IRM) activities on the SPM (Single Point Mooring) off Map Ta Phut Thailand.

As part of the quarterly IRM work scope for the SPM, inspections on the buoy and PLEM, were carried out between the 9th to 11th of August 2024. The inspections were carried out by air divers from the MV Unwise Rayong, and was overseen by an attending Client's representative from Star Petroleum Refining Company (SPRC).

1.2 Executive Summary

The inspection on the SPM buoy and PLEM was carried out by divers and the following was noted;

- All seven (7) valves were inspected, cycled and noted to be in good condition.
- No anomalies were noted on the East and West subsea hoses, all float beads were in place with no signs of slippage or damage. Distance measurement between the subsea hoses was taken and recorded.
- CP readings recorded on the PLEM and buoy were within limits.
- UT readings recorded on the PLEM and buoy were within limits. However nominal wall thickness are to be confirm at some locations.
- Bouy and PLEM were found to be in generally good condition, with anodes secure and active. No signs of damage was noted. No anomalies were noted on the Buoy and PLEM including sand silt.
- Chain angle measurements taken were found to be consistent. No significant chain ware noted
- Valve cap re-tightening check was carried out and successful

2.0 Scope of Work

The scope of work comprises of the following:

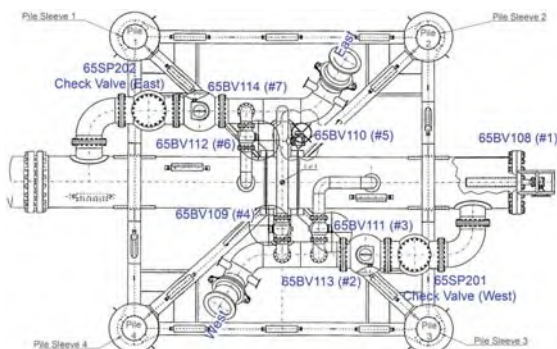
- General Visual Inspection (GVI) and cycling of the PLEM's 7 x steering valves.
- East and West subsea hose inspections including flotation beads, hose configuration and subsea hose 's flange connection and nipple area.
- Cathodic Potential (CP) reading on the PLEM and Buoy.
- Ultrasonic Thickness readings at selected areas on the PLEM and Buoy pipework
- General Visual Inspection (GVI) on the Buoy and PLEM including anodes, valves and sand silt. Check the vertical center position of SPM over the PLEM
- Chain angle measurement and chain stopper General Visual Inspection (GVI).
- Chain ware measurements (Dimensional survey) below the stopper and at the touch down point (TDP)
- Confirm tightening of PLEM Check valve stem nuts
- Clear all fishing net on PLEM (if any)

3.0 General Visual Inspection (GVI) of the 7 x Steering Valves

The inspection and valve cycling/exercising of the seven (7) valves was carried and the following was noted:

- There was no signs of damage or distortion
- No signs of leaks
- Valves appeared to be in good condition
- Apart from valve #7 which was slightly "stiff" (slightly tight to turn/cycle) during exercising all other valves exercised well

Note: There was no requirement to exercise valve #1 & #5.



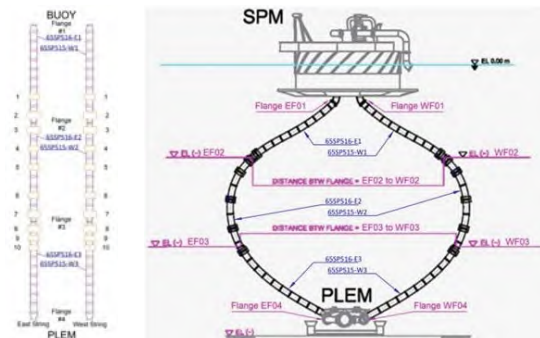
The valves were inspected and the following was noted:

- | | |
|--|--------------|
| 1. Valve #1 (65BV108) 4 BALL VALVE #1 - | Fully Closed |
| 2. Valve #2 (65BV113) 24BALL VALVE #2 - | Fully Opened |
| 3. Valve #3 (65BV111) 10 BALL VALVE #3 - | Fully Closed |
| 4. Valve #4 (65BV109) 10 BALL VALVE #4 - | Fully Opened |
| 5. Valve #5 (65BV110) 4 VENT BALL VALVE #5 - | Fully Closed |
| 6. Valve #6 (65BV112) 10 BALL VALVE #6 - | Fully Closed |
| 7. Valve #7 (65BV114) 24' BALL VALVE #7 - | Fully Opened |

4.0 East and West Subsea Hose Inspection

The inspection on the subsea hose(s) was carried out on both hoses from the SPM connection to the PLEM connection. The inspection consists of;

- Hose bead inspection
- Hose configuration measurements
- Flange and nipple connections



4.1 Hose Bead Inspection

The ten (10) bead floats on each hose were inspected and depth readings were taken at each bead. During the inspection the following was noted;

- All the securing bolts and nuts on the bead float were present.
- The bead floats were secure with no signs of slippage noted.
- There were no signs of damage
- Overall there was 60-70% marine growth coverage of approximately 20mm thickness

Bead Float	1	2	3	4	5	6	7	8	9	10	Seabed
East Hose Depth (ft)	30	33	35	39	44	54	59	63	68	70	90
West Hose Depth (ft)	30	33	36	40	46	55	60	64	69	71	

Note: All measurements to be taken TDC outside of Floatation Bead Time Start: 0930hrs Time End: 1020hrs

4.2 Hose configuration measurements

Hose configuration measurements were taken and the following was noted:

- Distance between the upper flanges of EF02 to WF02 was 18.4m.
- Distance between the lower flanges of the EF03 to WF03 was 22.7m.

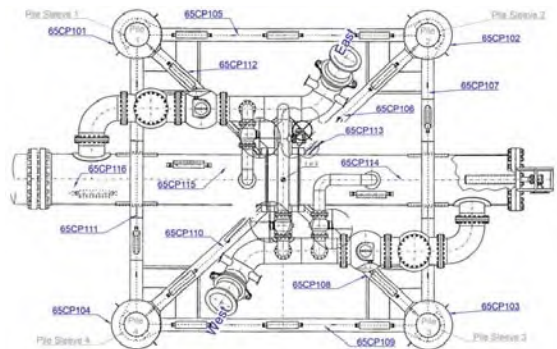
5.0 Cathodic Potential (CP) Readings

Cathodic potential readings were carried out on the PLEM and Buoy. The results of which are included in the following sections.

5.1 Cathodic Potential (CP) Reading on the PLEM

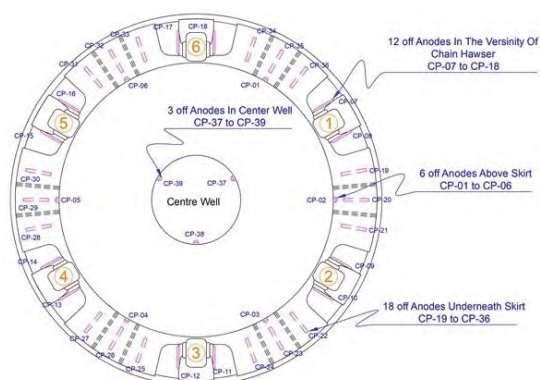
CP readings were taken on the PLEM at selected locations ranged between (-)1070V and (-)1062V.

Location	Reading (-V)	Location	Reading (-V)
65CP101	1.063	65CP111	1.069
65CP102	1.062	65CP112	1.070
65CP103	1.066	65CP113	1.063
65CP104	1.065	65CP114	1.064
65CP105	1.067	65CP115	1.068
65CP106	1.067	65CP116	1.066
65CP107	1.063	Pile 1	0.651
65CP108	1.070	Pile 2	0.655
65CP109	1.070	Pile 3	0.650
65CP110	1.067	Pile 4	0.643



5.2 Cathodic Potential (CP) Readings on Buoy

CP readings were taken on the buoy at the anode locations and in the moonpool area. CP readings on the buoy structure ranged between (-)957mV and (-)1020mV.



Location	Reading (-mV)	Location	Reading (-mV)	Location	Reading (-mV)
CP-01	1.014	CP-14	0.969	CP-27	0.958
CP-02	1.020	CP-15	0.959	CP-28	0.963
CP-03	0.997	CP-16	0.968	CP-29	0.958
CP-04	0.971	CP-17	0.962	CP-30	0.959
CP-05	0.981	CP-18	0.971	CP-31	0.967
CP-06	0.997	CP-19	0.969	CP-32	0.964
CP-07	0.962	CP-20	0.972	CP-33	0.965
CP-08	0.969	CP-21	0.969	CP-34	0.971
CP-09	0.964	CP-22	0.968	CP-35	0.971
CP-10	0.969	CP-23	0.965	CP-36	0.967
CP-11	0.959	CP-24	0.960	CP-37	1.020
CP-12	0.965	CP-25	0.962	CP-38	1.015
CP-13	0.958	CP-26	0.957	CP-39	0.990

6.0 Ultrasonic Thickness Gauging (UTG)

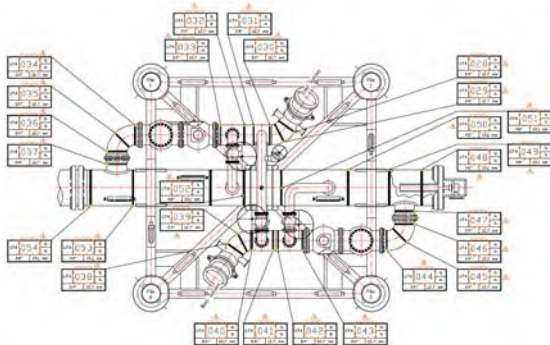
Ultrasonic Thickness Gauging (UTG) was carried out on sections of pipework on PLEM and Buoy. During the inspections the following was noted:

- Nominal wall thickness significant lower (<15%) at points on the PLEM & Buoy
 - PLEM – Locations 030 to 033, 040 to 043
 - Buoy – Locations 003, 009, 023 & 027
- At Point 026 UT readings were recorded more than 20% mowr than the nominal wall thickness
- All other readings were within 20% of the nominal wall thickness.

The results of which are included in the following sections.

6.1 Ultrasonic Thickness Gauging (UTG) on the PLEM

Ultrasonic Thickness Gauging (UTG) was carried out on sections of pipework on PLEM and readings ranged between 12.7mm and 20.7mm

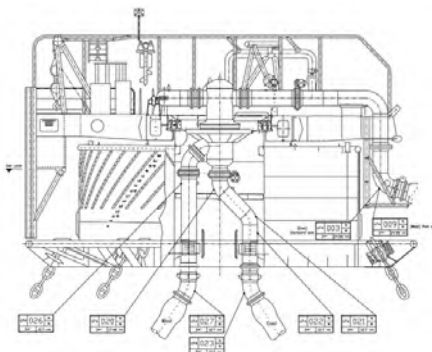


Location	Nominal Wt (mm)	Min (mm)	% From Nominal	Max (mm)	% From Nominal	Location	Nominal Wt (mm)	Min (mm)	% From Nominal	Max (mm)	% From Nominal
028	12.7	13.4	106%	15.1	119%	042	12.7	18.8	148%	20.7	157%
029	12.7	13.5	106%	16.3	128%	043	12.7	18.9	149%	20.0	158%
030	12.7	18.6	146%	19.4	153%	044	12.7	13.5	106%	20.1	120%
031	12.7	18.5	146%	19.9	157%	045	12.7	13.8	109%	15.2	123%
032	12.7	18.6	146%	19.7	155%	046	12.7	13.8	109%	15.6	124%
033	12.7	18.6	146%	19.3	152%	047	12.7	12.9	102%	15.7	103%
034	12.7	13.8	109%	15.7	124%	048	19.1	18.9	99%	13.1	100%
035	12.7	13.7	108%	14.5	114%	049	19.1	19.0	99%	19.1	104%
036	12.7	14.5	114%	16.1	127%	050	19.1	18.9	99%	19.9	101%
037	12.7	12.7	100%	13.1	103%	051	19.1	18.7	98%	19.2	100%

Location	Nominal Wt (mm)	Min (mm)	% From Nominal	Max (mm)	% From Nominal	Location	Nominal Wt (mm)	Min (mm)	% From Nominal	Max (mm)	% From Nominal
038	12.7	13.6	107%	15.1	119%	052	19.1	19.0	99%	19.2	101%
039	12.7	13.9	109%	15.2	120%	053	19.1	18.9	99%	19.1	100%
040	12.7	19.1	150%	20.3	160%	054	19.1	19.1	100%	19.2	101%
041	12.7	19.0	150%	20.7	163%						

6.2 Ultrasonic Thickness Gauging (UTG) on the Buoy

Ultrasonic Thickness Gauging (UTG) was carried out on sections of pipework on PLEM and readings ranged between 8.9mm and 44.2mm

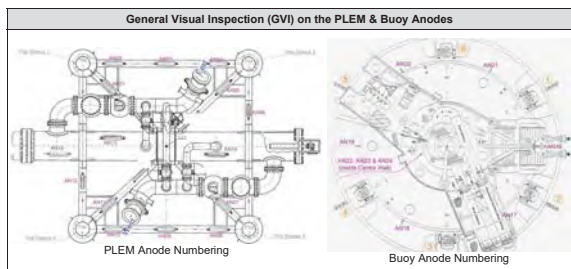


Location	Nominal Wt (mm)	Min (mm)	% From Nominal	Max Value	% From Nominal
003	12.7	37.9	298%	44.2	348%
009	12.7	38.3	302%	43.9	346%
020	12.7	14.1	111%	15.3	120%
021	12.7	13.5	106%	15.0	118%
022	12.7	9.8	77%	10.7	84%
023	12.7	20.7	163%	21.5	169%
026	12.7	8.9	70%	10.6	83%
027	12.7	20.1	158%	22.5	177%

7.0 General Visual Inspection on the Buoy and PLEM Anodes

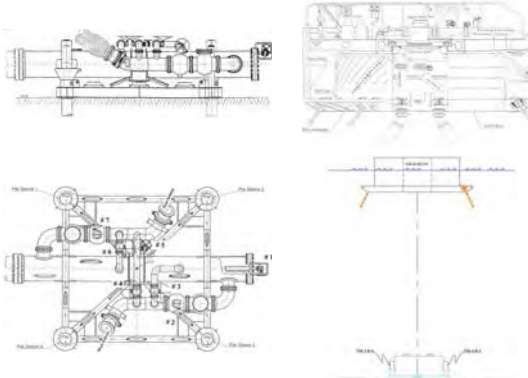
A general inspection of the anodes was carried out on selected anodes and the following was noted:

- Anode depletion was ranged from approximately 0-25% and 25-50%.
- Oxide deposits on the anodes would suggest they were active.
- Maring growth coverage varied between 10% to 100%



Anode	% Depletion	Secure	Dimension L (mm) Ø (mm)	Marine Growth %	Anode	% Depletion	Secure	Dimension L (mm) Ø (mm)	Marine Growth %
AN01	25-50	Yes / No	1200 440	60	AN13	25-50	Yes / No	1200 400	60
AN02	25-50	Yes / No	1200 450	60	AN14	25-50	Yes / No	1200 400	60
AN03	25-50	Yes / No	1200 440	50	AN15	25-50	Yes / No	1200 470	100
AN04	0-25	Yes / No	700 600	10	AN16	0-25	Yes / No	890 390	0
AN05	0-25	Yes / No	690 600	10	AN17	0-25	Yes / No	890 390	10
AN06	25-50	Yes / No	1200 460	50	AN18	25-50	Yes / No	860 350	100
AN07	25-50	Yes / No	1200 450	60	AN19	25-50	Yes / No	880 300	100
AN08	25-50	Yes / No	1200 420	60	AN20	25-50	Yes / No	880 350	100
AN09	0-25	Yes / No	690 600	10	AN21	0-25	Yes / No	890 390	0
AN10	0-25	Yes / No	690 600	10	AN22	25-50	Yes / No	610 590	100
AN11	25-50	Yes / No	1200 440	50	AN23	25-50	Yes / No	900 370	100
AN12	25-50	Yes / No	1200 440	30	AN24	25-50	Yes / No	640 500	100

8.0 General Visual Inspection of the Buoy and PLEM



8.1 General Visual Inspection of the PLEM

The general visual inspection of the PLEM was carried out and the following was noted:

- The Mainline & Flanges were inspected and there was no signs of damage and the flanges appeared to be secure with no signs of leaks.
- There were no signs of any significant scour or gap at the sand slit area around the base of the PLEM. Base frame partially buried in areas.
- There was no significant debris noted on or around the PLEM structure

8.2 General visual inspection of the Buoy

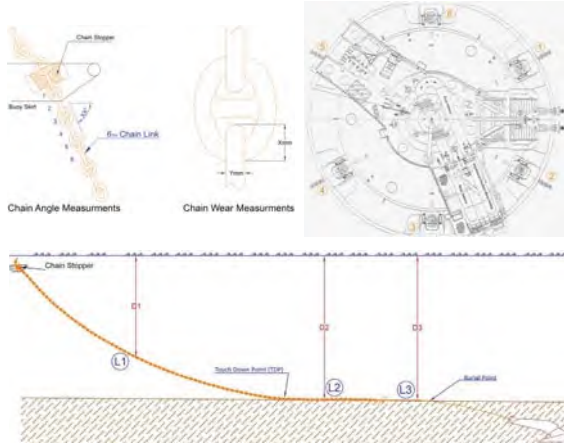
A general visual inspection of the underwater parts of the buoy was carried out and the following was noted:

- There was no damage or debris noted on the buoy and skirt
- Buoy position measurements relative to the PLEM was taken
- The Overall coating condition was good with scattered areas of paint coat flaking/peeling
- There was approximately 30-40% overall marine growth coverage

9.0 Mooring Chain Inspection

Inspections were carried out on the six (6) mooring chains and the following was noted.

- Fishing net fouled on sections of the mooring chain
- Mooring was noted to be in generally good condition
- On all chains marine growth coverage 100% approx. 20-40mm thick.
- Depth at the touch down point (TDP) range between 93fsw to 99fsw
- Chain angle measurements were found to range between 44° to 50°
- No significant chain ware was noted at the areas where the dimensional survey was carried out



Chain No	Chain Angle (XX°)	Chain Wear (mm)				Kenter Shackle Chain Ware (mm)											
		Chain Stopper		TDP		Location 1 (L1)				Location 2 (L2)				Location 3 (L3)			
		X	Y	X	Y	D1	X	Y	D2	X	Y	D3	X	Y	D3	X	Y
1	46	219.0	106.0	214.0	114.0	56 ^{HW}	220.5	137.5	-----	Buried	-----	-----	Buried	-----	-----	Buried	-----
2	44	215.0	108.0	216.0	108.0	52 ^{HW}	218.0	125.0	-----	Buried	-----	-----	Buried	-----	-----	Buried	-----
3	46	219.0	104.0	214.0	114.0	58 ^{HW}	218.0	149.0	-----	Buried	-----	-----	Buried	-----	-----	Buried	-----
4	48	214.0	103.0	204.0	111.0	63 ^{HW}	215.0	133.0	-----	Buried	-----	-----	Buried	-----	-----	Buried	-----
5	50	218.0	107.0	221.0	111.0	44 ^{HW}	216.0	143.0	-----	Buried	-----	-----	Buried	-----	-----	Buried	-----
6	45	218.0	102.0	215.0	110.0	63 ^{HW}	218.0	142.0	-----	Buried	-----	-----	Buried	-----	-----	Buried	-----

Note: Chain angle measurements to be taken on the 6th link down from the chain stopper.

10.0 Seal Cap Re-Tightening

PLEM Seal Cap Re-Tighten of PLEM Check-Valve was carried out. The two (2) x seal caps have been fully tightened. There were no signs of any leaks around seal cap.

11.0 Debris Clearance

11.1 PLEM

No significant debris noted on PLEM and surrounding area, so no debris clearance carried out.

11.2 Bouy

No significant debris noted on buoy and surrounding area, so no debris clearance carried out.

11.3 Mooring Chain

Fishing net noted wrapped around sections of mooring chain. No debris clearance was carried out due to time constraints.

12.0 Conclusion

CP and UT measurements carried out on the PLEM and Buoy were all found to be within acceptable limits. Anodes inspected on both the PLEM and Buoy appear to be active and secure. Valves were inspected and no signs of leaks were noted. There were no significant debris on the Buoy or PLEM however fishing net was noted to be fouled around sections of chain

12.1 Recommendations

Based on the results/findings of the inspections, recommendations are as follows:

- Review engineering data and confirm nominal wall thickness of Buoy and PLEM Pipework
- Remove fouled net debris on chains at next opportunity

13.0 Technical Appraisal

The Quarterly Inspection was carried safely and successfully by the Air Divers onboard MV Uniwise Rayong.

13.1 Restrictions and Complications

None

Appendix A: Inspection Forms / Reports

- 55-66001-01-CP-01 CP Measurement - PLEM 24-08-09
- 55-66001-01-CP-02 CP Measurement - Buoy 24-08-10
- 55-66001-01-PL-01 Photo Log
- 55-66001-01-UT-01 UT Measurement - PLEM 24-08-10
- 55-66001-01-UT-02 UT Measurement - Buoy 24-08-10
- 55-66001-01-VI-01 Visual Inspection - Valves 24-08-09
- 55-66001-01-VI-02 Visual Inspection - Anodes 24-08-09
- 55-66001-01-VI-03 Visual Inspection - PLEM 24-08-09
- 55-66001-01-VI-04 Visual Inspection - Buoy 24-08-10
- 55-66001-01-VI-05 Visual Inspection - Chains 24-08-10
- 55-66001-01-VI-06 Visual Inspection - Subsea Hoses 24-08-09
- 55-66001-01-VL-01 Video Log

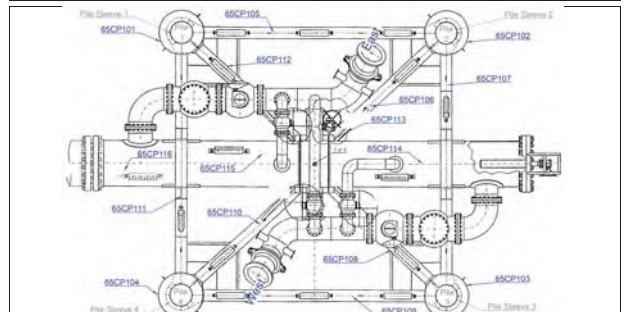


Cathodic Potential Measurement

Date	9 th August 2024	OWA Group	Thailand	Report No	55-66001-01-CP-01
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Refer to dive log
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	55-66001-01-VL-01

Equipment:	Make:	Serial No.	Calibration Date:	Remarks
Bathycorometer Mk7	Buckleys	41016/24	29 th August 2023	Cert. No.: BUC55208
Zinc Test Block	CP-9999-02	2021642-8	14th April 2023	Cert. No.: MC2021-642

Calibration and Function Check					
Dive		Pre-Dive		Post Dive	
Date	No	Steel (-V)	Zinc (-V)	Steel (-V)	Zinc (-V)
09/08/2024	1	-	1.035	-	1.035



Location	Reading (-V)	Location	Reading (-V)
65CP101	1.063	65CP111	1.069
65CP102	1.062	65CP112	1.070
65CP103	1.066	65CP113	1.063
65CP104	1.065	65CP114	1.064
65CP105	1.067	65CP115	1.068
65CP106	1.067	65CP116	1.066
65CP107	1.063	Pile 1	0.651
65CP108	1.070	Pile 2	0.655
65CP109	1.070	Pile 3	0.650
65CP110	1.067	Pile 4	0.643

Representative	OWA Data Recorder		OWA Supervisor
Signature:	Electronic form no signature required		Electronic form no signature required
Name (Print):	Akaminai		Akaminai

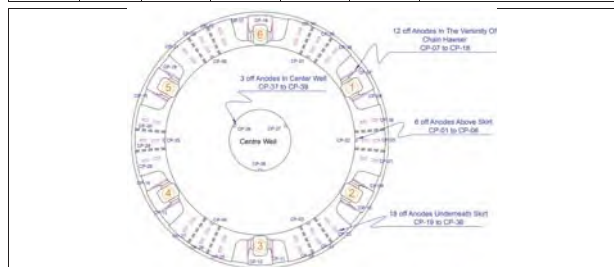


Cathodic Potential Measurement

Date	10 th August 2024	OWA Group	Thailand	Report No	55-66001-01-CP-02
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Refer to dive log
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	55-66001-01-VL-01

Equipment:	Make:	Serial No.	Calibration Date:	Remarks
Bathycorrometer Mk7	Buckleys	41016/24	29 th August 2023	Cert. No.: BUC55208
Zinc Test Block	CP-9999-02	2021642-8	14th April 2023	Cert. No.: MC2021-642

Calibration and Function Check					
Dive		Pre-Dive		Post Dive	
Date	No	Steel (-V)	Zinc (-V)	Steel (-V)	Zinc (-V)
10/08/2024	1	-	1.044	-	1.020



Location	Reading (-V)	Location	Reading (-V)	Location	Reading (-V)
CP-01	1.014	CP-14	0.969	CP-27	0.958
CP-02	1.020	CP-15	0.959	CP-28	0.963
CP-03	0.997	CP-16	0.968	CP-29	0.958
CP-04	0.971	CP-17	0.962	CP-30	0.959
CP-05	0.981	CP-18	0.971	CP-31	0.967
CP-06	0.997	CP-19	0.969	CP-32	0.964
CP-07	0.962	CP-20	0.972	CP-33	0.965
CP-08	0.969	CP-21	0.969	CP-34	0.971
CP-09	0.964	CP-22	0.968	CP-35	0.971
CP-10	0.969	CP-23	0.965	CP-36	0.967
CP-11	0.959	CP-24	0.960	CP-37	1.020
CP-12	0.965	CP-25	0.962	CP-38	1.015
CP-13	0.958	CP-26	0.957	CP-39	0.990

Representative	OWA Data Recorder	OWA Supervisor
Signature:	Electronic form no signature required	Electronic form no signature required
Name (Print):	Akaminai	Akaminai



Photo Log

Date	9 th August 2024	OWA Group	Thailand	Report No	55-66001-01-PL-01
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Ref. to Dive Log
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	55-66001-01-VL-01



01 PLEM Anode AN01 (1) 01 PLEM Anode AN01 (2) 01 PLEM Anode AN01 (3)



01 PLEM Anode AN01 (4) 01 PLEM Anode AN01 (5) 01 PLEM Anode AN02 (1)



01 PLEM Anode AN02 (2) 01 PLEM Anode AN02 (3) 01 PLEM Anode AN02 (4)



01 PLEM Anode AN03 (1) 01 PLEM Anode AN03 (2) 01 PLEM Anode AN03 (3)



Photo Log



01 PLEM Anode AN03 (4) 01 PLEM Anode AN03 (5) 01 PLEM Anode AN03 (6)



01 PLEM Anode AN04 (1) 01 PLEM Anode AN04 (2) 01 PLEM Anode AN04 (3)



01 PLEM Anode AN04 (4) 01 PLEM Anode AN05 (1) 01 PLEM Anode AN05 (2)



01 PLEM Anode AN05 (3) 01 PLEM Anode AN05 (4) 01 PLEM Anode AN06 (1)



Photo Log



01 PLEM Anode AN06 (2) 01 PLEM Anode AN06 (3) 01 PLEM Anode AN06 (4)



01 PLEM Anode AN06 (5) 01 PLEM Anode AN06 (6) 01 PLEM Anode AN06 (7)



01 PLEM Anode AN07 (1) 01 PLEM Anode AN07 (2) 01 PLEM Anode AN07 (3)



01 PLEM Anode AN07 (4) 01 PLEM Anode AN07 (5) 01 PLEM Anode AN07 (6)



Photo Log



01 PLEM Anode AN08 (1)



01 PLEM Anode AN08 (2)



01 PLEM Anode AN08 (3)



01 PLEM Anode AN08 (4)



01 PLEM Anode AN08 (5)



01 PLEM Anode AN09 (1)



01 PLEM Anode AN09 (2)



01 PLEM Anode AN09 (3)



01 PLEM Anode AN09 (4)



01 PLEM Anode AN09 (5)



01 PLEM Anode AN10 (1)



01 PLEM Anode AN10 (2)



Photo Log



01 PLEM Anode AN10 (3)



01 PLEM Anode AN11 (1)



01 PLEM Anode AN11 (2)



01 PLEM Anode AN11 (3)



01 PLEM Anode AN11 (4)



01 PLEM Anode AN12 (1)



01 PLEM Anode AN12 (2)



01 PLEM Anode AN12 (3)



01 PLEM Anode AN12 (4)



01 PLEM Anode AN12 (5)



01 PLEM Anode AN12 (6)



01 PLEM Anode AN13 (1)



Photo Log



01 PLEM Anode AN13 (2)



01 PLEM Anode AN13 (3)



01 PLEM Anode AN13 (4)



01 PLEM Anode AN13 (5)



01 PLEM Anode AN13 (6)



01 PLEM Anode AN13 (7)



01 PLEM Anode AN14 (1)



01 PLEM Anode AN14 (2)



01 PLEM Anode AN14 (3)



01 PLEM Anode AN14 (4)



01 PLEM Anode AN14 (5)



01 PLEM Anode AN14 (6)



Photo Log



01 PLEM Anode AN15 (1)



01 PLEM Anode AN15 (2)



01 PLEM Anode AN15 (3)



01 PLEM Anode Near PL End (1)



01 PLEM Anode Near PL End (2)



01 PLEM Anode Near PL End (3)



01 PLEM Anode Near PL End (4)



01 PLEM Anode Near PL End (5)



02 Buoy Anode AN16 (1)



02 Buoy Anode AN16 (2)



02 Buoy Anode AN16 (3)



02 Buoy Anode AN16 (4)



Photo Log



02 Buoy Anode AN16 (5)



02 Buoy Anode AN16 (6)



02 Buoy Anode AN16 (7)



02 Buoy Anode AN17 (1)



02 Buoy Anode AN17 (2)



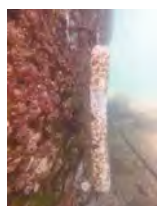
02 Buoy Anode AN17 (3)



02 Buoy Anode AN17 (4)



02 Buoy Anode AN17 (5)



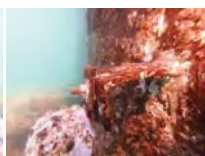
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02 Buoy Anode AN17 (7)



02 Buoy Anode AN17 (8)



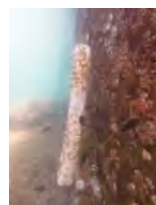
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Photo Log



02 Buoy Anode AN17 (10)



02 Buoy Anode AN17 (11)



02 Buoy Anode AN17 (12)



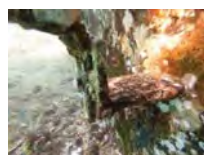
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02 Buoy Anode AN18 (3)



02 Buoy Anode AN18 (4)



02 Buoy Anode AN18 (5)



02 Buoy Anode AN18 (6)



02 Buoy Anode AN18 (7)



02 Buoy Anode AN18 (8)



02 Buoy Anode AN18 (9)



Photo Log



02 Buoy Anode AN18 (10)



02 Buoy Anode AN18 (11)



02 Buoy Anode AN18 (12)



02 Buoy Anode AN19 (1)



02 Buoy Anode AN19 (2)



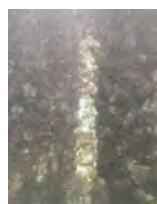
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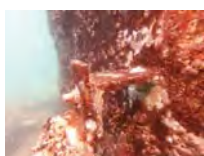
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02 Buoy Anode AN19 (5)



02 Buoy Anode AN19 (6)



02 Buoy Anode AN19 (7)



02 Buoy Anode AN19 (8)



02 Buoy Anode AN19 (9)



Photo Log



02 Buoy Anode AN19 (10)



02 Buoy Anode AN20 (1)



02 Buoy Anode AN20 (2)



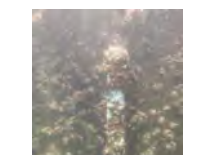
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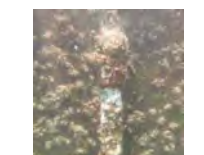
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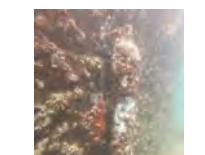
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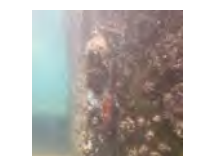
02 Buoy Anode AN20 (6)



02 Buoy Anode AN20 (7)



02 Buoy Anode AN20 (8)



02 Buoy Anode AN20 (9)



02 Buoy Anode AN21 (1)



02 Buoy Anode AN21 (2)



Photo Log

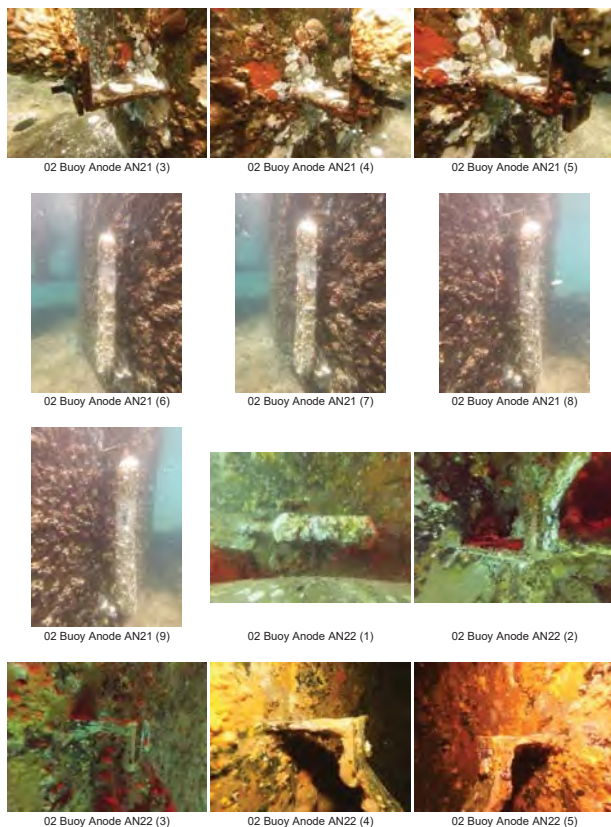


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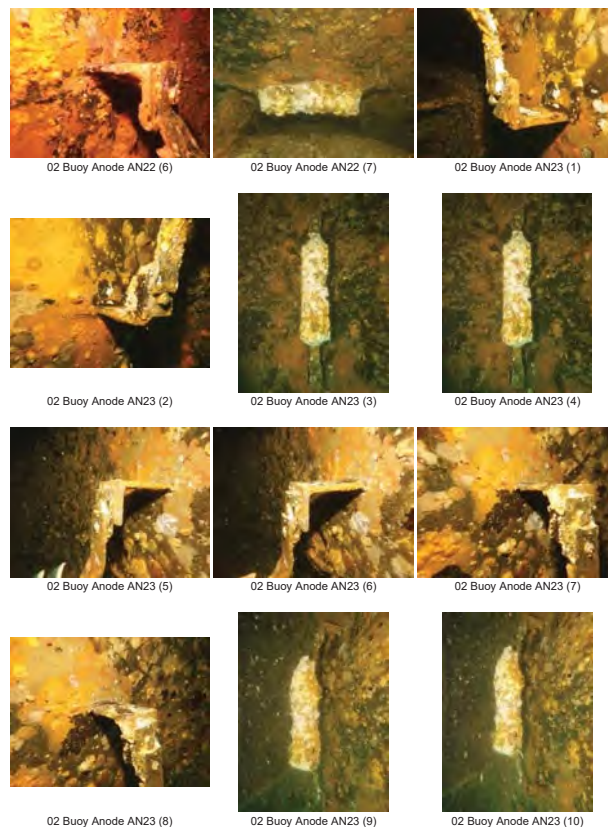


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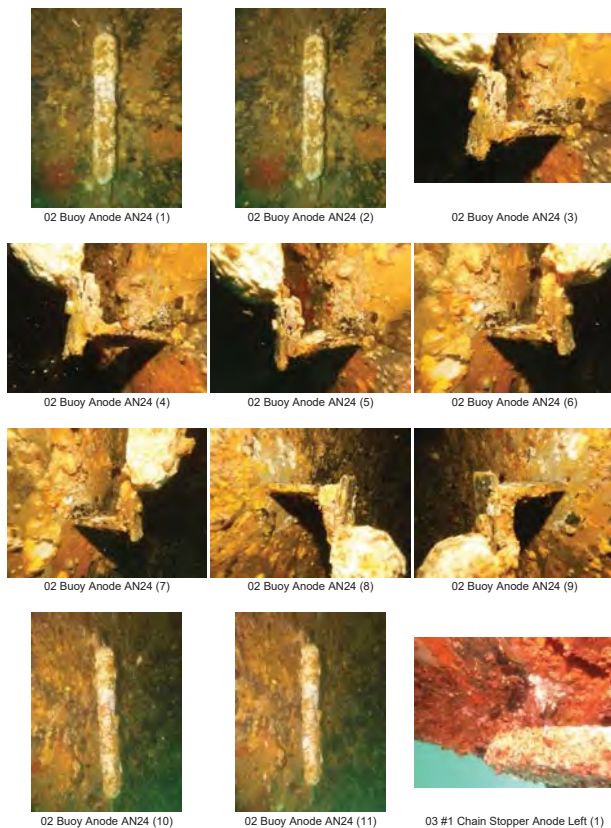


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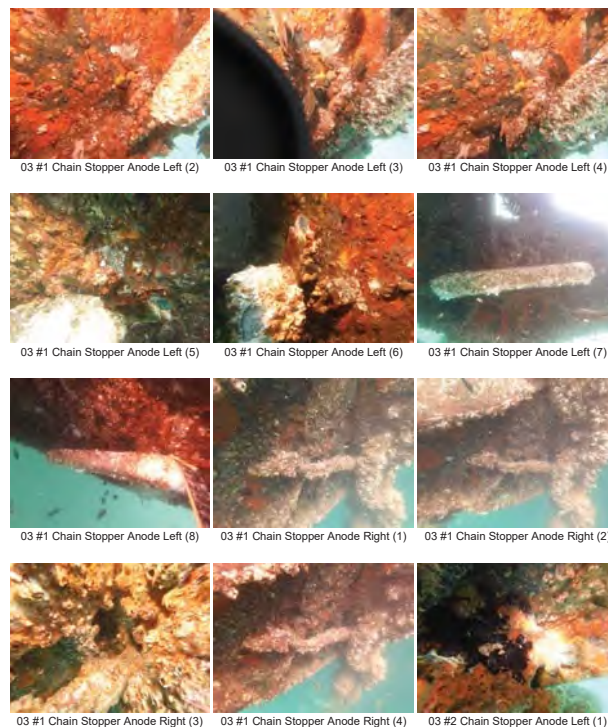




Photo Log



03 #2 Chain Stopper Anode Left (2)



03 #2 Chain Stopper Anode Left (3)



03 #2 Chain Stopper Anode Left (4)



03 #2 Chain Stopper Anode Left (5)



03 #2 Chain Stopper Anode Right (1)



03 #2 Chain Stopper Anode Right (2)



03 #2 Chain Stopper Anode Right (3)



03 #2 Chain Stopper Anode Right (4)



03 #2 Chain Stopper Anode Right (5)



03 #2 Chain Stopper Anode Right (6)



03 #2 Chain Stopper Anode Right (7)



03 #2 Chain Stopper Anode Right (8)



Photo Log



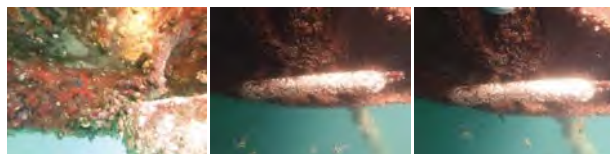
03 #3 Chain Stopper Anode Left (1)



03 #3 Chain Stopper Anode Left (2)



03 #3 Chain Stopper Anode Left (3)



03 #3 Chain Stopper Anode Left (4)



03 #3 Chain Stopper Anode Left (5)



03 #3 Chain Stopper Anode Left (6)



03 #3 Chain Stopper Anode Right (1)



03 #3 Chain Stopper Anode Right (2)



03 #3 Chain Stopper Anode Right (3)



03 #3 Chain Stopper Anode Right (4)



03 #3 Chain Stopper Anode Right (5)



03 #4 Chain Stopper Anode Left (1)



Photo Log



03 #4 Chain Stopper Anode Left (2)



03 #4 Chain Stopper Anode Left (3)



03 #4 Chain Stopper Anode Left (4)



03 #4 Chain Stopper Anode Left (5)



03 #4 Chain Stopper Anode Left (6)



03 #4 Chain Stopper Anode Left (7)



03 #4 Chain Stopper Anode Right (1)



03 #4 Chain Stopper Anode Right (2)



03 #4 Chain Stopper Anode Right (3)



03 #5 Chain Stopper Anode Left (1)



03 #5 Chain Stopper Anode Left (2)



03 #5 Chain Stopper Anode Left (3)



Photo Log



03 #5 Chain Stopper Anode Left (4)



03 #5 Chain Stopper Anode Left (5)



03 #5 Chain Stopper Anode Left (6)



03 #5 Chain Stopper Anode Left (7)



03 #5 Chain Stopper Anode right (1)



03 #5 Chain Stopper Anode right (2)



03 #5 Chain Stopper Anode right (3)



03 #5 Chain Stopper Anode right (4)



03 #5 Chain Stopper Anode right (5)



03 #6 Chain Stopper Anode Left (1)



03 #6 Chain Stopper Anode Left (2)



03 #6 Chain Stopper Anode Left (3)



Photo Log

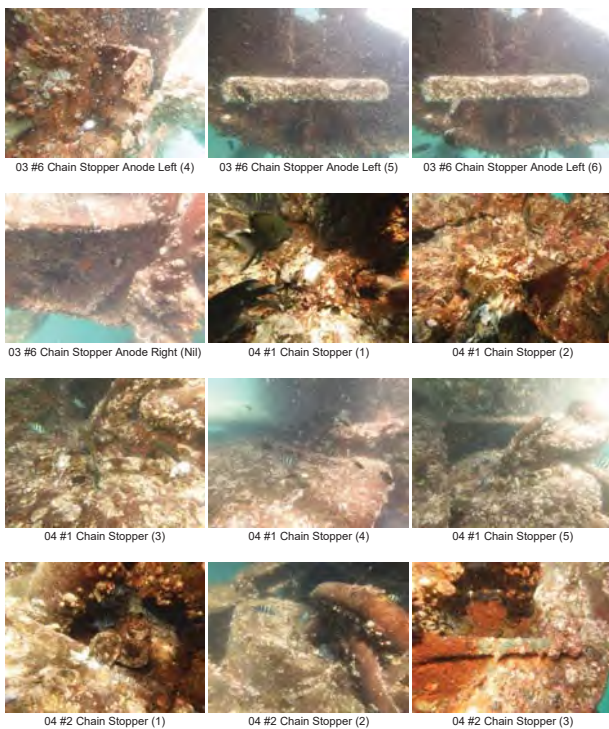


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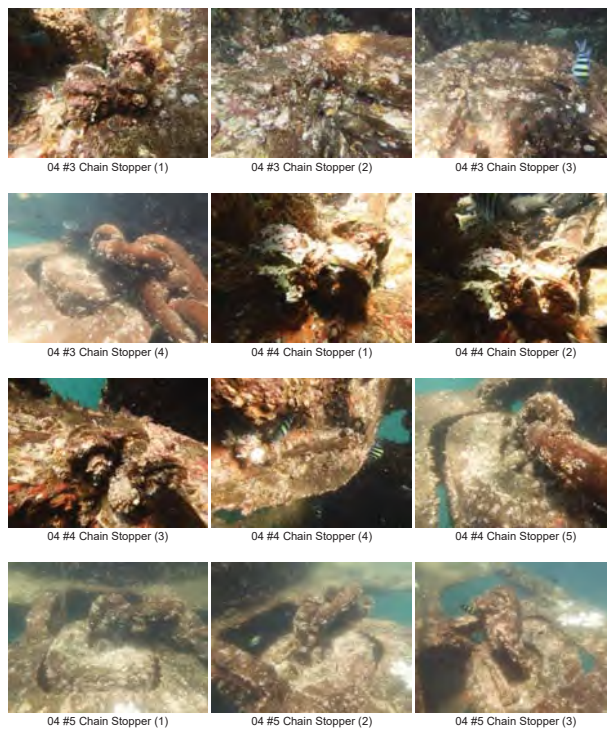
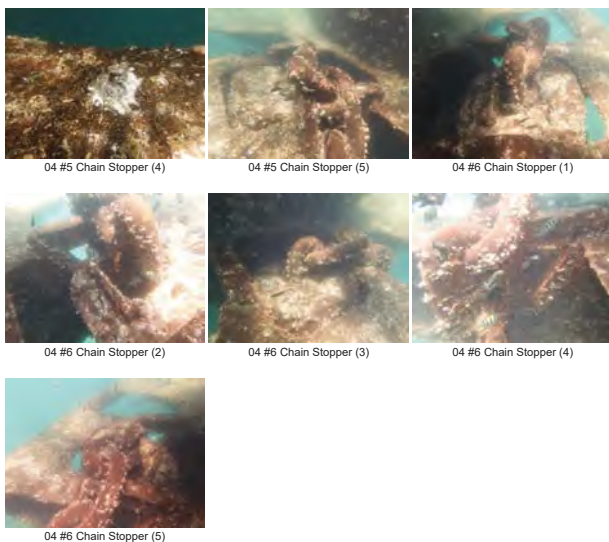


Photo Log



Representative	OWA Data Recorder		OWA Supervisor
Signature:	Electronic form no signature required		Electronic form no signature required
Name (Print):	Akaminai		Akaminai



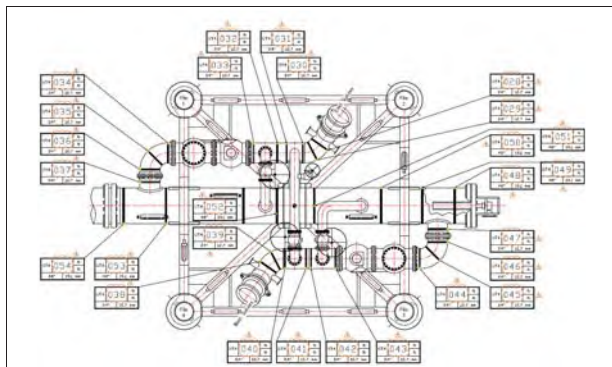
Ultrasonic Thickness Measurement

Date	10 th August 2024	OWA Group	Thailand	Report No	55-66001-01-UT-01					
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Refer to dive log					
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong					
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance									
Location	MAP TA PHUT SPM			Video Ref.	55-66001-01-VL-01					
Equipment	Make	Serial No.	Calibration Date	Remarks						
Underwater UT	Cygnus	7899	8 th March 2024	Cert No.: DL 240033						
Calibration and Function Check Record										
Dive		Pre-Dive (mm)				Post Dive				Remarks
Date	No	5	10	15	20	5	10	15	20	
10/08/24	1	4.9	10.0	-	19.9	4.9	10.0	-	20.0	-
10/08/24	2	5.0	10.0	-	19.9	4.9	10.0	-	19.9	-
10/08/24	3	4.7	9.8	-	19.9	4.9	10.0	-	20.0	-

Location	Nominal Wt (mm)	Reading				Remarks
		12o/c	3o/c	6o/c	9o/c	
028	12.7	13.8	15.1	14.7	13.4	-
029	12.7	14.0	16.3	14.3	13.5	-
030	12.7	19.4	19.3	18.6	19.0	-
031	12.7	19.9	18.7	18.8	18.5	-
032	12.7	19.7	19.5	18.6	18.7	-
033	12.7	19.3	18.8	18.6	18.6	-
034	12.7	15.1	13.8	14.5	15.7	-
035	12.7	14.0	13.7	14.5	14.5	-
036	12.7	16.1	14.5	15.7	14.6	-
037	12.7	12.8	12.7	12.7	13.1	-
038	12.7	14.3	13.6	15.1	14.3	-
039	12.7	15.2	13.9	14.7	14.9	-



Ultrasonic Thickness Measurement



Location	Nominal Wt (mm)	Reading				Remarks
		12o/c	3o/c	6o/c	9o/c	
040	12.7	19.9	20.3	19.1	19.3	-
041	12.7	20.1	20.7	19.0	19.8	-
042	12.7	20.0	20.0	18.8	19.6	-
043	12.7	20.1	18.9	19.0	20.0	-
044	12.7	14.8	14.8	15.2	13.5	-
045	12.7	13.8	15.6	14.5	13.8	-
046	12.7	14.1	15.1	15.7	13.8	-
047	12.7	12.9	13.0	13.0	13.1	-
048	19.1	18.9	19.0	19.0	19.1	-
049	19.1	19.1	19.9	19.0	19.9	-
050	19.1	19.0	19.2	18.9	19.2	-
051	19.1	19.0	19.1	18.7	19.1	-
052	19.1	19.1	19.2	19.2	19.2	-
053	19.1	19.1	19.0	19.1	18.9	-
054	19.1	19.2	19.1	19.2	19.2	-

Comments

Representative	OWA Data Recorder	OWA Supervisor
Signature:	Electronic form no signature required	Electronic form no signature required
Name (Print):	Wattana	Akamainai

Version 2, 10 July 2020

55-66001-01-UT-01 UT Measurement - PLEM 24-08-10.docx

Page 2 of 2

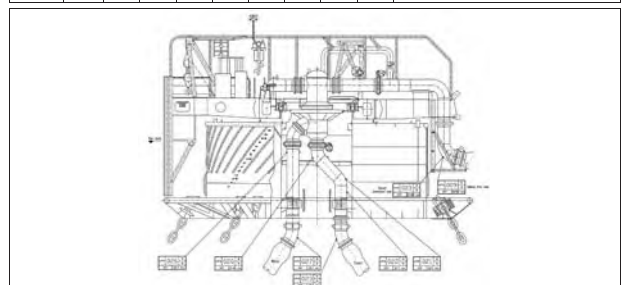


Ultrasonic Thickness Measurement

Date	10 th August 2024	OWA Group	Thailand	Report No	55-66001-01-UT-02
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Refer to dive log
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	55-66001-01-VL-01

Equipment	Make	Serial No.	Calibration Date	Remarks
Underwater UT	Cygnus	7899	8 th March 2024	Cert No.: DL 240033

Calibration and Function Check Record									
Dive		Pre-Dive (mm)				Post Dive			
Date	No	5	10	15	20	5	10	15	20
10/08/24	1	4.9	10.0	-	19.9	4.9	10.0	-	19.9



Location	Nominal Wt (mm)	Reading				Remarks
		12o/c	3o/c	6o/c	9o/c	
003	12.7	44.2	41.6	37.9	38.3	-
009	12.7	43.9	39.0	38.3	40.2	-
020	12.7	14.1	15.3	14.3	15.0	6o/c - Side closest to wall
021	12.7	13.5	14.4	14.6	15.0	
022	12.7	10.7	9.8	10.1	10.2	
023	12.7	20.7	21.5	20.7	21.2	
026	12.7	10.6	8.9	10.3	10.0	6o/c - Side closest to wall
027	12.7	20.1	20.7	21.8	22.5	

Note: Locations 001 & 002, 004 to 008, 010 to 019, 024 & 025 and 028 to 030 are not within the scope of the underwater inspection

Comments

Representative	OWA Data Recorder	OWA Supervisor
Signature:	Electronic form no signature required	Electronic form no signature required
Name (Print):	Akamainai	Akamainai

Version 2, 10 July 2020

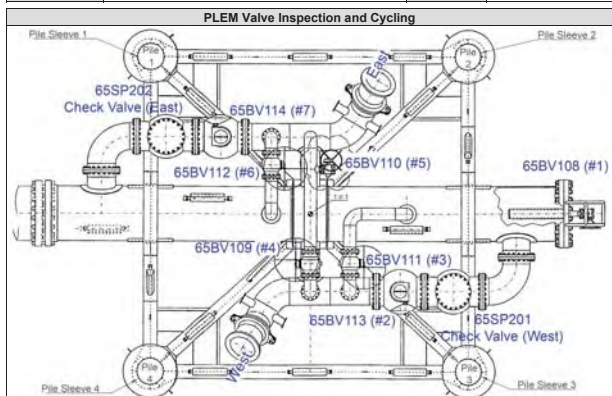
55-66001-01-UT-02 UT Measurement - Buoy 24-08-10.docx

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Visual Inspection

Date	9 th August 2024	OWA Group	Thailand	Report No	55-66001-01-VI-01
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Refer to dive log
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	55-66001-01-VL-01



Item No.	Tag No	Description	As Found	Task Performed / Inspection Findings	As Left
1	65BV108	4" BALL VALVE #1	Open / Closed	No Valve exercising required	Open / Closed
2	65BV113	24" BALL VALVE #2	Open / Closed	Valve exercised	Open / Closed
3	65BV111	10" BALL VALVE #3	Open / Closed	Valve exercised	Open / Closed
4	65BV109	10" BALL VALVE #4	Open / Closed	Valve exercised	Open / Closed
5	65BV110	4" VENT BALL Valve #5	Open / Closed	No Valve exercising required	Open / Closed
6	65BV112	10" BALL VALVE #6	Open / Closed	Valve exercised	Open / Closed
7	65BV114	24" BALL VALVE #7	Open / Closed	Valve exercised	Open / Closed

Comments:

- Valve #7 which was slightly tight to turn/cycle, all other valves cycled easily. No change from last inspection in May 2024
- All Valves covered with 30-50% marine growth
- Valve #7 - Put plastic wrap over both flanges including check valve flanges and over the 3 nipples on the valve
- Valve #2 - Put plastic wrap over both flanges including check valve flanges and over the 1 nipple on the valve

Representative	OWA Data Recorder	OWA Supervisor
Signature:	Electronic form no signature required	Electronic form no signature required
Name (Print):	Akamainai	Akamainai

Version 2, 10 July 2020

55-66001-01-VI-01 Visual Inspection - Valves 24-08-09.docx

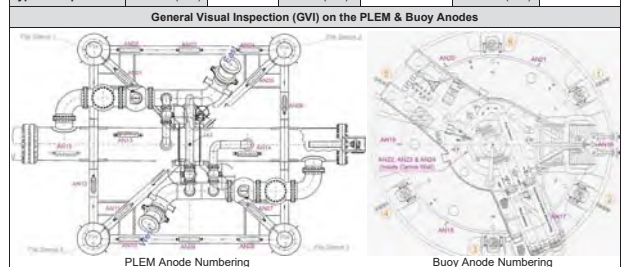
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Visual Inspection

Date	9 th August 2024	OWA Group	Thailand	Report No	55-66001-01-VI-02
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Refer to dive log
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	54-66001-01-VL-01

Type of Inspection	General (GVI)	✓	Close (CVI)	Detailed (DVI)
--------------------	---------------	---	-------------	----------------



Anode	% Depletion	Secure	Dimension		Marine Growth %	Anode	% Depletion	Secure	Dimension		Marine Growth %
			L (mm)	Ø (mm)					L (mm)	Ø (mm)	
AN01	25-50	Yes / No	1200	440	60	AN13	25-50	Yes / No	1200	400	60
AN02	25-50	Yes / No	1200	450	60	AN14	25-50	Yes / No	1200	400	60
AN03	25-50	Yes / No	1200	440	50	AN15	25-50	Yes / No	1200	470	100
AN04	0-25	Yes / No	700	600	10	AN16	0-25	Yes / No	890	390	0
AN05	0-25	Yes / No	690	600	10	AN17	0-25	Yes / No	890	390	10
AN06	25-50	Yes / No	1200	460	50	AN18	25-50	Yes / No	860	350	100
AN07	25-50	Yes / No	1200	450	60	AN19	25-50	Yes / No	880	300	100
AN08	25-50	Yes / No	1200	420	60	AN20	25-50	Yes / No	880	350	100
AN09	0-25	Yes / No	690	600	10	AN21	0-25	Yes / No	890	390	0
AN10	0-25	Yes / No	690	600	10	AN22	25-50	Yes / No	610	590	100
AN11	25-50	Yes / No	1200	440	50	AN23	25-50	Yes / No	900	370	100
AN12	25-50	Yes / No	1200	440	30	AN24	25-50	Yes / No	640	500	100

Comments

Representative	OWA Data Recorder	OWA Supervisor
Signature:	Electronic form no signature required	Electronic form no signature required
Name (Print):	Akamainai	Akamainai

Version 2, 10 July 2020

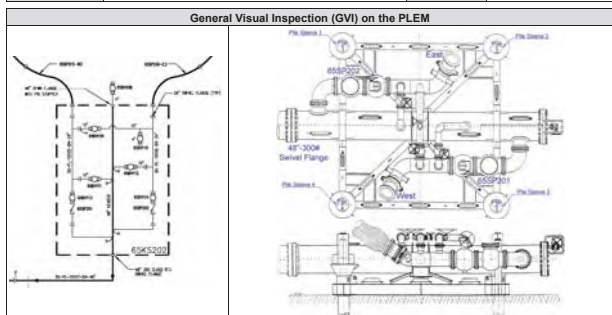
55-66001-01-VI-02 Visual Inspection - Anodes 24-08-09.docx

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Visual Inspection

Date	9 th August 2024	OWA Group	Thailand	Report No	55-66001-01-VI-03
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Refer to dive log
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	55-66001-01-VL-01



Mainline & Flanges (Including 48"-300# Swivel Flange) <ul style="list-style-type: none">Generally, in good condition.All bolts appear to be secureNo signs of anomalies	
Pipework & Flanges – East (Including 24" Check Valve 65SP-201) <ul style="list-style-type: none">Generally, in good condition.All bolts appear to be secureNo signs of anomalies	
Pipework & Flanges – West (Including 24" Check Valve 65SP-202) <ul style="list-style-type: none">Generally, in good condition.All bolts appear to be secureNo signs of anomalies	
Base Frame Structure (Including condition of Sand Slit) <ul style="list-style-type: none">North Side Gap - 140mm East Side Gap - 120mmSouth Side Gap - 170mm West Side Gap - 160mmNo signs of anomalies	
Piles & Pile Sleeves (Four (4) pile columns visual inspection and take photograph) <ul style="list-style-type: none">No signs of anomaliesCP readings on Piles refer to PLEM CP datasheet (55-66001-01-CP-01 CP Measurement - PLEM 24-08-09)	
Additional Remarks Nil	

Representative	OWA Data Recorder		OWA Supervisor
Signature:	Electronic form no signature required		Electronic form no signature required
Name (Print):	Akamina		Akamina

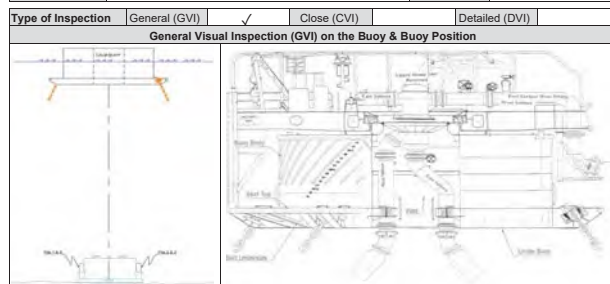
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55-66001-01-VI-03 Visual Inspection - PLEM 24-08-09.docx

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Visual Inspection

Date	10 th August 2024	OWA Group	Thailand	Report No	55-66001-01-VI-04
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Refer to dive log
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	55-66001-01-VL-01



Buoy Position Relative to PLEM Distance: P1/E1: 5.25m P2/E2: 5.45m P2/W1: 4.60m P4/W2: 4.64m	
General Condition of Skirt: <ul style="list-style-type: none">General condition – Good.No signs of anomalies	
General Condition of Buoy Side Shell: <ul style="list-style-type: none">General condition – Good.No signs of anomalies	
General Condition of Centre Well: <ul style="list-style-type: none">General condition – Good.No signs of anomalies	
Marine Growth Coverage (Prior to marine growth cleaning) Overall: 30-40% Hard: 100% Soft: 50%	
Overall Coating Condition <ul style="list-style-type: none">General condition – Good.Pitting (40-50%) in some areas	
Additional Remarks Nil	

Representative	OWA Data Recorder		OWA Supervisor
Signature:	Electronic form no signature required		Electronic form no signature required
Name (Print):	Wattana / Akamina		Akamina

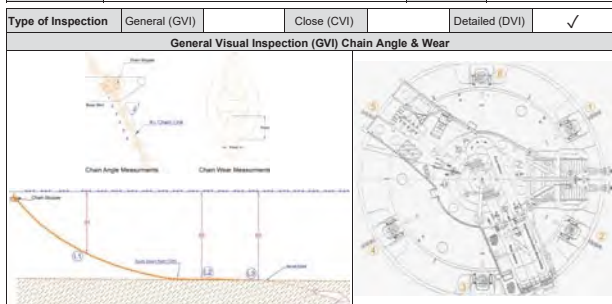
Version 2, 10 July 2020
55-66001-01-VI-04 Visual Inspection - Buoy 24-08-10.docx

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Visual Inspection

Date	11 th August 2024	OWA Group	Thailand	Report No	55-66001-01-VI-05
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Refer to dive log
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	55-66001-01-VL-01



Chain No	Chain Angle (XX°)	Chain Wear (mm)				Kenter Shackle Chain Ware (mm)											
		Chain Stopper				Location 1 (L1)				Location 2 (L2)				Location 3 (L3)			
		X	Y	X	Y	D1	X	Y	D2	X	Y	D3	X	Y			
1	46	219.0	106.0	214.0	114.0	56 ^{low}	220.5	137.5	-----	Buried	-----	-----	Buried	-----			
2	44	215.0	108.0	216.0	108.0	52 ^{low}	218.0	125.0	-----	Buried	-----	-----	Buried	-----			
3	46	219.0	104.0	214.0	114.0	58 ^{low}	218.0	149.0	-----	Buried	-----	-----	Buried	-----			
4	48	214.0	103.0	204.0	111.0	63 ^{low}	215.0	133.0	-----	Buried	-----	-----	Buried	-----			
5	50	218.0	107.0	221.0	111.0	44 ^{low}	216.0	143.0	-----	Buried	-----	-----	Buried	-----			
6	45	218.0	102.0	215.0	110.0	63 ^{low}	218.0	142.0	-----	Buried	-----	-----	Buried	-----			

Note: Chain angle measurements to be taken on the 6 th link down from the chain stopper.	
Additional Comments <ul style="list-style-type: none">Fishing net debris noted on all chains. Due to time constraints net was not cleared.On all chains marine growth coverage 100% approx. 20-40mm thick.	

Representative	OWA Data Recorder		OWA Supervisor
Signature:	Electronic form no signature required		Electronic form no signature required
Name (Print):	Wattana / Akamina		Akamina

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55-66001-01-VI-05 Visual Inspection - Chains 24-08-10.docx

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Visual Inspection

Date	9 th August 2024	OWA Group	Thailand	Report No	55-66001-01-VI-06
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Refer to dive log
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	55-66001-01-VL-01

General Visual Inspection of the Subsea Hoses	
	East Hose
	West Hose
	Seabed
	Time Start
	Time End
	Note:
	Tag No.
	Hose String Condition
	West
	East
	Comments:

Hose Flange Condition	
Flange ID	Condition
EF01	WF01
EF02	WF02
EF03	WF03
EF04	WF04
Hose Configuration	
Distance EF02 to WF02	18.4m
Distance EF03 to WF03	22.7m
Comments:	

Representative	OWA Data Recorder		OWA Supervisor
Signature:	Electronic form no signature required		Electronic form no signature required
Name (Print):	Akamina		Akamina

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55-66001-01-VI-06 Visual Inspection - Subsea Hoses 24-08-09.docx

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Start Time	Description	Video File Name
	9th August 2024	
0:00:00	East Subsea Hose GVI	55-66001-01-DV-01
0:16:26	West Subsea Hose GVI	
0:50:35	CP Reading on PLEM	
1:06:39	End of Video Section	
0:00:00	GVI & Measurements Of PLEM Anodes	55-66001-01-DV-02
0:35:00	UT Readings on PLEM – West Side	
0:52:45	UT Readings on PLEM – East Side	
1:13:55	End of Video Section	
0:00:00	UT Readings on PLEM – Pipeline (48" Pipework)	55-66001-01-DV-03
0:15:18	Valve Cycling	
0:38:25	End of Video Section	
	10th August 2024	
0:00:00	CP Reading on Bouy	55-66001-01-DV-04
0:41:59	End of Video Section	
0:00:00	UT Readings on Bouy and Anode inspection on Bouy	55-66001-01-DV-05
0:53:13	End of Video Section	
0:00:00	Anode Inspection and Chain Stopper Inspection on Bouy	55-66001-01-DV-06
1:17:43	End of Video Section	
0:00:00	Subsea Hose Inspection (Configuration Measurements)	55-66001-01-DV-07
0:15:20	PLEM/Bouy Offset Measurements	
0:37:40	Clean Anchor Chain for Measurements	
0:57:02	End of Video Section	
	11th August 2024	
0:00:00	Chain #4 Chain Inspection and Ware Measurements at TDP	55-66001-01-DV-08
0:42:01	Chain #2 Chain Inspection and Ware Measurements at TDP	
1:24:26	End of Video Section	
0:00:00	Chain #3 Chain Inspection and Ware Measurements at TDP	55-66001-01-DV-09
0:41:48	Chain #1 Chain Inspection and Ware Measurements at TDP	
1:14:09	End of Video Section	
0:00:00	Chain #6 Chain Inspection and Ware Measurements at TDP	55-66001-01-DV-10
0:44:57	Chain #5 Chain Inspection and Ware Measurements at TDP	
1:20:58	End of Video Section	



Representative	OWA Data Recorder		OWA Supervisor
Signature:	Electronic form no signature required		Electronic form no signature required
Name (Print):	Akaminal		Akaminal



STAR PETROLEUM REFINING COMPANY AND PTT GLOBAL CHEMICAL

MAP TA PHUT SPM

Ocean Works Asia (Thailand) Co., Ltd.

Quarterly Inspection Report (SPM & PLEM)

1	23-Oct-2024	Initial Submission	KS	SA/TH	MAD
REV	DATE	DESCRIPTION	APRD	CHKD	PREP'D
Client Document No.			OWA Document No.		
N/A			54-66001-06-FIR-01		

OCEAN WORKS ASIA (OWA)
<https://www.owa.com.sg>

OCEAN WORKS ASIA (THAILAND) Co., Ltd.
54 B.B Building 9th Floor, Room No. 3909 Sukhumvit 21 (Asoke) Klongtoey Nua, Wattana,
Bangkok 10110 Thailand


MAP TA PHUT SPM	Page 2 of 15	
	23-Oct-24	
	Rev. 1	
Quarterly Inspection Report (SPM & PLEM)		

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STAR PETROLEUM REFINING COMPANY AND PTT GLOBAL CHEMICAL
Printed 23 October 2024. Uncontrolled when printed.

OCEAN WORKS ASIA
54-66001-06-FIR-01



MAP TA PHUT SPM	Page 3 of 15	
	23-Oct-24	
Quarterly Inspection Report (SPM & PLEM)	Rev. 1	

Table 1. Document History

Revision	Date	Description of Change
1	23-Oct-2024	Initial submission for client review and comment

MAP TA PHUT SPM	Page 4 of 15		
	23-Oct-24		
Quarterly Inspection Report (SPM & PLEM)	Rev. 1		

1.0 General

1.1 Introduction

Ocean Works Asia (Thailand) Co., Ltd. has been requested by Star Petroleum Refining Company (SPRC) for the provision of surface supplied air diving services, to support the ongoing inspection, repair and maintenance (IRM) activities on the SPM (Single Point Mooring) off Map Ta Phut Thailand.

As part of the quarterly IRM work scope for the SPM, inspections on the buoy and PLEM, were carried out on the 12th to 13th of October 2024. The inspections were carried out from the MV Uniwise Rayong, and was overseen by an attending Client's representative from Star Petroleum Refining Company (SPRC).

1.2 Executive Summary

The inspection on the SPM buoy and PLEM was carried out by divers and the following was noted;

- All seven (7) valves were inspected and cycled. Apart from the leak noted coming from a nipple on Valve#7 which was rectified. There were no other anomalies noted and valves were found to be in good condition.
- No anomalies were noted on the East and West subsea hoses, all float beads were in place with no signs of slippage or damage. Distance measurement between the subsea hoses was taken and recorded.
- CP readings recorded on the PLEM and buoy were within limits.
- UT readings recorded on the PLEM and buoy were within limits. However nominal wall thickness are to be confirm at some locations as they differ from readings recorded.
- PLEM GVI were found to be in generally good condition, with anodes secure and active. No signs of damage were noted including sand silt.
- Chain angle measurements taken were found to be consistent. No significant chain ware noted.
- Due to operational constraints the following task were left outstanding:
 - GVI on Buoy including vertical offset of PLEM and buoy.
 - Check valve cap seal tightening

2.0 Scope of Work

The scope of work comprises of the following:

- General Visual Inspection (GVI) and cycling of the PLEM's 7 x steering valves.
- East and West subsea hose inspections including flotation beads, hose configuration and subsea hose 's flange connection and nipple area.
- Cathodic Potential (CP) reading on the PLEM and Buoy.
- Ultrasonic Thickness readings at selected areas on the PLEM and Buoy pipework
- General Visual Inspection (GVI) on the Buoy and PLEM including anodes, valves and sand silt. Check the vertical center position of SPM over the PLEM
- Chain angle measurement and chain stopper General Visual Inspection (GVI).
- Chain ware measurements (Dimensional survey) below the stopper

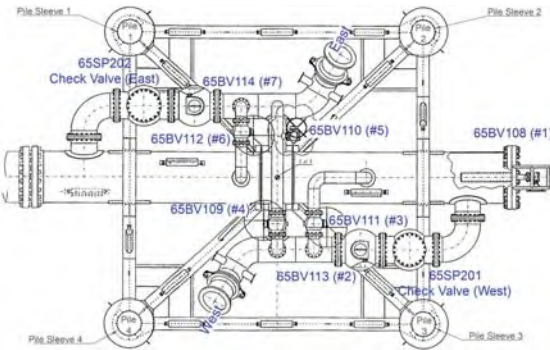
- Confirm tightening of PLEM Check valve stem nuts
- Clear all fishing net on PLEM (if any)

3.0 General Visual Inspection (GVI) of the 7 x Steering Valves

The inspection and valve cycling/exercising of the seven (7) valves was carried and the following was noted:

- Valve # 7 - Outer-Right nipple found leaking. Remedial action taken by tightening and re-wrapping nipple.
- There was no signs of damage or distortion
- Apart from the no Valve #7 no other signs of leaks were noted
- Valves appeared to be in good condition
- Apart from valve #7 which was slightly "stiff" (slightly tight to turn/cycle) during exercising all other valves exercised well

Note: There was no requirement to exercise valve #1 & #5.



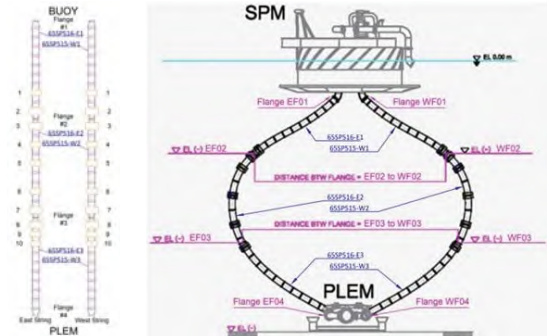
The valves were inspected and the following was noted:

- | | |
|--|--------------|
| 1. Valve #1 (65BV108) 4 BALL VALVE #1 - | Fully Closed |
| 2. Valve #2 (65BV113) 24BALL VALVE #2 - | Fully Opened |
| 3. Valve #3 (65BV111) 10 BALL VALVE #3 - | Fully Closed |
| 4. Valve #4 (65BV109) 10 BALL VALVE #4 - | Fully Opened |
| 5. Valve #5 (65BV110) 4 VENT BALL VALVE #5 - | Fully Closed |
| 6. Valve #6 (65BV112) 10 BALL VALVE #6 - | Fully Closed |
| 7. Valve #7 (65BV114) 24' BALL VALVE #7 - | Fully Opened |

4.0 East and West Subsea Hose Inspection

The inspection on the subsea hose(s) was carried out on both hoses from the SPM connection to the PLEM connection. The inspection consists of;

- Hose bead inspection
- Hose configuration measurements
- Flange and nipple connections



4.1 Hose Bead Inspection

The ten (10) bead floats on each hose were inspected and depth readings were taken at each bead. During the inspection the following was noted;

- All the securing bolts and nuts on the bead float were present.
- The bead floats were secure with no signs of slippage noted.
- There were no signs of damage
- Overall there was 60-80% marine growth coverage of approximately 30mm thickness

Bead Float	1	2	3	4	5	6	7	8	9	10	Seabed
East Hose Depth (ft)	30	33	36	42	45	51	63	68	73	75	-
West Hose Depth (ft)	32	36	37	41	47	56	62	67	67	74	-

Note: All measurements to be taken TDC outside of Floatation Bead
Time Start: 1551hrs Time End: 1515hrs

4.2 Hose configuration measurements

Hose configuration measurements were taken and the following was noted:

- Distance between the upper flanges of EF02 to WF02 was 18.30m.
- Distance between the lower flanges of the EF03 to WF03 was 22.84m.

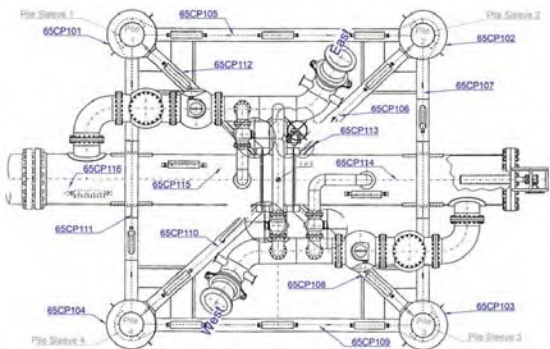
5.0 Cathodic Potential (CP) Readings

Cathodic potential readings were carried out on the PLEM and Buoy. The results of which are included in the following sections.

5.1 Cathodic Potential (CP) Reading on the PLEM

CP readings were taken on the PLEM at selected locations ranged between (-)1.072V and (-)1.062V.

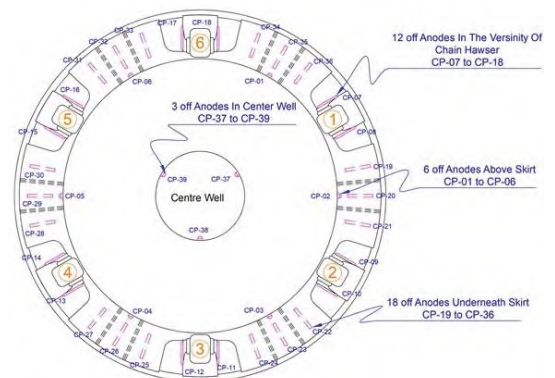
Location	Reading (-V)	Location	Reading (-V)
65CP101	1.066	65CP111	1.072
65CP102	1.066	65CP112	1.070
65CP103	1.067	65CP113	1.062
65CP104	1.067	65CP114	1.063
65CP105	1.067	65CP115	1.065
65CP106	1.067	65CP116	1.067
65CP107	1.066	Pile 1	0.652
65CP108	1.070	Pile 2	0.652
65CP109	1.070	Pile 3	0.650
65CP110	1.071	Pile 4	0.564



5.2 Cathodic Potential (CP) Readings on Buoy

CP readings were taken on the buoy at the anode locations and in the moonpool area.

CP readings on the buoy structure ranged between (-)1.043V and (-)0.957V.



Location	Reading (-mV)	Location	Reading (-mV)	Location	Reading (-mV)
CP-01	1.013	CP-14	0.983	CP-27	0.981
CP-02	1.024	CP-15	0.975	CP-28	0.984
CP-03	1.004	CP-16	0.981	CP-29	0.982
CP-04	1.024	CP-17	0.980	CP-30	0.979
CP-05	1.043	CP-18	0.981	CP-31	0.991
CP-06	1.038	CP-19	0.983	CP-32	0.992
CP-07	0.977	CP-20	0.984	CP-33	0.989
CP-08	0.980	CP-21	0.980	CP-34	0.984
CP-09	0.959	CP-22	0.975	CP-35	0.983
CP-10	0.979	CP-23	0.972	CP-36	0.983
CP-11	0.980	CP-24	0.978	CP-37	1.026
CP-12	0.957	CP-25	0.985	CP-38	1.026
CP-13	0.975	CP-26	0.984	CP-39	1.009

6.0 Ultrasonic Thickness Gauging (UTG)

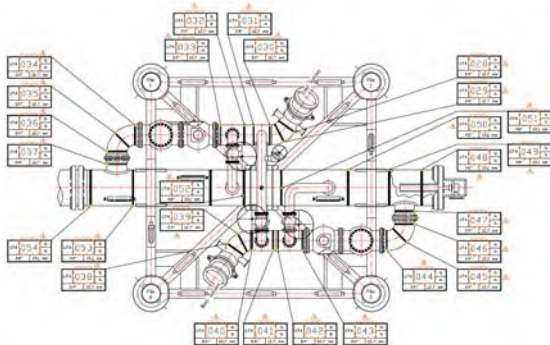
Ultrasonic Thickness Gauging (UTG) was carried out on sections of pipework on PLEM and Buoy. During the inspections the following was noted:

- Nominal wall thickness significant lower (<15%) at points on the PLEM & Buoy
 - PLEM – Locations 030 to 033, 040 to 043
 - Buoy – Locations 003, 009, 023 & 027
- At Point 026 UT readings were recorded more than 20% lower than the nominal wall thickness
- All other readings were within 20% of the nominal wall thickness.

The results of which are included in the following sections.

6.1 Ultrasonic Thickness Gauging (UTG) on the PLEM

Ultrasonic Thickness Gauging (UTG) was carried out on sections of pipework on PLEM and readings ranged between 12.7mm and 20.5mm

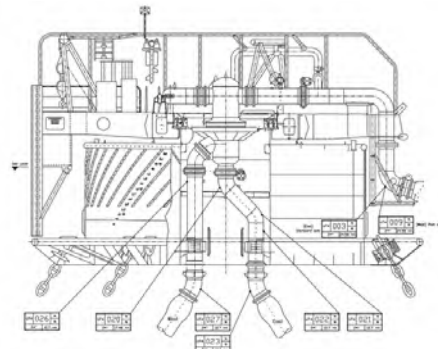


Location	Nominal Wt (mm)	Min (mm)	% From Nominal	Max (mm)	% From Nominal	Location	Nominal Wt (mm)	Min (mm)	% From Nominal	Max (mm)	% From Nominal
028	12.7	13.3	105%	14.5	114%	042	12.7	18.7	147%	20.5	161%
029	12.7	13.7	108%	14.6	115%	043	12.7	18.9	149%	20.0	157%
030	12.7	18.3	144%	19.7	155%	044	12.7	13.7	108%	15.0	118%
031	12.7	18.7	147%	20.0	157%	045	12.7	13.4	106%	14.1	111%
032	12.7	18.6	146%	19.7	155%	046	12.7	14.1	111%	15.6	123%
033	12.7	18.5	146%	19.6	154%	047	12.7	12.8	101%	13.1	103%
034	12.7	13.9	109%	15.1	119%	048	19.1	18.9	99%	19.0	99%
035	12.7	13.9	109%	15.3	120%	049	19.1	19.0	99%	19.2	101%
036	12.7	14.3	113%	15.7	124%	050	19.1	18.8	98%	19.2	101%
037	12.7	12.7	100%	12.8	101%	051	19.1	18.9	99%	19.1	100%

Location	Nominal Wt (mm)	Min (mm)	% From Nominal	Max (mm)	% From Nominal	Location	Nominal Wt (mm)	Min (mm)	% From Nominal	Max (mm)	% From Nominal
038	12.7	13.5	106%	15.1	119%	052	19.1	19.1	100%	19.1	100%
039	12.7	13.8	109%	15.1	119%	053	19.1	19.0	99%	19.1	100%
040	12.7	18.5	146%	20.3	160%	054	19.1	18.9	99%	19.2	101%
041	12.7	18.4	145%	20.1	158%						

6.2 Ultrasonic Thickness Gauging (UTG) on the Buoy

Ultrasonic Thickness Gauging (UTG) was carried out at an earlier stage on a previous inspection on sections of pipework on PLEM and readings at the time ranged between 8.9mm and 44.2mm

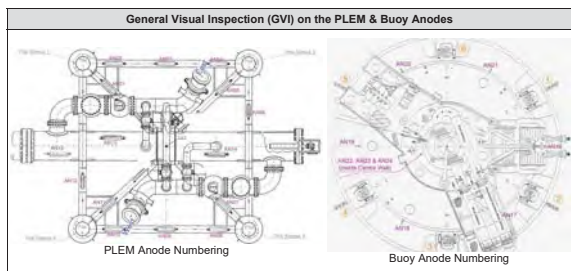


Location	Nominal Wt (mm)	Min (mm)	% From Nominal	Max Value	% From Nominal
003	12.7	37.7	297%	42.6	335%
009	12.7	38.4	303%	42.2	333%
020	12.7	13.9	109%	15.0	118%
021	12.7	13.0	102%	14.8	117%
022	12.7	9.3	73%	11.1	87%
023	12.7	20.7	163%	21.7	171%
026	12.7	9.1	71%	10.5	83%
027	12.7	20.8	164%	22.0	173%

7.0 General Visual Inspection on the Buoy and PLEM Anodes

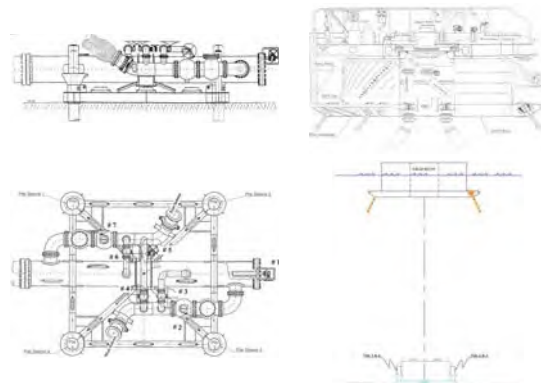
A general inspection of the anodes was carried out on selected anodes and the following was noted:

- Anode depletion was ranged from approximately 0% and 50%.
- Oxide deposits on the anodes would suggest they were active.
- Maring growth coverage varied between 10% to 100%



Anode	% Depletion	Secure	Dimension		Marine Growth %	Anode	% Depletion	Secure	Dimension		Marine Growth %
			L (mm)	Ø (mm)					L (mm)	Ø (mm)	
AN01	25-50	Yes	1200	450	50	AN13	50	Yes	1200	400	50
AN02	25-50	Yes	1230	110	50	AN14	50	Yes	1200	390	50
AN03	25-50	Yes	1210	120	50	AN15	50	Yes	1240	480	10
AN04	0-25	Yes	690	150	5	AN16	0 (New)	Yes	930	430	10
AN05	0-25	Yes	690	150	10	AN17	50	Yes	920	400	100
AN06	50	Yes	1230	160	50	AN18	0 (New)	Yes	900	390	5
AN07	50	Yes	1210	440	50	AN19	0 (New)	Yes	910	400	0
AN08	50	Yes	1220	420	50	AN20	0 (New)	Yes	900	390	0
AN09	0-25	Yes	690	620	10	AN21	0 (New)	Yes	920	400	5
AN10	0-25	Yes	690	600	10	AN22	50	Yes	610	540	100
AN11	50	Yes	1250	450	10	AN23	50	Yes	900	410	100
AN12	50	Yes	1200	450	10	AN24	50	Yes	650	620	100

8.0 General Visual Inspection of the Buoy and PLEM



8.1 General Visual Inspection of the PLEM

The general visual inspection of the PLEM was carried out and the following was noted:

- The Mainline & Flanges were inspected and there was no signs of damage and the flanges appeared to be secure with no signs of leaks.
- There were no signs of any significant scour or gap at the sand slit area around the base of the PLEM. Base frame partially buried in areas.
- There was no significant debris noted on or around the PLEM structure

8.2 General visual inspection of the Buoy

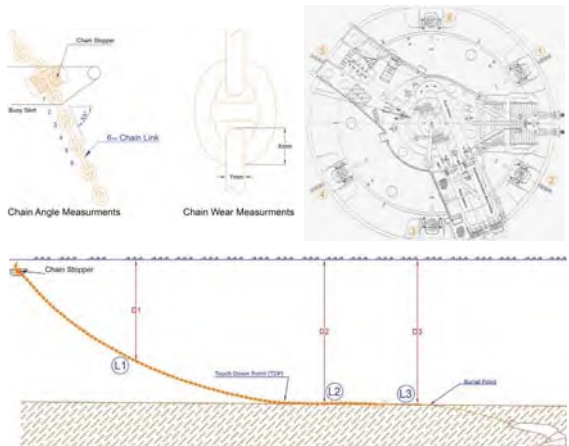
Due to operational constraints, there was no GVI carried out on the buoy and the following task were left outstanding:

- GVI on Buoy
- Vertical offset of PLEM and buoy.

9.0 Mooring Chain Inspection

Inspections were carried out on the six (6) mooring chains and the following was noted.

- Mooring chains was noted to be in generally good condition
- On all chains marine growth coverage 100% approx. 20-40mm thick.
- Chain angle measurements were found to range between 44° to 48°
- No significant chain wear was noted at the areas where the dimensional survey was carried out



Chain No	Chain Angle (XX°)	Chain Wear (mm)				Kenter Shackle Chain Wear (mm)											
		Chain Stopper		TDP		Location 1 (L1)				Location 2 (L2)				Location 3 (L3)			
		X	Y	X	Y	D1	X	Y	D2	X	Y	D3	X	Y	D3	X	Y
1	46	219	106	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	48	215	107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	45	217	104	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	48	215	103	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	48	216	102	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	44	218	103	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note:
Chain angle measurements to be taken on the 6th link down from the chain stopper.

10.0 Seal Cap Re-Tightening

PLEM Seal Cap Re-Tighten of PLEM Check-Valve was not carried out.

11.0 Debris Clearance

11.1 PLEM

No significant debris noted on PLEM and surrounding area, so no debris clearance carried out.

11.2 Bouy

No significant debris noted on buoy and surrounding area, so no debris clearance carried out.

11.3 Mooring Chain

No debris clearance carried out.

12.0 Conclusion

CP and UT measurements carried out on the PLEM and Buoy were all found to be within acceptable limits. Anodes inspected on both the PLEM and Buoy appear to be active and secure. Valves were inspected and no signs of leaks were noted. There were no significant debris on the Buoy or PLEM.

12.1 Recommendations

Based on the results/findings of the inspections, recommendations are as follows:

- Review engineering data and confirm nominal wall thickness of Buoy and PLEM Pipework

13.0 Technical Appraisal

The Quarterly Inspection was carried safely and successfully by the Air Divers onboard MV Uniwise Rayong.

13.1 Restrictions and Complications

Due to operational constraints the following task were left outstanding:

- GVI on Buoy including vertical offset of PLEM and buoy.
- Check valve cap seal tightening

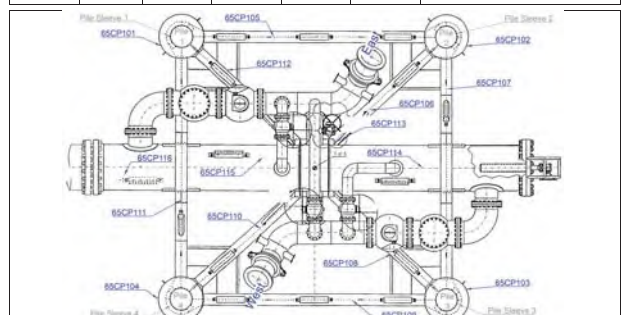
Appendix A: Inspection Forms / Reports

- 55-66001-06-CP-01 CP Measurement - PLEM 24-10-12
- 55-66001-06-CP-02 CP Measurement - Buoy 24-10-13
- 55-66001-06-PL-01 Photo Log
- 55-66001-06-UT-01 UT Measurement - PLEM 24-10-12
- 55-66001-05-UT-02 UT Measurement - Buoy 24-10-02
- 55-66001-06-VI-01 Visual Inspection - Valves 24-10-12
- 55-66001-06-VI-02 Visual Inspection - Anodes 24-10-13
- 55-66001-06-VI-05 Visual Inspection - Chains 24-10-13
- 55-66001-06-VI-06 Visual Inspection - Subsea Hoses 24-10-13



Cathodic Potential Measurement

Date	12 th October 2024	OWA Group	Thailand	Report No	55-66001-05-CP-01
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Refer to dive log
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	55-66001-05-VL-01
Equipment:	Make:	Serial No.	Calibration Date:	Remarks	
Bathycorrometer Mk7	Buckleys	41016/24	29 th August 2023	Cert. No.: BUC55208	
Zinc Test Block	CP-9999-02	2021642-8	14th April 2023	Cert. No.: MC2021-642	
Calibration and Function Check					
Dive		Pre-Dive		Post Dive	
Date	No	Steel (-V)	Zinc (-V)	Steel (-V)	Zinc (-V)
12/10/2024	1	-	1.034	-	1.034
Remarks					

			
Location	Reading (-V)	Location	Reading (-V)
65CP101	1.066	65CP111	1.072
65CP102	1.066	65CP112	1.070
65CP103	1.067	65CP113	1.062
65CP104	1.067	65CP114	1.063
65CP105	1.067	65CP115	1.065
65CP106	1.067	65CP116	1.067
65CP107	1.066	Pile 1	0.652
65CP108	1.070	Pile 2	0.652
65CP109	1.070	Pile 3	0.650
65CP110	1.071	Pile 4	0.564
Representative	OWA Data Recorder		
Signature:	Electronic form no signature required		
Name (Print):	N/A		
		OWA Supervisor	
		Electronic form no signature required	
		Akaminai	

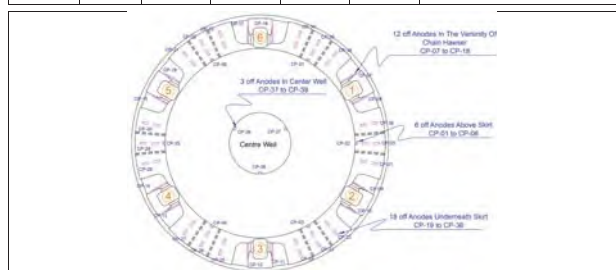


Cathodic Potential Measurement

Date	13 th October 2024	OWA Group	Thailand	Report No	55-66001-05-CP-02
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Refer to dive log
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	55-66001-05-VL-01

Equipment:	Make:	Serial No.	Calibration Date:	Remarks
Bathycorrometer Mk7	Buckleys	41016/24	29 th August 2023	Cert. No.: BUC55208
Zinc Test Block	CP-9999-02	2021642-8	14th April 2023	Cert. No.: MC2021-642

Calibration and Function Check					
Dive		Pre-Dive		Post Dive	
Date	No	Steel (-V)	Zinc (-V)	Steel (-V)	Zinc (-V)
13/10/2024	1	-	1.032	-	1.032



Location	Reading (-V)	Location	Reading (-V)	Location	Reading (-V)
CP-01	1.013	CP-14	0.983	CP-27	0.981
CP-02	1.024	CP-15	0.975	CP-28	0.984
CP-03	1.004	CP-16	0.981	CP-29	0.982
CP-04	1.024	CP-17	0.980	CP-30	0.979
CP-05	1.043	CP-18	0.981	CP-31	0.991
CP-06	1.038	CP-19	0.983	CP-32	0.992
CP-07	0.977	CP-20	0.984	CP-33	0.989
CP-08	0.980	CP-21	0.980	CP-34	0.984
CP-09	0.959	CP-22	0.975	CP-35	0.983
CP-10	0.979	CP-23	0.972	CP-36	0.983
CP-11	0.980	CP-24	0.978	CP-37	1.026
CP-12	0.957	CP-25	0.985	CP-38	1.026
CP-13	0.975	CP-26	0.984	CP-39	1.009

Representative	OWA Data Recorder	OWA Supervisor
Signature:	Electronic form no signature required	Electronic form no signature required
Name (Print):	N/A	Akaminal



Photo Log

Date	12 th October 2024	OWA Group	Thailand	Report No	55-66001-05-PL-01
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Ref. to Dive Log
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	55-66001-05-VL-01



AN01 (1)



AN01 (2)



AN01 (3)



AN01 (4)



AN02 (1)



AN02 (2)



AN02 (3)



AN02 (4)



AN03 (1)



Photo Log



AN03 (2)



AN03 (3)



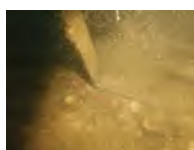
AN03 (4)



AN03 (5)



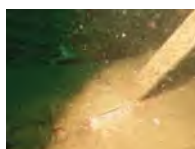
AN04 (1)



AN04 (2)



AN04 (3)



AN04 (4)



AN04 (5)



AN05 (1)



AN05 (2)



AN05 (3)



Photo Log



AN06 (1)



AN06 (2)



AN06 (3)



AN06 (4)



AN06 (5)



AN06 (6)



AN06 (7)



AN07 (1)



AN07 (2)



AN07 (3)



AN07 (4)



AN07 (5)



Photo Log



AN08 (1)



AN08 (2)



AN08 (3)



AN08 (4)



AN09 (1)



AN09 (2)



AN09 (3)



AN10 (1)



AN10 (2)



AN10 (3)



AN10 (4)



AN11 (1)



Photo Log



AN11 (2)



AN11 (3)



AN11 (4)



AN12 (1)



AN12 (2)



AN12 (3)



AN12 (4)



AN13 (1)



AN13 (2)



AN13 (3)



AN13 (4)



AN13 (5)



Photo Log



AN13 (6)



AN14 (1)



AN14 (2)



AN14 (3)



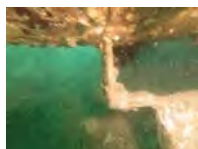
AN14 (4)



AN14 (5)



AN14 (6)



AN15 (1)



AN15 (2)



AN15 (3)



AN16 (1)



AN16 (2)



Photo Log



AN16 (3)



AN16 (4)



AN16 (5)



AN16 (6)



AN16 (7)



AN17 (1)



AN17 (2)



AN17 (3)



AN17 (4)



AN17 (5)



AN17 (6)



AN17 (7)



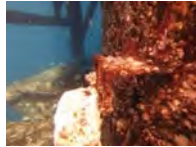
Photo Log



AN18 (1)



AN18 (2)



AN18 (3)



AN18 (4)



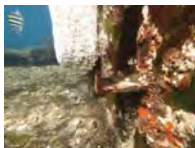
AN18 (5)



AN18 (6)



AN18 (7)



AN19 (1)



AN19 (2)



AN19 (3)



AN19 (4)



AN19 (5)



Photo Log



AN19 (6)



AN20 (1)



AN20 (2)



AN20 (3)



AN20 (4)



AN20 (5)



AN20 (6)



AN20 (7)



AN20 (8)



AN21 (1)



AN21 (2)



AN21 (3)



Photo Log



AN21 (4)



AN21 (5)



AN21 (6)



AN22 (1)



AN22 (2)



AN22 (3)



AN22 (4)



AN23 (1)



AN23 (2)



AN23 (3)



AN23 (4)



AN23 (5)



Photo Log



AN24 (1)



AN24 (2)



AN24 (3)



AN24 (4)



Valve 7 Nipple (1)



Valve 7 Nipple (2)



Valve 7 Nipple (3)



Valve 7 Nipple (4)



Valve 7 Nipple (5)



Valve 7 Nipple (6)



Valve 7 Nipple (7)



Valve 7 Nipple (8)



Photo Log



Valve 7 Nipple (9)



Valve 7 Nipple (10)



Valve 7 Nipple (11)



Valve 7 Nipple (12)



Valve 7 Nipple (13)



Valve 7 Nipple (14)



Valve 7 Nipple (15)



Valve 7 Nipple (16)

24inch Valves Nos.2 & 7 - Valve Nipple Re-tightening & Wrapping



Valve No2 Inner-Left Nipple
After Tightening (1)



Valve No2 Inner-Left Nipple
After Tightening (2)



Valve No2 Inner-Left Nipple
Before Tightening (1)



Photo Log



Valve No2 Inner-Left Nipple
Before Tightening (2)



Valve No2 Inner-Right Nipple
After Tightening (1)



Valve No2 Inner-Right Nipple
After Tightening (2)



Valve No2 Inner-Right Nipple
After Tightening (3)



Valve No2 Inner-Right Nipple
Before Tightening (1)



Valve No2 Inner-Right Nipple
Before Tightening (2)



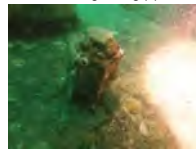
Valve No2 Inner-Top Nipple
After Tightening (1)



Valve No2 Inner-Top Nipple
After Tightening (2)



Valve No2 Inner-Top Nipple
After Tightening (3)



Valve No2 Inner-Top Nipple
Before Tightening (1)



Valve No2 Inner-Top Nipple
Before Tightening (2)



Valve No2 Out-Top Nipple
After Tightening (1)



Photo Log



Valve No2 Out-Top Nipple
After Tightening (2)



Valve No2 Out-Top Nipple
Before Tightening (1)



Valve No2 Out-Top Nipple
Before Tightening (2)



Valve No2 Out-Top Nipple
Before Tightening (3)



Valve No7 Inner-Top Nipple
After Tightening (1)



Valve No7 Inner-Top Nipple
After Tightening (2)



Valve No7 Inner-Top Nipple
Before Tightening (1)



Valve No7 Inner-Top Nipple
Before Tightening (2)



Valve No7 Out-Left Nipple
After Tightening (1)



Valve No7 Out-Left Nipple
After Tightening (2)



Valve No7 Out-Left Nipple
Before Tightening (1)



Valve No7 Out-Left Nipple
Before Tightening (2)



Photo Log



Valve No7 Out-Right Nipple
Before Tightening (1)



Valve No7 Out-Right Nipple
Before Tightening (2)



Valve No7 Out-Right Nipple
Before Tightening (3)



Valve No7 Out-Top Nipple
After Tightening (3)



Valve No7 Out-Top Nipple
After Tightening (4)



Valve No7 Out-Top Nipple
After Tightening (7)



Valve No7 Out-Top Nipple
After Tightening (8)



Valve No7 Out-Top Nipple
Before Tightening (1)



Valve No7 Out-Top Nipple
Before Tightening (2)

Representative	OWA Data Recorder		OWA Supervisor
Signature:	Electronic form no signature required		Electronic form no signature required
Name (Print):	N/A		Akaminal

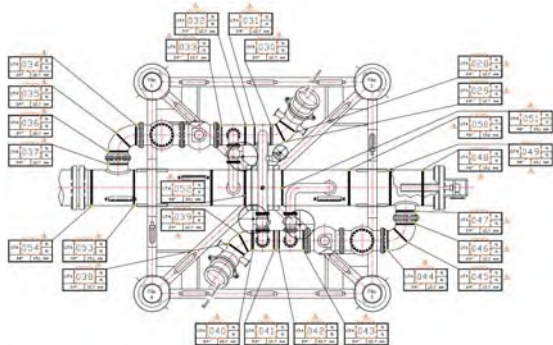


Ultrasonic Thickness Measurement

Date	12 th October 2024	OWA Group	Thailand	Report No	55-66001-06-UT-01
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Refer to dive log
Client	Star Petroleum Refining and PTT Global Chemical		Vessel	Uniwise Rayong	
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	55-66001-06-VL-01

Equipment	Make	Serial No.	Calibration Date	Remarks
Underwater UT	Cygnus	7899	8 th March 2024	Cert No.: DL 240033

Calibration and Function Check Record										
Dive		Pre-Dive (mm)				Post Dive				Remarks
Date	No	5	10	15	20	5	10	15	20	
10/08/24	1	4.9	10.0	-	19.9	4.9	10.0	-	19.9	-
10/08/24	2	5.0	10.0	-	19.9	4.9	9.9	-	19.9	-
10/08/24	3	4.7	9.8	-	19.9	4.9	10.0	-	20.0	-



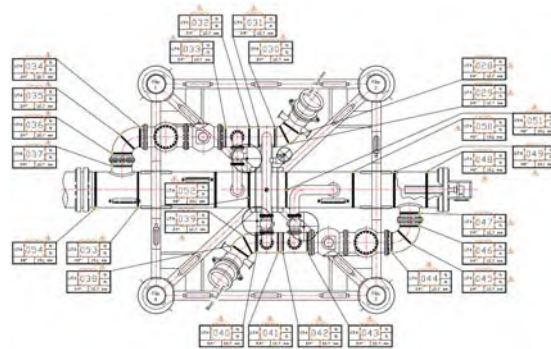
Location	Nominal Wt (mm)	Reading				Remarks
		12o/c	3o/c	6o/c	9o/c	
028	12.7	13.9	13.3	14.5	14.4	-
029	12.7	13.7	13.9	14.6	14.5	-
030	12.7	19.7	18.8	18.3	19.7	-
031	12.7	20.0	18.7	18.9	19.0	-
032	12.7	19.7	18.7	18.6	19.4	-
033	12.7	19.6	18.7	18.5	19.5	-
034	12.7	15.1	14.9	14.8	13.9	-
035	12.7	13.9	15.3	14.7	13.9	-
036	12.7	15.7	14.7	15.1	14.3	-
037	12.7	12.8	12.8	12.7	12.7	-
038	12.7	13.5	14.4	15.1	13.7	-
039	12.7	15.1	14.8	15.0	13.8	-

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Ultrasonic Thickness Measurement



Location	Nominal Wt (mm)	Reading				Remarks
		12o/c	3o/c	6o/c	9o/c	
040	12.7	20.3	18.7	18.5	18.9	-
041	12.7	20.1	19.0	18.4	19.1	-
042	12.7	20.5	19.5	18.8	18.7	-
043	12.7	20.0	18.9	19.1	18.9	-
044	12.7	14.1	13.7	15.0	14.0	-
045	12.7	13.8	13.4	14.1	13.6	-
046	12.7	14.2	14.1	15.6	15.1	-
047	12.7	12.8	13.1	13.1	13.0	-
048	19.1	19.0	18.9	19.0	19.0	-
049	19.1	19.2	19.1	19.0	19.1	-
050	19.1	19.1	19.2	19.0	18.8	-
051	19.1	19.1	19.1	18.9	19.1	-
052	19.1	19.1	19.1	19.1	19.1	-
053	19.1	19.0	19.0	19.1	19.1	-
054	19.1	18.9	19.1	19.1	19.2	-

Comments

Representative	OWA Data Recorder		OWA Supervisor
Signature:	Electronic form no signature required		Electronic form no signature required
Name (Print):	Wattana		Akaminal

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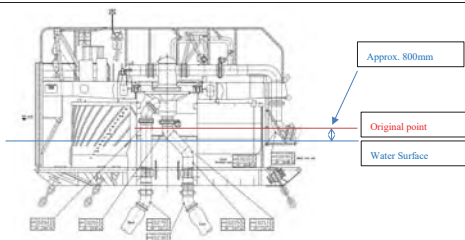


Ultrasonic Thickness Measurement

Date	2 nd October 2024	OWA Group	Thailand	Report No	55-66001-05-UT-02
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Refer to dive log
Client	Star Petroleum Refining and PTT Global Chemical		Vessel	Uniwise Rayong	
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	55-66001-05-VL-01

Equipment	Make	Serial No.	Calibration Date	Remarks
Under Water UT	Cygnus	7899	8 th March 2024	Cert No.: DL 240033

Calibration and Function Check Record										
Dive		Pre-Dive (mm)				Post Dive				Remarks
Date	No	5	10	15	20	5	10	15	20	
2 Oct 24	2	4.9	10.0	-	19.9	4.9	10.0	-	19.9	



Location	Nominal Wt (mm)	Reading				Remarks
		12o/c	3o/c	6o/c	9o/c	
003	12.7	42.7 42.5 42.6	41.8 41.7 41.9	37.5 37.8 37.9	39.0 39.4 39.2	Position of clock was facing to floating hose.
009	12.7	42.2 42.1 42.4	39.2 39.2 39.1	38.6 38.4 38.3	41.0 40.7 40.7	
020	12.7	14.5 14.2 14.0	15.2 14.7 15.1	13.9 13.9 13.8	14.9 15.1 15.1	6o/c - Side closest to wall
021	12.7	12.8 13.0 13.1	14.1 14.1 14.0	14.8 14.9 14.8	13.8 13.7 13.6	
022	12.7	11.0 11.0 11.3	11.0 10.9 11.2	9.3 9.4 9.3	10.5 10.6 10.7	
023	12.7	21.7 21.7 21.7	21.5 21.8 21.7	20.7 20.7 20.8	21.5 21.5 21.3	
026	12.7	10.5 10.6 10.5	9.0 9.2 9.0	9.7 10.0 9.9	9.9 10.1 9.9	6o/c - Side closest to wall
027	12.7	20.7 20.9 20.9	20.9 21.1 21.0	22.1 21.8 21.8	22.0 22.1 22.0	

Note: Locations 001 & 002, 004 to 008, 010 to 019, 024 & 025 and 028 to 030 are not within the scope of the underwater inspection

Comments:
Point No.026 was not able to measure original point due to diver couldn't reach the point. Original point was approx. 800mm above water surface. Took the measurement near water surface (Witness and approved by ABS Inspector)

Representative	OWA Data Recorder		OWA Supervisor
Signature:	Electronic form no signature required		Electronic form no signature required
Name (Print):	N/A		Akaminal

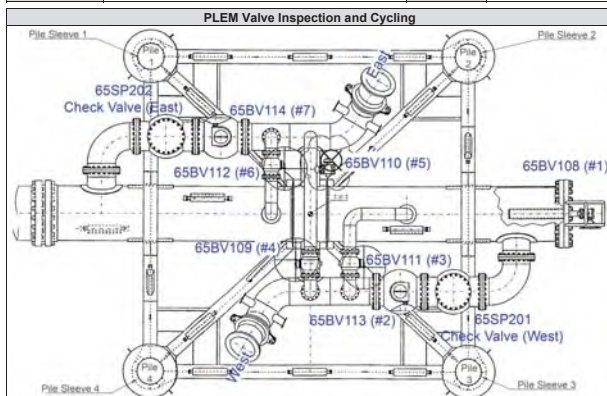
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Visual Inspection

Date	12 th October 2024	OWA Group	Thailand	Report No	55-66001-06-VI-01
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Refer to dive log
Client	Star Petroleum Refining and PTT Global Chemical		Vessel	Uniwise Rayong	
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	55-66001-06-VL-01



Item No.	Tag No	Description	As Found	Task Performed / Inspection Findings	As Left
1	65BV108	4" BALL VALVE #1	Open / Closed	No Valve exercising required	Open / Closed
2	65BV113	24" BALL VALVE #2	Open / Closed	Valve exercised	Open / Closed
3	65BV111	10" BALL VALVE #3	Open / Closed	Valve exercised	Open / Closed
4	65BV109	10" BALL VALVE #4	Open / Closed	Valve exercised	Open / Closed
5	65BV110	4" VENT BALL Valve #5	Open / Closed	No Valve exercising required	Open / Closed
6	65BV112	10" BALL VALVE #6	Open / Closed	Valve exercised	Open / Closed
7	65BV114	24" BALL VALVE #7	Open / Closed	Valve exercised	Open / Closed

Comments:

- Valve #7 which was slightly tight to turn/cycle, all other valves cycled easily.
- Valve # 7 - Outer-Right nipple found leaking. Remedial action taken by tightening and re-wrapping nipple.
- All Valves covered with 5-80% marine growth
- Valve #1 - 6 - No signs of leaks or damage

Representative	OWA Data Recorder		OWA Supervisor
Signature:	Electronic form no signature required		Electronic form no signature required
Name (Print):	N/A		Akaminal

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55-66001-06-VI-01 Visual Inspection - Valves 24-10-12.docx

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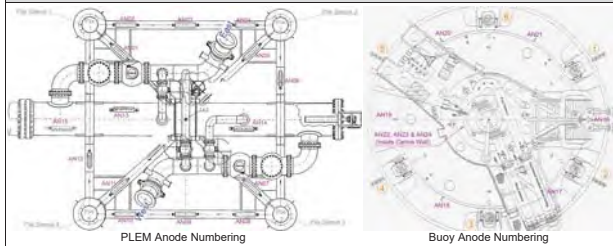


Visual Inspection

Date	13 th October 2024	OWA Group	Thailand	Report No	55-66001-06-VI-02
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Refer to dive log
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	54-66001-06-VL-01

Type of Inspection	General (GVI)	✓	Close (CVI)		Detailed (DVI)	
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General Visual Inspection (GVI) on the PLEM & Buoy Anodes



Anode	% Depletion	Secure	Dimension		Marine Growth %	Anode	% Depletion	Secure	Dimension		Marine Growth %
			L (mm)	Ø (mm)					L (mm)	Ø (mm)	
AN01	25-50	Yes / No	1200	450	50	AN13	50	Yes / No	1200	400	50
AN02	25-50	Yes / No	1230	110	50	AN14	50	Yes / No	1200	390	50
AN03	25-50	Yes / No	1210	120	50	AN15	50	Yes / No	1240	480	10
AN04	0-25	Yes / No	690	150	5	AN16	0 (New)	Yes / No	930	430	10
AN05	0-25	Yes / No	690	150	10	AN17	50	Yes / No	920	400	100
AN06	50	Yes / No	1230	160	50	AN18	0 (New)	Yes / No	900	390	5
AN07	50	Yes / No	1210	440	50	AN19	0 (New)	Yes / No	910	400	0
AN08	50	Yes / No	1220	420	50	AN20	0 (New)	Yes / No	900	390	0
AN09	0-25	Yes / No	690	620	10	AN21	0 (New)	Yes / No	920	400	5
AN10	0-25	Yes / No	690	600	10	AN22	50	Yes / No	610	540	100
AN11	50	Yes / No	1250	450	10	AN23	50	Yes / No	900	410	100
AN12	50	Yes / No	1200	450	10	AN24	50	Yes / No	650	620	100

Comments
Anode Numbers: 4, 5, 9, 10, 16, 18 – 21 have been recently installed

Representative	OWA Data Recorder		OWA Supervisor
Signature:	Electronic form no signature required		Electronic form no signature required
Name (Print):	Wattana		Takahashi Hitoshi

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Visual Inspection

Date	13 th October 2024	OWA Group	Thailand	Report No	55-66001-06-VI-05
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Refer to dive log
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	55-66001-06-VL-01

Type of Inspection	General (GVI)		Close (CVI)		Detailed (DVI)	✓
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General Visual Inspection (GVI) Chain Angle & Wear



Chain No	Chain Angle (XX°)	Chain Wear (mm)				Kenter Shackles Chain Wear (mm)							
		Chain Stopper	X	Y	TDP	Location 1 (L1)	D1	X	Y	Location 2 (L2)	D2	X	Y
1	46	219	106	-	-	-	-	-	-	-	-	-	-
2	48	215	107	-	-	-	-	-	-	-	-	-	-
3	45	217	104	-	-	-	-	-	-	-	-	-	-
4	48	215	103	-	-	-	-	-	-	-	-	-	-
5	48	216	102	-	-	-	-	-	-	-	-	-	-
6	44	218	103	-	-	-	-	-	-	-	-	-	-

Note:
Chain angle measurements to be taken on the 6th link down from the chain stopper.

Additional Comments

None

Representative	OWA Data Recorder		OWA Supervisor
Signature:	Electronic form no signature required		Electronic form no signature required
Name (Print):	Wattana		Takahashi Hitoshi

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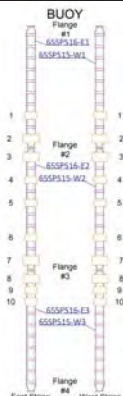


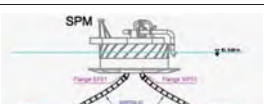
Visual Inspection

Date	13 th October 2024	OWA Group	Thailand	Report No	55-66001-06-VI-06
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Refer to dive log
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	55-66001-06-VL-01

Type of Inspection	General (GVI)	✓	Close (CVI)		Detailed (DVI)	
--------------------	---------------	---	-------------	--	----------------	--

General Visual Inspection of the Subsea Hoses

		East Hose		West Hose		
		Bead Float	Depth (ft)	Bead Condition	Depth (ft)	Bead Condition
		01	30	1. In good condition with no signs of damage 2. Bolts secure with no signs of slippage	32	1. In good condition with no signs of damage 2. Bolts secure with no signs of slippage
		02	33		36	
		03	36		37	
		04	42		41	
		05	45		47	
		06	51		56	
		07	63		62	
		08	68		67	
		09	73		67	
		10	75		74	
Seabed		Time Start: 1551hrs		Time End: 1615hrs		
Note: All measurements to be taken TDC outside of Floation Bead						
		Hose String Condition				
West	65SP515-W1	1. 60-70% marine growth coverage of approximately 20mm thickness				
	65SP515-W2	2. No signs of anomalies				
	65SP515-W3					
East	65SP516-E1	1. 80% marine growth coverage of approximately 30mm thickness				
	65SP516-E2	2. No signs of anomalies				
	65SP516-E3					
Comments:						
Nil						

		Hose Flange Condition			
		Flange ID	Condition	Flange ID	Condition
		EF01	1. No signs of leaks 2. All bolts secure	WF01	1. No signs of leaks 2. All bolts secure
		EF02		WF02	
		EF03		WF03	
EF04	WF04				
Hose Configuration					
Distance EF02 to WF02			18.30m		
Distance EF03 to WF03			22.84m		
Comments: Nil					

Representative	OWA Data Recorder		OWA Supervisor
Signature:	Electronic form no signature required		Electronic form no signature required
Name (Print):	Wattana		Takahashi Hitoshi

Version 2, 10 July 2020

55-66001-06-VI-06 Visual Inspection - Subsea Hoses 24-10-13.docx

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Video Log

Date	12 th October 2024	OWA Group	Thailand	Report No	55-66001-06-VL-01
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Ref. to Dive Log
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM				

Start Time	Description	Video File Name
0:00:00	CP Reading & GVI on PLEM	55-66001-05-DV-01
0:15:57	UT Readings on PLEM – West Side	
0:37:57	UT Readings on PLEM – East Side	
1:07:05	End of Video Section	
0:00:00	UT Readings on PLEM – Pipeline (48" Pipework)	55-66001-05-DV-02
0:23:18	GVI of PLEM Valve and PLEM Skid	
0:54:38	End of Video Section	
0:00:00	Tightening Nipples on Valves #2 & #7 and Wrapping Valves	55-66001-05-DV-03
0:36:26	End of Video Section	
0:00:00	13 th October 2024	55-66001-05-DV-04
0:00:00	GVI & Measurements of PLEM Anodes	
0:21:39	Continue GVI & Measurements of PLEM Anodes	
0:41:34	Continue GVI & Measurements of PLEM Anodes	
0:57:24	Subsea Hose Inspection (Configuration Measurements)	55-66001-05-DV-05
1:06:58	End of Video Section	
0:00:00	CP & GVI of Anodes on Buoy	
1:05:54	End of Video Section	
0:00:00	Chain Ware and Angle Measurements at Chain Stopper Area	55-66001-05-DV-06
0:01:59	Chain #4	
0:05:51	Chain #3	
0:08:26	Chain #2	
0:10:43	Chain #1	
0:12:32	Chain #6	
0:14:35	Chain #5	
0:18:18	East Subsea Hose GVI	
0:30:42	West Subsea Hose GVI	
0:44:45	End of Video Section	
	----- Last Entry -----	

Representative	OWA Data Recorder		OWA Supervisor
Signature:	Electronic form no signature required		Electronic form no signature required
Name (Print):	N/A		Akaminal

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55-66001-06-VL-01 Video Log.docx

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การตรวจสอบระบบ Cathodic Protection ของระบบท่อใต้ทะเล

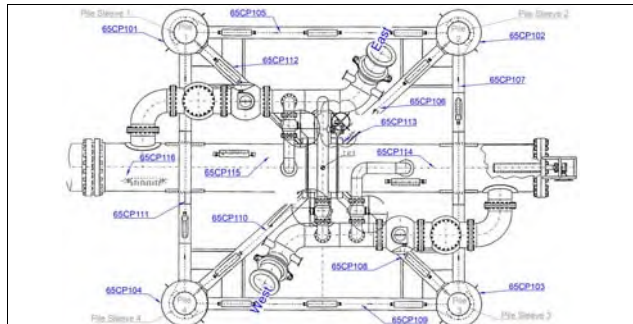


Cathodic Potential Measurement

Date	12 th October 2024	OWA Group	Thailand	Report No	55-66001-05-CP-01
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Refer to dive log
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	55-66001-05-VL-01

Equipment:	Make:	Serial No.	Calibration Date:	Remarks
Bathycorrometer Mk7	Buckleys	41016/24	29 th August 2023	Cert. No.: BUC55208
Zinc Test Block	CP-9999-02	2021642-8	14th April 2023	Cert. No.: MC2021-642

Calibration and Function Check						
Dive		Pre-Dive		Post Dive		Remarks
Date	No	Steel (-V)	Zinc (-V)	Steel (-V)	Zinc (-V)	
12/10/2024	1	-	1.034	-	1.034	-



Location	Reading (-V)	Location	Reading (-V)
65CP101	1.066	65CP111	1.072
65CP102	1.066	65CP112	1.070
65CP103	1.067	65CP113	1.062
65CP104	1.067	65CP114	1.063
65CP105	1.067	65CP115	1.065
65CP106	1.067	65CP116	1.067
65CP107	1.066	Pile 1	0.652
65CP108	1.070	Pile 2	0.652
65CP109	1.070	Pile 3	0.650
65CP110	1.071	Pile 4	0.564

Representative	OWA Data Recorder	OWA Supervisor
Signature:	Electronic form no signature required	Electronic form no signature required
Name (Print):	N/A	Akaminal

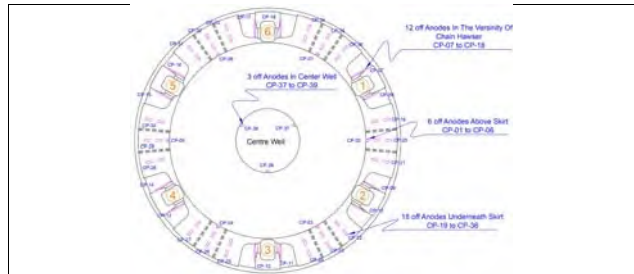


Cathodic Potential Measurement

Date	13 th October 2024	OWA Group	Thailand	Report No	55-66001-05-CP-02
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Refer to dive log
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	55-66001-05-VL-01

Equipment:	Make:	Serial No.	Calibration Date:	Remarks
Bathycorrometer Mk7	Buckleys	41016/24	29 th August 2023	Cert. No.: BUC55208
Zinc Test Block	CP-9999-02	2021642-8	14th April 2023	Cert. No.: MC2021-642

Calibration and Function Check						
Dive		Pre-Dive		Post Dive		Remarks
Date	No	Steel (-V)	Zinc (-V)	Steel (-V)	Zinc (-V)	
13/10/2024	1	-	1.032	-	1.032	-



Location	Reading (-V)	Location	Reading (-V)	Location	Reading (-V)
CP-01	1.013	CP-14	0.983	CP-27	0.981
CP-02	1.024	CP-15	0.975	CP-28	0.984
CP-03	1.004	CP-16	0.981	CP-29	0.982
CP-04	1.024	CP-17	0.980	CP-30	0.979
CP-05	1.043	CP-18	0.981	CP-31	0.991
CP-06	1.038	CP-19	0.983	CP-32	0.992
CP-07	0.977	CP-20	0.984	CP-33	0.989
CP-08	0.980	CP-21	0.980	CP-34	0.984
CP-09	0.959	CP-22	0.975	CP-35	0.983
CP-10	0.979	CP-23	0.972	CP-36	0.983
CP-11	0.980	CP-24	0.978	CP-37	1.026
CP-12	0.957	CP-25	0.985	CP-38	1.026
CP-13	0.975	CP-26	0.984	CP-39	1.009

Representative	OWA Data Recorder	OWA Supervisor
Signature:	Electronic form no signature required	Electronic form no signature required
Name (Print):	N/A	Akaminal



Photo Log

Date	12 th October 2024	OWA Group	Thailand	Report No	55-66001-05-PL-01
Project No	55-66001	Dive/ROV Sys.	SSDS 2	Dive No	Ref. to Dive Log
Client	Star Petroleum Refining and PTT Global Chemical			Vessel	Uniwise Rayong
Project Name	PTTGC-SPRC SPM Diving Inspection and Maintenance				
Location	MAP TA PHUT SPM			Video Ref.	55-66001-05-VL-01



AN01 (1)



AN01 (2)



AN01 (3)



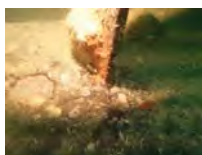
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AN02 (1)



AN02 (2)



AN02 (3)



AN02 (4)



AN03 (1)



Photo Log



AN03 (2)



AN03 (3)



AN03 (4)



AN03 (5)



AN04 (1)



AN04 (2)



AN04 (3)



AN04 (4)



AN04 (5)



AN05 (1)



AN05 (2)



AN05 (3)



Photo Log



AN06 (1)



AN06 (2)



AN06 (3)



AN06 (4)



AN06 (5)



AN06 (6)



AN06 (7)



AN07 (1)



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AN07 (4)



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Photo Log



AN08 (1)



AN08 (2)



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Photo Log



AN13 (6)



AN14 (1)



AN14 (2)



AN14 (3)



AN14 (4)



AN14 (5)



AN14 (6)



AN15 (1)



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AN15 (3)



AN16 (1)



AN16 (2)



Photo Log



AN16 (3)



AN16 (4)



AN16 (5)



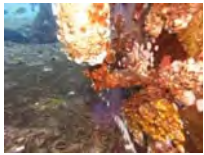
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AN17 (2)



AN17 (3)



AN17 (4)



AN17 (5)



AN17 (6)



AN17 (7)



Photo Log



AN18 (1)



AN18 (2)



AN18 (3)



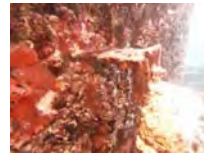
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AN18 (5)



AN18 (6)



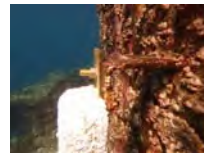
AN18 (7)



AN19 (1)



AN19 (2)



AN19 (3)



AN19 (4)



AN19 (5)



Photo Log



AN19 (6)



AN20 (1)



AN20 (2)



AN20 (3)



AN20 (4)



AN20 (5)



AN20 (6)



AN20 (7)



AN20 (8)



AN21 (1)



AN21 (2)



AN21 (3)



Photo Log



AN21 (4)



AN21 (5)



AN21 (6)



AN22 (1)



AN22 (2)



AN22 (3)



AN22 (4)



AN23 (1)



AN23 (2)



AN23 (3)



AN23 (4)



AN23 (5)



AN24 (1)



AN24 (2)



AN24 (3)



AN24 (4)



Valve 7 Nipple (1)



Valve 7 Nipple (2)



Valve 7 Nipple (3)



Valve 7 Nipple (4)



Valve 7 Nipple (5)



Valve 7 Nipple (6)



Valve 7 Nipple (7)



Valve 7 Nipple (8)