NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
No. 5, Jalan Anggerik Mokara 31/45, Seksyen 31, Kota Kemuning, 40460 Shah Alam, Selangor Darul Ehsan, Malaysia.
Tel: 03-5122 9766/7/8 Fax: 03-5122 8766/7 E-mail: info@nusatek.com

Our Ref. : NT/103694/18-02

Report No: BFTT/RT-04/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Bukit Fraser Thermal Technology Sdn Bhd	Procedure No:	NT/RT/ASME Rev 6.0
		IQI type :	ASTM 1B
Project :	Carigali-PTTEPI Operating Company Sdn.Bhd. Provision Of E-1310 Bundle Refurbishment	Film Manufacturer/Type :	FUJI 100/class II
		Density :	2.0 - 4.0
Job No:	BFTT 17-643	Sensitivity:	0.33mm(5 wires visible)
Material:	SA 350 LF2 CL1 + 10mm SS 316L / SA 516 GR 70N + SS 316L	Source to Object Distance :	475mm
		Source Side of Object to Film Distance:	(38+3)mm
Welding Process :	SMAW OVERLAY	No of Radiograph(exposure) :	Single Exposure
Examination Code :	ASME V	No. of Film Each Cassette :	1 Film
Acceptance Code:	ASME Sect. VIII Div.1 2013 Ed.	Radiographic Technique :	SWSI
		Film Viewing Technique :	Single Wall Viewing
Examination Date:	16 May 2018	Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
E-1310								
CS - 2 RS (WN-009)	41	3	950	38	6 - 7	NRI	Accept	

End Of Report

Legend:

TI : Tungsten Inclusion	*NRI : No Relevant Indication*	*Uc : Undercut*	*Por : Porosity*	*WT : Weld Thickness*
SI : Slag Inclusion	*LP : Lack of Penetration*	*Con : Concavity*	*BT : Burn Through*	*RT : Reinforcement Thickness*
LF : Lack of Fusion	*EP : Excess Penetration*	*AR : Artifact*	*Sur : Surface*	

Personnel Particulars

Radiographer : Emirsham - NDT Lev. II

Interpreted & Evaluated By: Amat Hamidi - NDT Lev.II

Date: 17 May 2018

Client Representative:

Name:

Date:

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103694/18-02

Report No: BFTT/RT-05/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Bukit Fraser Thermal Technology Sdn Bhd	Procedure No:	NT/RT/ASME Rev 6.0
		IQI type :	ASTM 1B
Project :	Carigali-PTTEPI Operating Company Sdn.Bhd.	Film Manufacturer/Type :	FUJI 100/class II
	Provision Of E-1310 Bundle Refurbishment	Density :	2.0 - 4.0
Job No:	BFTT 17-643	Sensitivity:	0.33mm(5 wires visible)
Material:	SA 350 LF2 CL1 + 10mm SS 316L /	Source to Object Distance :	475mm
	SA 516 GR 70N + SS 316L	Source Side of Object to Film Distance:	(38+3)mm
Welding Process :	SMAW OVERLAY	No of Radiograph(exposure) :	Single Exposure
Examination Code :	ASME V	No. of Film Each Cassette :	1 Film
Acceptance Code:	ASME Sect. VIII Div.1 2013 Ed.	Radiographic Technique :	SWSI
		Film Viewing Technique :	Single Wall Viewing
Examination Date:	16 May 2018	Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
E-1310 After Overlay CS - 2 (WN-009)	41	3	950	38	1 - 2	AR	Reshoot	
					4 - 5	AR	Reshoot	
					7 - 8	AR	Reshoot	
					9 - 10	AR	Reshoot	
					11 - 0	AR	Reshoot	

End Of Report

Legend:

TI : Tungsten Inclusion	NRI : No Relevant Indication	Uc : Undercut	Por : Porosity	WT : Weld Thickness
SI : Slag Inclusion	LP : Lack of Penetration	Con : Concavity	BT : Burn Through	RT : Reinforcement Thickness
LF : Lack of Fusion	EP : Excess Penetration	AR : Artifact	Sur : Surface	

Personnel Particulars

Radiographer :	Emirsham - NDT Lev. II	Client Representative:	
Interpreted & Evaluated By:	Amat Hamidi - NDT Lev.II	Name:	
Date:	17 May 2018	Date:	

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NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Tel: 03-5122 9766/7/8 Fax: 03-5122 8766/7 E-mail: info@nusatek.com

Our Ref. : NT/103696/18-01

Report No: BFTT/RT-07/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Bukit Fraser Thermal Technology Sdn Bhd	Procedure No:	NT/RT/ASME Rev 7.0
Project :	Petronas Chemicals Polyethylene Sdn.Bhd. Fabricate Heat Exchanger Shell Part.	IQI type :	ASTM 1B
		Film Manufacturer/Type :	FUJI 100/class II
		Density :	2.0 - 4.0
Job No:	BFTT 18-664	Sensitivity:	0.33mm(5 wires visible)
Material:	SA 105N / SA 106 GR B	Source to Object Distance :	273.1mm
		Source Side of Object to Film Distance:	(15.09+3)mm
Welding Process :	GTAW / SMAW	No of Radiograph(exposure) :	Single Exposure
Examination Code :	ASME V	No. of Film Each Cassette :	1 Film
Acceptance Code:	ASME Sect. VIII Div.1 2017 Ed.	Radiographic Technique :	DWSI
		Film Viewing Technique :	Single Wall Viewing
Examination Date:	16 May 2018	Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
PE-1-E-844								
S1 - JT1 RS (WN-216)	18.09	3	273.1	15.09	0 - 1	Por	Accept	
					2 - 0	Por	Accept	

End Of Report

Legend:

TI : Tungsten Inclusion	NRI : No Relevant Indication	Uc : Undercut	Por : Porosity	WT : Weld Thickness
SI : Slag Inclusion	LP : Lack of Penetration	Con : Concavity	BT : Burn Through	RT : Reinforcement Thickness
LF : Lack of Fusion	EP : Excess Penetration	AR : Artifact	Sur : Surface	

Personnel Particulars

Radiographer :	Emirsham - NDT Lev. II	Client Representative:	
Interpreted & Evaluated By:	Amat Hamidi - NDT Lev.II	Name:	
Date:	17 May 2018	Date:	

NDT Division

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103695/18-02

Report No: BFTT/RT-08/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Bukit Fraser Thermal Technology Sdn Bhd	Procedure No:	NT/RT/ASME Rev 6.0
		IQI type :	ASTM 1B
Project :	Asean Bintulu Fertiliser Provision For Supply Of New Heat Exchanger -81-A001-E04	Film Manufacturer/Type :	FUJI 100/class II
		Density :	2.0 - 4.0
		Sensitivity:	0.33mm(5 wires visible)
Job No:	BFTT 17-646	Source to Object Distance :	400mm
Material:	SA 105N / SA 234 WPB	Source Side of Object to Film Distance:	(73)mm
Welding Process :	GTAW	No of Radiograph(exposure) :	Single Exposure
Examination Code :	ASME V	No. of Film Each Cassette :	1 Film
Acceptance Code:	ASME Sect. VIII Div.1 2015 Ed.	Radiographic Technique :	DWDI
		Film Viewing Technique :	Double Wall Viewing
Examination Date:	16 May 2018	Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
81-A001-E04								
N2 - JT.1	12.53	3	73	9.53	X	Por	Reject	
(WN-009)					Y	NRI	Accept	

End Of Report

Legend:

TI : Tungsten Inclusion	NRI : No Relevant Indication	Uc : Undercut	Por : Porosity	WT : Weld Thickness
SI : Slag Inclusion	LP : Lack of Penetration	Con : Concavity	BT : Burn Through	RT : Reinforcement Thickness
LF : Lack of Fusion	EP : Excess Penetration	AR : Artifact	Sur : Surface	

Personnel Particulars

Radiographer :	Emirsham - NDT Lev. II	Client Representative:	
Interpreted & Evaluated By:	Amat Hamidi - NDT Lev.II	Name:	
Date:	17 May 2018	Date:	

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103695/18-02

Report No: BFTT/RT-09/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Bukit Fraser Thermal Technology Sdn Bhd	Procedure No:	NT/RT/ASME Rev 6.0
		IQI type :	ASTM 1B
Project :	Asean Bintulu Fertiliser Provision For Supply Of New Heat Exchanger -81-A001-E04	Film Manufacturer/Type :	FUJI 100/class II
		Density :	2.0 - 4.0
		Sensitivity:	0.33mm(5 wires visible)
Job No:	BFTT 17-646	Source to Object Distance :	355.6mm
Material:	SA 105N / SA 106 GR.B	Source Side of Object to Film Distance:	(11.13+3)mm
Welding Process :	GTAW / SMAW / SAW	No of Radiograph(exposure) :	Single Exposure
Examination Code :	ASME V	No. of Film Each Cassette :	1 Film
Acceptance Code:	ASME Sect. VIII Div.1 2015 Ed.	Radiographic Technique :	SWSI
		Film Viewing Technique :	Single Wall Viewing
Examination Date:	16 May 2018	Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
81-A001-E04								
CS 5 (WN-009/216)	14.13	3	355.6	11.13	0 - 1	AR Hanger Marks	Reshoot	
					1 - 2	AR Hanger Marks	Reshoot	
					2 - 3	AR Hanger Marks	Reshoot	
					3 - 0	AR Hanger Marks	Reshoot	

End Of Report

Legend:

TI : Tungsten Inclusion	NRI : No Relevant Indication	Uc : Undercut	Por : Porosity	WT : Weld Thickness
SI : Slag Inclusion	LP : Lack of Penetration	Con : Concavity	BT : Burn Through	RT : Reinforcement Thickness
LF : Lack of Fusion	EP : Excess Penetration	AR : Artifact	Sur : Surface	

Personnel Particulars

Radiographer : Emirsham - NDT Lev. II

Interpreted & Evaluated By: Amat Hamidi - NDT Lev.II

Date: 17 May 2018

NUSANTARA TECHNOLOGIES SDN. BHD. NDT Division (187753-D)

Client Representative:

Name:

Date:

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103693/18-09

Report No: BFTT/RT-16/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Bukit Fraser Thermal Technology Sdn Bhd	Procedure No:	NT/G/RT/BS EN Rev 1.0
		IQI type :	DIN FE 10-16
Project :	VH Boiler And Energy System Sdn Bhd . / PT.Austindo Nusantara Jaya 35,000 KG / HR Boiler.	Film Manufacturer/Type :	FUJI 100/class II
		Density :	2.0 - 4.0
		Sensitivity:	0.32mm(Wire No.11)
Job No:	BFTT 17-651	Source to Object Distance :	273.1mm
Material:	A106GR.B / A 234 WPB	Source Side of Object to Film Distance:	(9.27+3)mm
Welding Process :	TIGW / MMAW	No of Radiograph(exposure) :	Single Exposure
Examination Code :	BS 1435	No. of Film Each Cassette :	1 Film
Acceptance Code:	BS 1113:1999	Radiographic Technique :	DWSI
		Film Viewing Technique :	Single Wall Viewing
Examination Date:	16 May 2018	Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
SHC1 - 81020								
JT.3 R1 (WN-090/311)	12.27	3	273.1	9.27	2 - 0	NRI	Accept	

End Of Report

Legend:

TI : Tungsten Inclusion	*NRI : No Relevant Indication*	*Uc : Undercut*	*Por : Porosity*	*WT : Weld Thickness*
SI : Slag Inclusion	*LP : Lack of Penetration*	*Con : Concavity*	*BT : Burn Through*	*RT : Reinforcement Thickness*
LF : Lack of Fusion	*EP : Excess Penetration*	*AR : Artifact*	*Sur : Surface*	

Personnel Particulars

Radiographer : Emirsham - NDT Lev. II

Interpreted & Evaluated By: Amat Hamidi - NDT Lev.II

Date: 17 May 2018

Client Representative:

Name:

Date:

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103693/18-09

Report No: BFTT/RT-17/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Bukit Fraser Thermal Technology Sdn Bhd	Procedure No:	NT/G/RT/BS EN Rev 1.0
		IQI type :	DIN FE 10-16
Project :	VH Boiler And Energy System Sdn Bhd . / PT.Austindo Nusantara Jaya 35,000 KG / HR Boiler.	Film Manufacturer/Type :	FUJI 100/class II
		Density :	2.0 - 4.0
		Sensitivity:	0.32mm(Wire No.11)
Job No:	BFTT 17-651	Source to Object Distance :	273.1mm
Material:	A106GR.B / A 234 WPB	Source Side of Object to Film Distance:	(9.27+3)mm
Welding Process :	TIGW / MMAW	No of Radiograph(exposure) :	Single Exposure
Examination Code :	BS 1435	No. of Film Each Cassette :	1 Film
Acceptance Code:	BS 1113:1999	Radiographic Technique :	DWSI
		Film Viewing Technique :	Single Wall Viewing
Examination Date:	16 May 2018	Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
SHC1 - 81020								
JT.4 (WN-090/311)	12.27	3	273.1	9.27	0 - 1	NRI	Accept	
					1 - 2	NRI	Accept	
					2 - 0	LF	Reject	

End Of Report

Legend:

TI : Tungsten Inclusion	NRI : No Relevant Indication	Uc : Undercut	Por : Porosity	WT : Weld Thickness
SI : Slag Inclusion	LP : Lack of Penetration	Con : Concavity	BT : Burn Through	RT : Reinforcement Thickness
LF : Lack of Fusion	EP : Excess Penetration	AR : Artifact	Sur : Surface	

Personnel Particulars

Radiographer : Emirsham - NDT Lev. II

Interpreted & Evaluated By: Amat Hamidi - NDT Lev.II

Date: 17 May 2018

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D) NDT Division

Client Representative:

Name:

Date:

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103693/18-09

Report No: BFTT/RT-18/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Bukit Fraser Thermal Technology Sdn Bhd	Procedure No:	NT/G/RT/BS EN Rev 1.0
		IQI type :	DIN FE 10-16
Project :	VH Boiler And Energy System Sdn Bhd . / PT.Austindo Nusantara Jaya 35,000 KG / HR Boiler.	Film Manufacturer/Type :	FUJI 100/class II
		Density :	2.0 - 4.0
		Sensitivity:	0.32mm(Wire No.11)
Job No:	BFTT 17-651	Source to Object Distance :	273.1mm
Material:	A106GR.B / A 234 WPB	Source Side of Object to Film Distance:	(9.27+3)mm
Welding Process :	TIGW / MMAW	No of Radiograph(exposure) :	Single Exposure
Examination Code :	BS 1435	No. of Film Each Cassette :	1 Film
Acceptance Code:	BS 1113:1999	Radiographic Technique :	DWSI
		Film Viewing Technique :	Single Wall Viewing
Examination Date:	16 May 2018	Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
SHC1 - 81020								
JT.5 (WN-090/311)	12.27	3	273.1	9.27	0 - 1	NRI	Accept	
					1 - 2	NRI	Accept	
					2 - 0	NRI	Accept	

End Of Report

Legend:

TI : Tungsten Inclusion	NRI : No Relevant Indication	Uc : Undercut	Por : Porosity	WT : Weld Thickness
SI : Slag Inclusion	LP : Lack of Penetration	Con : Concavity	BT : Burn Through	RT : Reinforcement Thickness
LF : Lack of Fusion	EP : Excess Penetration	AR : Artifact	Sur : Surface	

Personnel Particulars

Radiographer : Emirsham - NDT Lev. II

Interpreted & Evaluated By: Amat Hamidi - NDT Lev.II

Date: 17 May 2018

Client Representative:

Name:

Date:

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103693/18-09

Report No: BFTT/RT-19/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Bukit Fraser Thermal Technology Sdn Bhd	Procedure No:	NT/G/RT/BS EN Rev 1.0
		IQI type :	DIN FE 10-16
Project :	VH Boiler And Energy System Sdn Bhd . / PT.Austindo Nusantara Jaya 35,000 KG / HR Boiler.	Film Manufacturer/Type :	FUJI 100/class II
		Density :	2.0 - 4.0
		Sensitivity:	0.32mm(Wire No.11)
Job No:	BFTT 17-651	Source to Object Distance :	219.1mm
Material:	A106GR.B / A 234 WPB	Source Side of Object to Film Distance:	(8.18+3)mm
Welding Process :	TIGW / MMAW	No of Radiograph(exposure) :	Single Exposure
Examination Code :	BS 1435	No. of Film Each Cassette :	1 Film
Acceptance Code:	BS 1113:1999	Radiographic Technique :	DWSI
		Film Viewing Technique :	Single Wall Viewing
Examination Date:	16 May 2018	Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
MSC - 81020								
JT.3 (WN-302)	11.18	3	219.1	8.18	0 - 1	NRI	Accept	
					1 - 2	Por	Accept	
					2 - 0	Por	Accept	

End Of Report

Legend:

TI : Tungsten Inclusion	*NRI : No Relevant Indication*	*Uc : Undercut*	*Por : Porosity*	*WT : Weld Thickness*
SI : Slag Inclusion	*LP : Lack of Penetration*	*Con : Concavity*	*BT : Burn Through*	*RT : Reinforcement Thickness*
LF : Lack of Fusion	*EP : Excess Penetration*	*AR : Artifact*	*Sur : Surface*	

Personnel Particulars

Radiographer :	Emirsham - NDT Lev. II		Client Representative:
Interpreted & Evaluated By:	Amat Hamidi - NDT Lev.II	NUSANTARA TECHNOLOGIES SDN. BHD. NDT Division (187753-D)	Name:
Date:	17 May 2018		Date:

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
No. 5, Jalan Anggerik Mokara 31/45, Seksyen 31, Kota Kemuning, 40460 Shah Alam, Selangor Darul Ehsan, Malaysia.
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Our Ref. : NT/103693/18-09

Report No: BFTT/RT-20/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Bukit Fraser Thermal Technology Sdn Bhd	Procedure No:	NT/G/RT/BS EN Rev 1.0
		IQI type :	DIN FE 10-16
Project :	VH Boiler And Energy System Sdn Bhd . / PT.Austindo Nusantara Jaya 35,000 KG / HR Boiler.	Film Manufacturer/Type :	FUJI 100/class II
		Density :	2.0 - 4.0
		Sensitivity:	0.32mm(Wire No.11)
Job No:	BFTT 17-651	Source to Object Distance :	219.1mm
Material:	A106GR.B / A 234 WPB	Source Side of Object to Film Distance:	(8.18+3)mm
Welding Process :	TIGW / MMAW	No of Radiograph(exposure) :	Single Exposure
Examination Code :	BS 1435	No. of Film Each Cassette :	1 Film
Acceptance Code:	BS 1113:1999	Radiographic Technique :	DWSI
		Film Viewing Technique :	Single Wall Viewing
Examination Date:	16 May 2018	Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
MSC - 81020								
JT.2 (WN-302)	11.18	3	219.1	8.18	0 - 1	Por	Reject	
					1 - 2	Por	Accept	
					2 - 0	NRI	Accept	

End Of Report

Legend:

TI : Tungsten Inclusion	NRI : No Relevant Indication	Uc : Undercut	Por : Porosity	WT : Weld Thickness
SI : Slag Inclusion	LP : Lack of Penetration	Con : Concavity	BT : Burn Through	RT : Reinforcement Thickness
LF : Lack of Fusion	EP : Excess Penetration	AR : Artifact	Sur : Surface	

Personnel Particulars

Radiographer :	Emirsham - NDT Lev. II	Client Representative:	
Interpreted & Evaluated By:	Amat Hamidi - NDT Lev.II	Name:	
Date:	17 May 2018	Date:	

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NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
No. 5, Jalan Anggerik Mokara 31/45, Seksyen 31, Kota Kemuning, 40460 Shah Alam, Selangor Darul Ehsan, Malaysia.
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Our Ref. : NT/103693/18-09

Report No: BFTT/RT-21/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Bukit Fraser Thermal Technology Sdn Bhd	Procedure No:	NT/G/RT/BS EN Rev 1.0
		IQI type :	DIN FE 10-16
Project :	VH Boiler And Energy System Sdn Bhd . / PT.Austindo Nusantara Jaya 35,000 KG / HR Boiler.	Film Manufacturer/Type :	FUJI 100/class II
		Density :	2.0 - 4.0
		Sensitivity:	0.32mm(Wire No.11)
Job No:	BFTT 17-651	Source to Object Distance :	168.3mm
Material:	A106GR.B / A 234 WPB	Source Side of Object to Film Distance:	(7.11+3)mm
Welding Process :	TIGW / MMAW	No of Radiograph(exposure) :	Single Exposure
Examination Code :	BS 1435	No. of Film Each Cassette :	1 Film
Acceptance Code:	BS 1113:1999	Radiographic Technique :	DWSI
		Film Viewing Technique :	Single Wall Viewing
Examination Date:	16 May 2018	Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
SC1 - 81020								
JT.2 (WN-302)	10.11	3	168.3	7.11	0 - 1	Por	Reject	
					1 - 2	NRI	Accept	
					2 - 0	NRI	Accept	

End Of Report

Legend:

TI : Tungsten Inclusion	NRI : No Relevant Indication	Uc : Undercut	Por : Porosity	WT : Weld Thickness
SI : Slag Inclusion	LP : Lack of Penetration	Con : Concavity	BT : Burn Through	RT : Reinforcement Thickness
LF : Lack of Fusion	EP : Excess Penetration	AR : Artifact	Sur : Surface	

Personnel Particulars

Radiographer : Emirsham - NDT Lev. II

Interpreted & Evaluated By: Amat Hamidi - NDT Lev.II

Date: 17 May 2018

Client Representative:

Name:

Date:

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
No. 5, Jalan Anggerik Mokara 31/45, Seksyen 31, Kota Kemuning, 40460 Shah Alam, Selangor Darul Ehsan, Malaysia.
Tel: 03-5122 9766/7/8 Fax: 03-5122 8766/7 E-mail: info@nusatek.com

Our Ref. : NT/103693/18-09

Report No: BFTT/RT-22/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Bukit Fraser Thermal Technology Sdn Bhd	Procedure No:	NT/G/RT/BS EN Rev 1.0
		IQI type :	DIN FE 10-16
Project :	VH Boiler And Energy System Sdn Bhd . / PT.Austindo Nusantara Jaya 35,000 KG / HR Boiler.	Film Manufacturer/Type :	FUJI 100/class II
		Density :	2.0 - 4.0
		Sensitivity:	0.32mm(Wire No.11)
Job No:	BFTT 17-651	Source to Object Distance :	168.3mm
Material:	A106GR.B / A 234 WPB	Source Side of Object to Film Distance:	(7.11+3)mm
Welding Process :	TIGW / MMAW	No of Radiograph(exposure) :	Single Exposure
Examination Code :	BS 1435	No. of Film Each Cassette :	1 Film
Acceptance Code:	BS 1113:1999	Radiographic Technique :	DWSI
		Film Viewing Technique :	Single Wall Viewing
Examination Date:	16 May 2018	Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
SC1 - 81020								
JT.5 (WN-302)	10.11	3	168.3	7.11	0 - 1	Por	Accept	
					1 - 2	Por	Accept	
					2 - 0	Sur	Accept	

End Of Report

Legend:

TI : Tungsten Inclusion	*NRI : No Relevant Indication*	*Uc : Undercut*	*Por : Porosity*	*WT : Weld Thickness*
SI : Slag Inclusion	*LP : Lack of Penetration*	*Con : Concavity*	*BT : Burn Through*	*RT : Reinforcement Thickness*
LF : Lack of Fusion	*EP : Excess Penetration*	*AR : Artifact*	*Sur : Surface*	

Personnel Particulars

Radiographer : Emirsham - NDT Lev. II

Interpreted & Evaluated By: Amat Hamidi - NDT Lev.II

Date: 17 May 2018

Client Representative:

Name:

Date:

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Tel: 03-5122 9766/7/8 Fax: 03-5122 8766/7 E-mail: info@nusatek.com

Our Ref. : NT/103693/18-09

Report No: BFTT/RT-23/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Bukit Fraser Thermal Technology Sdn Bhd	Procedure No:	NT/G/RT/BS EN Rev 1.0
		IQI type :	DIN FE 10-16
Project :	VH Boiler And Energy System Sdn Bhd . / PT.Austindo Nusantara Jaya 35,000 KG / HR Boiler.	Film Manufacturer/Type :	FUJI 100/class II
		Density :	2.0 - 4.0
		Sensitivity:	0.32mm(Wire No.11)
Job No:	BFTT 17-651	Source to Object Distance :	168.3mm
Material:	A106GR.B / A 234 WPB	Source Side of Object to Film Distance:	(7.11+3)mm
Welding Process :	TIGW / MMAW	No of Radiograph(exposure) :	Single Exposure
Examination Code :	BS 1435	No. of Film Each Cassette :	1 Film
Acceptance Code:	BS 1113:1999	Radiographic Technique :	DWSI
		Film Viewing Technique :	Single Wall Viewing
Examination Date:	16 May 2018	Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
SC1 - 81020								
JT.3 (WN-302)	10.11	3	168.3	7.11	0 - 1	NRI	Accept	
					1 - 2	NRI	Accept	
					2 - 0	NRI	Accept	

End Of Report

Legend:

TI : Tungsten Inclusion	NRI : No Relevant Indication	Uc : Undercut	Por : Porosity	WT : Weld Thickness
SI : Slag Inclusion	LP : Lack of Penetration	Con : Concavity	BT : Burn Through	RT : Reinforcement Thickness
LF : Lack of Fusion	EP : Excess Penetration	AR : Artifact	Sur : Surface	

Personnel Particulars

Radiographer :	Emirsham - NDT Lev. II	Client Representative:	
Interpreted & Evaluated By:	Amat Hamidi - NDT Lev.II	Name:	
Date:	17 May 2018	Date:	

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Tel: 03-5122 9766/7/8 Fax: 03-5122 8766/7 E-mail: info@nusatek.com

Our Ref. : NT/103693/18-09

Report No: BFTT/RT-24/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Bukit Fraser Thermal Technology Sdn Bhd
Project :	VH Boiler And Energy System Sdn Bhd . / PT.Austindo Nusantara Jaya 35,000 KG / HR Boiler.
Job No:	BFTT 17-651
Material:	A106GR.B / A 234 WPB
Welding Process :	TIGW / MMAW
Examination Code :	BS 1435
Acceptance Code:	BS 1113:1999
Examination Date:	16 May 2018

Procedure No:	NT/G/RT/BS EN Rev 1.0
IQI type :	DIN FE 10-16
Film Manufacturer/Type :	FUJI 100/class II
Density :	2.0 - 4.0
Sensitivity:	0.32mm(Wire No.11)
Source to Object Distance :	168.3mm
Source Side of Object to Film Distance:	(7.11+3)mm
No of Radiograph(exposure) :	Single Exposure
No. of Film Each Cassette :	1 Film
Radiographic Technique :	DWSI
Film Viewing Technique :	Single Wall Viewing
Source Type/Size :	Iridium192 (3.2mm)
Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
SC1 - 81020								
JT.4 (WN-302)	10.11	3	168.3	7.11	0 - 1 1 - 2 2 - 0	LF NRI LF	Reject Accept Reject	AR

End Of Report

Legend:

TI : Tungsten Inclusion	NRI : No Relevant Indication	Uc : Undercut	Por : Porosity	WT : Weld Thickness
SI : Slag Inclusion	LP : Lack of Penetration	Con : Concavity	BT : Burn Through	RT : Reinforcement Thickness
LF : Lack of Fusion	EP : Excess Penetration	AR : Artifact	Sur : Surface	

Personnel Particulars

Radiographer : Emirsham - NDT Lev. II

Interpreted & Evaluated By: Amat Hamidi - NDT Lev.II

Date: 17 May 2018

NDT Division

Client Representative:

Name:

Date: