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/103540/18-09

Report No: NDT/RT/180423-01/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Recron (M) Sdn Bhd	Procedure No:	NT/RT/ASME Rev. 7.0
Project :	HTM Piping	IQI type :	ASTM 1A
Material:	Carbon Steel	Film Manufacturer/Type :	FUJI 100(class II)
Welding Process :	GTAW	Density :	2.0 - 3.5
Examination Code :	ASME V	Sensitivity:	0.20mm(2 wires visible)
Acceptance Code:	ASME B31.3	Source to Object Distance :	400mm
Examination Date:	17 April 2018	Source Side of Object to Film Distance:	(88.9)mm
		No of Radiograph(exposure) :	Single Exposure
		No. of Film Each Cassette :	1 Film
		Radiographic Technique :	DWDI
		Film Viewing Technique :	Double 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
Inside Building (1)								
JT - 261	7	3	88.9	4	X	NRI	Accept	
					Y	NRI	Accept	
JT - 260	7	3	88.9	4	X	Por	Accept	
					Y	Por	Accept	
JT - 249	7	3	88.9	4	X	Por	Accept	
					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	NUSANTARA TECHNOLOGIES SDN. BHD. * (187753-D) * NDT Division	Name:
Date:	18 April 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/103540/18-09

Report No: NDT/RT/180423-02/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Recron (M) Sdn Bhd	Procedure No:	NT/RT/ASME Rev. 7.0
Project :	HTM Piping	IQI type :	ASTM 1A
Material:	Carbon Steel	Film Manufacturer/Type :	FUJI 100(class II)
Welding Process :	GTAW	Density :	2.0 - 3.5
Examination Code :	ASME V	Sensitivity:	0.20mm(2 wires visible)
Acceptance Code:	ASME B31.3	Source to Object Distance :	400mm
Examination Date:	17 April 2018	Source Side of Object to Film Distance:	(88.9)mm
		No of Radiograph(exposure) :	Single Exposure
		No. of Film Each Cassette :	1 Film
		Radiographic Technique :	DWDI
		Film Viewing Technique :	Double 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
Inside Building (1)								
JT - 250	7	3	88.9	4	X	NRI	Accept	
					Y	NRI	Accept	
					Z	NRI	Accept	
JT - 251	7	3	88.9	4	X	Sur	Accept	
					Y	Sur	Accept	
					Z	NRI	Accept	
JT - 259	7	3	88.9	4	X	NRI	Accept	
					Y	NRI	Accept	AR
					Z	NRI	Accept	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		Client Representative:
Interpreted & Evaluated By:	Amat Hamidi - NDT Lev.II	NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D) NDT Division	
Date:	18 April 2018		Name:
			Date:

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103540/18-09

Report No: NDT/RT/180423-03/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Recron (M) Sdn Bhd	Procedure No:	NT/RT/ASME Rev. 7.0
Project :	HTM Piping	IQI type :	ASTM 1A
Material:	Carbon Steel	Film Manufacturer/Type :	FUJI 100(class II)
Welding Process :	GTAW	Density :	2.0 - 3.5
Examination Code :	ASME V	Sensitivity:	0.20mm(2 wires visible)
Acceptance Code:	ASME B31.3	Source to Object Distance :	400mm
Examination Date:	17 April 2018	Source Side of Object to Film Distance:	(88.9)mm
		No of Radiograph(exposure) :	Single Exposure
		No. of Film Each Cassette :	1 Film
		Radiographic Technique :	DWDI
		Film Viewing Technique :	Double 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
Inside Building (1)								
JT - 248	7	3	88.9	4	X Y	Por NRI	Reject 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: 18 April 2018

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

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.
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Our Ref. : NT/103540/18-09

Report No: NDT/RT/180423-04/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Recron (M) Sdn Bhd	Procedure No:	NT/RT/ASME Rev. 7.0
		IQI type :	ASTM 1A
Project :	HTM Piping	Film Manufacturer/Type :	FUJI 100(class II)
		Density :	2.0 - 3.5
Material:	Carbon Steel	Sensitivity:	0.20mm(2 wires visible)
		Source to Object Distance :	400mm
Welding Process :	GTAW	Source Side of Object to Film Distance:	(88.9)mm
Examination Code :	ASME V	No of Radiograph(exposure) :	Single Exposure
Acceptance Code:	ASME B31.3	No. of Film Each Cassette :	1 Film
		Radiographic Technique :	DWDI
Examination Date:	17 April 2018	Film Viewing Technique :	Double 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
Inside Building (1)								
JT - 252	7	3	88.9	4	X	Por	Reject	
					Y	Por	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		Client Representative:
Interpreted & Evaluated By:	Amat Hamidi - NDT Lev.II	NUSANTARA TECHNOLOGIES SDN. BHD. NDT Division (187753-D)	Name:
Date:	18 April 2018		Date:

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103540/18-09

Report No: NDT/RT/180423-05/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Recron (M) Sdn Bhd	Procedure No:	NT/RT/ASME Rev. 7.0
Project :	HTM Piping	IQI type :	ASTM 1A
Material:	Carbon Steel	Film Manufacturer/Type :	FUJI 100(class II)
Welding Process :	GTAW	Density :	2.0 - 3.5
Examination Code :	ASME V	Sensitivity:	0.20mm(2 wires visible)
Acceptance Code:	ASME B31.3	Source to Object Distance :	400mm
Examination Date:	17 April 2018	Source Side of Object to Film Distance:	(88.9)mm
		No of Radiograph(exposure) :	Single Exposure
		No. of Film Each Cassette :	1 Film
		Radiographic Technique :	DWDI
		Film Viewing Technique :	Double 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
Inside Building (2)								
JT - 258	7	3	88.9	4	X	Sur	Accept	
					Y	Sur	Accept	
JT - 300	7	3	88.9	4	X	NRI	Accept	
					Y	Por	Accept	
JT - 299	7	3	88.9	4	X	Por	Accept	
					Y	Por	Accept	
JT - 292	7	3	88.9	4	X	Por	Accept	
					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

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

Date: 18 April 2018

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

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.
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Our Ref. : NT/103540/18-09

Report No: NDT/RT/180423-06/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Recron (M) Sdn Bhd
Project :	HTM Piping
Material:	Carbon Steel
Welding Process :	GTAW
Examination Code :	ASME V
Acceptance Code:	ASME B31.3
Examination Date:	17 April 2018

Procedure No:	NT/RT/ASME Rev. 7.0
IQI type :	ASTM 1A
Film Manufacturer/Type :	FUJI 100(class II)
Density :	2.0 - 3.5
Sensitivity:	0.20mm(2 wires visible)
Source to Object Distance :	400mm
Source Side of Object to Film Distance:	(88.9)mm
No of Radiograph(exposure) :	Single Exposure
No. of Film Each Cassette :	1 Film
Radiographic Technique :	DWDI
Film Viewing Technique :	Double 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
Inside Building (2)								
JT - 298	7	3	88.9	4	X	Sur	Accept	
					Y	Sur	Accept	
					Z	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:	18 April 2018	Date:

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

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103540/18-09

Report No: NDT/RT/180423-07/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Recron (M) Sdn Bhd	Procedure No:	NT/RT/ASME Rev. 7.0
Project :	HTM Piping	IQI type :	ASTM 1A
Material:	Carbon Steel	Film Manufacturer/Type :	FUJI 100(class II)
Welding Process :	GTAW	Density :	2.0 - 3.5
Examination Code :	ASME V	Sensitivity:	0.20mm(2 wires visible)
Acceptance Code:	ASME B31.3	Source to Object Distance :	400mm
Examination Date:	17 April 2018	Source Side of Object to Film Distance:	(88.9)mm
		No of Radiograph(exposure) :	Single Exposure
		No. of Film Each Cassette :	1 Film
		Radiographic Technique :	DWDI
		Film Viewing Technique :	Double 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
Inside Building (2)								
JT - 297	7	3	88.9	4	X	LP	Reject	
					Y	Sur	Accept	
					Z	Por	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	Client Representative:	
Interpreted & Evaluated By:	Amat Hamidi - NDT Lev.II	Name:	
Date:	18 April 2018	Date:	

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

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103540/18-09

Report No: NDT/RT/180423-08/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Recron (M) Sdn Bhd	Procedure No:	NT/RT/ASME Rev. 7.0
Project :	HTM Piping	IQI type :	ASTM 1A
Material:	Carbon Steel	Film Manufacturer/Type :	FUJI 100(class II)
Welding Process :	GTAW	Density :	2.0 - 3.5
Examination Code :	ASME V	Sensitivity:	0.20mm(2 wires visible)
Acceptance Code:	ASME B31.3	Source to Object Distance :	400mm
Examination Date:	17 April 2018	Source Side of Object to Film Distance:	(88.9)mm
		No of Radiograph(exposure) :	Single Exposure
		No. of Film Each Cassette :	1 Film
		Radiographic Technique :	DWDI
		Film Viewing Technique :	Double 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
Inside Building (2)								
JT - 295	7	3	88.9	4	X	Por / Inc	Reject	
					Y	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:	18 April 2018		Date:

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

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103540/18-09

Report No: NDT/RT/180423-09/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Recron (M) Sdn Bhd
Project :	HTM Piping
Material:	Carbon Steel
Welding Process :	GTAW
Examination Code :	ASME V
Acceptance Code:	ASME B31.3
Examination Date:	17 April 2018

Procedure No:	NT/RT/ASME Rev. 7.0
IQI type :	ASTM 1A
Film Manufacturer/Type :	FUJI 100(class II)
Density :	2.0 - 3.5
Sensitivity:	0.20mm(2 wires visible)
Source to Object Distance :	400mm
Source Side of Object to Film Distance:	(88.9)mm
No of Radiograph(exposure) :	Single Exposure
No. of Film Each Cassette :	1 Film
Radiographic Technique :	DWDI
Film Viewing Technique :	Double 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
Inside Building (2)								
JT - 294	7	3	88.9	4	X	Uc	Reject	
					Y	Inc / Uc	Reject	
JT - 293	7	3	88.9	4	X	Inc	Reject	
					Y	Uc	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	Client Representative:
Interpreted & Evaluated By:	Amat Hamidi - NDT Lev.II	Name:
Date:	18 April 2018	Date:

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