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/103559/18-08

Report No: NDT/RT/180442-01/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Recron (M) Sdn Bhd	Procedure No:	NT/RT/ASME Rev. 7.0
		IQI type :	ASTM 1B
Project :	HTM Piping	Film Manufacturer/Type :	FUJI 100(class II)
		Density :	2.0 - 3.5
Material:	Carbon Steel	Sensitivity:	0.33mm(5 wires visible)
		Source to Object Distance :	141.3mm
Welding Process :	GTAW	Source Side of Object to Film Distance:	(7+3)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 :	DWSI
Examination Date:	19 April 2018	Film Viewing Technique :	Single 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
Behind Building								
JT - 100	10	3	141.3	7	0 - 1	NRI	Accept	
					1 - 2	NRI	Accept	
					2 - 0	NRI	Accept	
JT - 101	10	3	141.3	7	0 - 1	NRI	Accept	
					1 - 2	NRI	Accept	
					2 - 0	Por	Accept	

Continue Next Page

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:	20 April 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/103559/18-08

Report No: NDT/RT/180442-01/18

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
Behind Building								
JT - 102	10	3	141.3	7	0 - 1	NRI	Accept	
					1 - 2	NRI	Accept	
					2 - 0	NRI	Accept	
JT - 81	10	3	141.3	7	0 - 1	NRI	Accept	
					1 - 2	Por	Accept	
					2 - 0	NRI	Accept	

End of Report

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

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NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103559/18-08

Report No: NDT/RT/180442-02/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Recron (M) Sdn Bhd	Procedure No:	NT/RT/ASME Rev. 7.0
		IQI type :	ASTM 1B
Project :	HTM Piping	Film Manufacturer/Type :	FUJI 100(class II)
		Density :	2.0 - 3.5
Material:	Carbon Steel	Sensitivity:	0.33mm(5 wires visible)
		Source to Object Distance :	141.3mm
Welding Process :	GTAW	Source Side of Object to Film Distance:	(7+3)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 :	DWSI
Examination Date:	19 April 2018	Film Viewing Technique :	Single 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
Behind Building								
JT - 83	10	3	141.3	7	0 - 1	Por	Accept	
					1 - 2	Por	Accept	
					2 - 0	Por	Accept	
JT - 85	10	3	141.3	7	0 - 1	Por	Accept	
					1 - 2	Por	Accept	
					2 - 0	Por	Accept	

Continue Next Page

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:	20 April 2018	Date:	

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

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/103559/18-08

Report No: NDT/RT/180442-02/18

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
Behind Building								
JT - 79	10	3	141.3	7	0 - 1	NRI	Accept	
					1 - 2	NRI	Accept	
					2 - 0	NRI	Accept	
JT - 57	10	3	141.3	7	0 - 1	NRI	Accept	
					1 - 2	NRI	Accept	
					2 - 0	NRI	Accept	

End of Report

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

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/103559/18-08

Report No: NDT/RT/180442-03/18

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 1B
Material:	Carbon Steel	Film Manufacturer/Type :	FUJI 100(class II)
Welding Process :	GTAW	Density :	2.0 - 3.5
Examination Code :	ASME V	Sensitivity:	0.33mm(5 wires visible)
Acceptance Code:	ASME B31.3	Source to Object Distance :	141.3mm
Examination Date:	19 April 2018	Source Side of Object to Film Distance:	(7+3)mm
		No of Radiograph(exposure) :	Single Exposure
		No. of Film Each Cassette :	1 Film
		Radiographic Technique :	DWSI
		Film Viewing Technique :	Single 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
Behind Building								
JT - 80	10	3	141.3	7	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: 20 April 2018

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

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/103559/18-08

Report No: NDT/RT/180442-04/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Recron (M) Sdn Bhd	Procedure No:	NT/RT/ASME Rev. 7.0
		IQI type :	ASTM 1B
Project :	HTM Piping	Film Manufacturer/Type :	FUJI 100(class II)
		Density :	2.0 - 3.5
Material:	Carbon Steel	Sensitivity:	0.33mm(5 wires visible)
		Source to Object Distance :	141.3mm
Welding Process :	GTAW	Source Side of Object to Film Distance:	(7+3)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 :	DWSI
Examination Date:	19 April 2018	Film Viewing Technique :	Single 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
Behind Building								
JT - 84	10	3	141.3	7	0 - 1	NRI	Accept	
					1 - 2	Por	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		Client Representative:
Interpreted & Evaluated By:	Amat Hamidi - NDT Lev.II	NUSANTARA TECHNOLOGIES SDN. BHD. * (187753-D) * NDT Division	Name:
Date:	20 April 2018		Date:

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103559/18-08

Report No: NDT/RT/180442-05/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Recron (M) Sdn Bhd	Procedure No:	NT/RT/ASME Rev. 7.0
		IQI type :	ASTM 1B
Project :	HTM Piping	Film Manufacturer/Type :	FUJI 100(class II)
		Density :	2.0 - 3.5
Material:	Carbon Steel	Sensitivity:	0.33mm(5 wires visible)
		Source to Object Distance :	141.3mm
Welding Process :	GTAW	Source Side of Object to Film Distance:	(7+3)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 :	DWSI
Examination Date:	19 April 2018	Film Viewing Technique :	Single 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
Behind Building								
JT - 56	10	3	141.3	7	0 - 1	LF / Por	Reject	
					1 - 2	NRI	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

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

Date: 20 April 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/103559/18-08

Report No: NDT/RT/180442-06/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Recron (M) Sdn Bhd	Procedure No:	NT/RT/ASME Rev. 7.0
		IQI type :	ASTM 1B
Project :	HTM Piping	Film Manufacturer/Type :	FUJI 100(class II)
		Density :	2.0 - 3.5
Material:	Carbon Steel	Sensitivity:	0.33mm(5 wires visible)
		Source to Object Distance :	141.3mm
Welding Process :	GTAW	Source Side of Object to Film Distance:	(7+3)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 :	DWSI
Examination Date:	19 April 2018	Film Viewing Technique :	Single 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
Behind Building								
JT - 103	10	3	141.3	7	0 - 1	Por	Reject	
					1 - 2	Por	Accept	
					2 - 0	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. * (187753-D) * NDT Division	
Date:	20 April 2018		Name: Date:

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103559/18-08

Report No: NDT/RT/180442-07/18

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:	19 April 2018

Procedure No:	NT/RT/ASME Rev. 7.0
IQI type :	ASTM 1B
Film Manufacturer/Type :	FUJI 100(class II)
Density :	2.0 - 3.5
Sensitivity:	0.33mm(5 wires visible)
Source to Object Distance :	141.3mm
Source Side of Object to Film Distance:	(7+3)mm
No of Radiograph(exposure) :	Single Exposure
No. of Film Each Cassette :	1 Film
Radiographic Technique :	DWSI
Film Viewing Technique :	Single 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
Behind Building								
JT - 82	10	3	141.3	7	0 - 1	NRI	Accept	
					1 - 2	Inc	Reject	
					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:	20 April 2018	Date:

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

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103559/18-08

Report No: NDT/RT/180442-08/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	Recron (M) Sdn Bhd	Procedure No:	NT/RT/ASME Rev. 7.0
		IQI type :	ASTM 1B
Project :	HTM Piping	Film Manufacturer/Type :	FUJI 100(class II)
		Density :	2.0 - 3.5
Material:	Carbon Steel	Sensitivity:	0.33mm(5 wires visible)
		Source to Object Distance :	219.1mm
Welding Process :	GTAW	Source Side of Object to Film Distance:	(7+3)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 :	DWSI
Examination Date:	19 April 2018	Film Viewing Technique :	Single 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
Behind Building								
JT - 112	10	3	219.1	7	0 - 1	Por	Reject	
					1 - 2	LF	Reject	
					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: 20 April 2018

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

Client Representative:

Name:

Date: