



Our Ref. : NT/103330/18-07

Page No: 1 of 1
 Report No: NDT/RT/180280-03/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

| | |
|---|--|
| Client : Tunas Asal Sdn. Bhd. | Procedure No: NT/RT/ASME REV 6.0 |
| Project : GPS 3300 869/2017 | IQI type : ASME 1A Film Manufacturer/Type : FUJI 50(class I) Density : 2.0 - 3.5 Sensitivity: 0.20mm(2 wires visible) |
| Material: SA 240-316/316L To SA SA 240-316/316L | Source to Object Distance : 355.5mm Source Side of Object to Film Distance: (6+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 Section VIII Div.1 ; 2015 | Radiographic Technique : DWSI |
| Examination Date: 30 March 2018 | Film Viewing Technique : Single Wall Viewing Source Type/Size : Iridium192 (3.2mm) Location Markers : Film Side |

Radiographic Examination Result

| Weld Reference (Welder No) | WT | RT | Pipe Diameter | Material Thickness | Film Position | Film Interpretation | Result | Remarks |
|---|------|------|------------------|-----------------------|------------------|---------------------|--------|---------|
| | (mm) | (mm) | (mm) | (mm) | | | | |
| 869/2017 SN-3413/2017 Vessel Purifier | | | | | | | | |
| CW-1-S1 TASB - 947/925 | 9 | 3 | 711 | 6 | 0 - 1 | Sur | Accept | |
| CW-1-S2 TASB - 947/925 | 9 | 3 | 711 | 6 | 0 - 1 | NRI | Accept | |

End of Report

Legend:

| | | | | |
|------------------------|-----------------------------|----------------|------------------|-----------------------------|
| TI: Tungsten Inclusion | NRI: No Relevant Indication | UN: 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 - ASNT Lev. II

Interpreted & Evaluated By: M.Nazib - ASNT Level II

Date: 31 March 2018



Client Representative:

Name:

Date:



NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)

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Our Ref.: NT/103330/18-07

Page No: 1 of 1

Report No: NDT/RT/180280-04/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

| | | | |
|--------------------|---------------------------------------|---|-------------------------|
| Client : | Tunas Asal Sdn. Bhd. | Procedure No: | NT/RT/ASME REV 6.0 |
| Project : | GPS 3300 869/2017 | IQI type : | ASME 1A |
| Material: | SA 240-316/316L To SA SA 240-316/316L | Film Manufacturer/Type : | FUJI 50(class I) |
| Welding Process : | GTAW / SMAW | Density : | 2.0 - 3.5 |
| Examination Code : | ASME V | Sensitivity: | 0.20mm(2 wires visible) |
| Acceptance Code: | ASME Section VIII Div.1 ; 2015 | Source to Object Distance : | 355.5mm |
| Examination Date: | 30 March 2018 | Source Side of Object to Film Distance: | (6+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 |
|---|------------|------------|--------------------------|-------------------------------|------------------|---------------------|--------|---------|
| 869/2017 SN-3411/2017 Vessel Purifier | | | | | | | | |
| CW-1-S1 TASB - 947/925 | 9 | 3 | 711 | 6 | 0 - 1 | Por | Accept | |
| CW-1-S2 TASB - 947/925 | 9 | 3 | 711 | 6 | 0 - 1 | EP | Accept | AR |

End of Report

Legend:

| | | | | |
|------------------------|-----------------------------|----------------|------------------|-----------------------------|
| TI: Tungsten Inclusion | NRI: No Relevant Indication | UN: 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 - ASNT Lev. II

Interpreted & Evaluated By: M.Nazib - ASNT Level II

Date: 31 March 2018



Client Representative:

Name:
Date:



NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)

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Our Ref.: NT/103330/18-07

Page No: 1 of 1

Report No: NDT/RT/180280-05/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

| | | | |
|--------------------|---------------------------------------|---|-------------------------|
| Client : | Tunas Asal Sdn. Bhd. | Procedure No: | NT/RT/ASME REV 6.0 |
| Project : | GPS 3300 869/2017 | IQI type : | ASME 1A |
| Material: | SA 240-316/316L To SA SA 240-316/316L | Film Manufacturer/Type : | FUJI 50(class I) |
| Welding Process : | GTAW | Density : | 2.0 - 3.5 |
| Examination Code : | ASME V | Sensitivity: | 0.20mm(2 wires visible) |
| Acceptance Code: | ASME Section VIII Div.1 ; 2015 | Source to Object Distance : | 355.5mm |
| Examination Date: | 30 March 2018 | Source Side of Object to Film Distance: | (6+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 |
|---|------------|------------|--------------------------|-------------------------------|------------------|---------------------|--------|---------|
| 869/2017 SN-3411/2017 Vessel Purifier | | | | | | | | |
| CW-2-56 TASB - 925 | 9 | 3 | 711 | 6 | 0 - 1 | NRI | Accept | |

End of Report

Legend:

| | | | | |
|------------------------|-----------------------------|----------------|------------------|-----------------------------|
| TI: Tungsten Inclusion | NRI: No Relevant Indication | UN: 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 - ASNT Lev. II

Interpreted & Evaluated By: M.Nazib - ASNT Level II

Date: 31 March 2018



Client Representative:

Name:
Date:



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Our Ref. : NT/103330/18-07

Page No: 1 of 1

Report No: NDT/RT/180280-06/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

| | | | |
|--------------------|---------------------------------------|---|-------------------------|
| Client : | Tunas Asal Sdn. Bhd. | Procedure No: | NT/RT/ASME REV 6.0 |
| Project : | GPS 3300 869/2017 | IQI type : | ASME 1A |
| Material: | SA 240-316/316L To SA SA 240-316/316L | Film Manufacturer/Type : | FUJI 50(class I) |
| Welding Process : | GTAW | Density : | 2.0 - 3.5 |
| Examination Code : | ASME V | Sensitivity: | 0.20mm(2 wires visible) |
| Acceptance Code: | ASME Section VIII Div.1 ; 2015 | Source to Object Distance : | 355.5mm |
| Examination Date: | 30 March 2018 | Source Side of Object to Film Distance: | (6+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 |
|---|------------|------------|--------------------------|-------------------------------|------------------|---------------------|--------|---------|
| 869/2017 SN-3411/2017 Vessel Purifier | | | | | | | | |
| CW-2-S3 TASB - 925 | 9 | 3 | 711 | 6 | 0 - 1 | NRI | Accept | |
| CW-2-S2 TASB - 925 | 9 | 3 | 711 | 6 | 0 - 1 | NRI | Accept | |

End of Report

Legend:

| | | | | |
|------------------------|-----------------------------|----------------|------------------|-----------------------------|
| TI: Tungsten Inclusion | NRI: No Relevant Indication | UN: 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 - ASNT Lev. II

Interpreted & Evaluated By: M.Nazib - ASNT Level II

Date: 31 March 2018



Client Representative:

Name:

Date:



NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)

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Our Ref.: NT/103330/18-07

Page No: 1 of 1

Report No: NDT/RT/180280-07/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

| | | | |
|--------------------|---------------------------------------|---|-------------------------|
| Client : | Tunas Asal Sdn. Bhd. | Procedure No: | NT/RT/ASME REV 6.0 |
| Project : | GPS 3300 869/2017 | IQI type : | ASME 1A |
| Material: | SA 240-316/316L To SA SA 240-316/316L | Film Manufacturer/Type : | FUJI 50(class I) |
| Welding Process : | GTAW | Density : | 2.0 - 3.5 |
| Examination Code : | ASME V | Sensitivity: | 0.20mm(2 wires visible) |
| Acceptance Code: | ASME Section VIII Div.1 ; 2015 | Source to Object Distance : | 355.5mm |
| Examination Date: | 30 March 2018 | Source Side of Object to Film Distance: | (6+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 |
|---|------------|------------|--------------------------|-------------------------------|------------------|---------------------|--------|---------|
| 869/2017 SN-3411/2017 Vessel Purifier | | | | | | | | |
| CW-2-S1 TASB - 925 | 9 | 3 | 711 | 6 | 0 - 1 | NRI | Accept | |
| CW-2-S4 TASB - 925 | 9 | 3 | 711 | 6 | 0 - 1 | NRI | Accept | |
| CW-2-S5 TASB - 925 | 9 | 3 | 711 | 6 | 0 - 1 | NRI | Accept | |

End of Report

Legend:

| | | | | |
|------------------------|-----------------------------|----------------|------------------|-----------------------------|
| TI: Tungsten Inclusion | NRI: No Relevant Indication | UN: 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 - ASNT Lev. II

Interpreted & Evaluated By: M.Nazib - ASNT Level II

Date: 31 March 2018



Client Representative:

Name:

Date:



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Our Ref.: NT/103330/18-07

Page No: 1 of 1

Report No: NDT/RT/180280-02/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

| | | | |
|--------------------|---------------------------------------|---|-------------------------|
| Client : | Tunas Asal Sdn. Bhd. | Procedure No: | NT/RT/ASME REV 6.0 |
| Project : | GPS 3300 869/2017 | IQI type : | ASME 1A |
| Material: | SA 240-316/316L To SA SA 240-316/316L | Film Manufacturer/Type : | FUJI 50(class I) |
| Welding Process : | GTAW / SMAW | Density : | 2.0 - 3.5 |
| Examination Code : | ASME V | Sensitivity: | 0.20mm(2 wires visible) |
| Acceptance Code: | ASME Section VIII Div.1 ; 2015 | Source to Object Distance : | 355.5mm |
| Examination Date: | 30 March 2018 | Source Side of Object to Film Distance: | (6+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 |
|---|------------|------------|--------------------------|-------------------------------|------------------|---------------------|--------|---------|
| 869/2017 SN-3412/2017 Vessel Purifier | | | | | | | | |
| CW-1-S1 TASB - 947/925 | 9 | 3 | 711 | 6 | 0 - 1 | EP | Accept | |
| CW-1-S2 TASB - 947/925 | 9 | 3 | 711 | 6 | 0 - 1 | NRI | Accept | AR |

End of Report

Legend:

| | | | | |
|------------------------|-----------------------------|----------------|------------------|-----------------------------|
| TI: Tungsten Inclusion | NRI: No Relevant Indication | UN: 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 - ASNT Lev. II

Interpreted & Evaluated By: M.Nazib - ASNT Level II

Date: 31 March 2018



Client Representative:

Name:

Date:



NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)

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Our Ref.: NT/103330/18-07

Page No: 1 of 1

Report No: NDT/RT/180280-01/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

| | | | |
|--------------------|---------------------------------------|---|-------------------------|
| Client : | Tunas Asal Sdn. Bhd. | Procedure No: | NT/RT/ASME REV 6.0 |
| Project : | GPS 3300 869/2017 | IQI type : | ASME 1A |
| Material: | SA 240-316/316L To SA SA 240-316/316L | Film Manufacturer/Type : | FUJI 50(class I) |
| Welding Process : | GTAW / SMAW | Density : | 2.0 - 3.5 |
| Examination Code : | ASME V | Sensitivity: | 0.20mm(2 wires visible) |
| Acceptance Code: | ASME Section VIII Div.1 ; 2015 | Source to Object Distance : | 355.5mm |
| Examination Date: | 30 March 2018 | Source Side of Object to Film Distance: | (6+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 |
|---|------------|------------|--------------------------|-------------------------------|------------------|---------------------|--------|---------|
| 869/2017 SN-3410/2017 Vessel Purifier | | | | | | | | |
| CW-1-S1 TASB - 947/925 | 9 | 3 | 711 | 6 | 0 - 1 | EP | Accept | |
| CW-1-S2 TASB - 947/925 | 9 | 3 | 711 | 6 | 0 - 1 | NRI | Accept | |

End of Report

Legend:

| | | | | |
|------------------------|-----------------------------|----------------|------------------|-----------------------------|
| TI: Tungsten Inclusion | NRI: No Relevant Indication | UN: 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 - ASNT Lev. II

Interpreted & Evaluated By: M.Nazib - ASNT Level II

Date: 31 March 2018



Client Representative:

Name:
Date: