MISTRAS Asset Protection Solutions | Services Division

Req# 198

Radiography Examination Report

3985 Teal CT. | Benicia, CA. 94510 | P: (707) 746-5870; F: (707) 746-8664
www.mistrasgroup.com

Client: JVI
Location: CHEVRON RICHMOND CA
Date: 10-29-11
Page: of
Part/Item No: FISSO
Mistras Job No: 104329
Contact: R. WORSHAW
Description: 4" BUTTWELDS
Purchase Order: WO# 342644

Code/Specification: ASME SEC V		Acceptance Criteria: B313		Procedure: 100-RT-001	Technique: ☐ SWE/SWV ☐ DWE/SWV ☒ DWE/DWV
Material Type: 5CR	Base Mat'l Thickness: .237"	Weld Joint Type:	Weld Thickness: .362"	Weld Reinforcement: .125"	Radiation Source: ☐ Ir 192 ☐ Co 60 ☐ SE 75 ☐ X-Ray
Location Markers: ☐ Source-Side ☒ Film-Side		IQI Type & ID: ASTM 1-B	IQI Material: SS	IQI Location: ☐ Source-Side ☒ Film-Side	Focal Spot Size: .146 / Curies/mA-kV: 82
Quality Level: 010	Shim Material: N/A	Shim Thickness: N/A	Source-Film Distance: 4"	Min. Source-Object Distance: CONTACT	Max. Source Side of Object-Film Distance: 4"
Exposure Time: 10 SEC	Film Mfr. & Type: AGFA D4	Film Technique: ☒ Single-Load ☐ Multi-Load	Screen Type: PB	Screen Thickness: Front: .010 Back: .010	No. of Film & Size: (9) 4.5x10
Film Viewing: ☒ Single ☐ Composite	Film Processing: ☐ Automatic ☒ Manual: Time (min): 5		Developer Temperature: 72°	Comments: B-251262-01-A&B	

Tested Item(s):

ID/Weld No.	View	Original or Repair	Geometric Unsharpness	Accept	Reject	Porosity	Slag/ Inclusions	Lack of Fusion	Incomplete Penetration	Crack	Root Concavity	Root Convexity	Tungsten	Undercut	Weld Contour	Film Artifact	Comments	IQI Density	Weld Density
W 1138	0-5	0		✓															
	5-10	0		✓															
	10-0	0		✓													→ V.T. @ 10"		
W 1139	0-5	0		✓															
	5-10	0		✓															
	10-0	0		✓															
W 1176	0-5	0		✓															
	5-10	0		✓															
	10-0	0		✓															

0418-006-007

Technician, Level & Date	Customer's Signature (if applicable)	Reviewed By (if applicable)
LARRY CAMPBELL [signature] 10-29-11	[signature]	

CERTIFICATION OF INSPECTION, RADIOGRAPHY [WELDS]

100-RTFORM-001 | REV 1

This is weld 1177 Before 3 Tress

Req# 178

Radiography Examination Report

F: (707) 746-8664 www.mistrasgroup.com

Location: CHEVRON RICHMOND CA
Part/Item No: FISSO
Description: 4" BUTTWELD

Date: 10-29-11 Page: of
Mistras Job No: 109329
Purchase Order: WO# 342644

tance Criteria B31.3		Procedure 100-RT-001 Rev 5	Technique ☐ SWE/SWV ☐ DWE/SWV ☐ DWE/DWV	
Joint Type Butt	Weld Thickness .362	Weld Reinforcement .125	Radiation Source ☑ Ir 192 ☐ Co 60 ☐ SE 75 ☐ X-Ray	
ype & ID 12	IQI Material SS	IQI Location ☐ Source-Side ☑ Film-Side	Focal Spot Size .196	Curies/mA-kV 81
Thickness .125"	Source-Film Distance 4"	Min. Source-Object Distance CONTACT	Max. Source Side of Object-Film Distance 4"	
Exposure Time 1 SEC	AGFA D-5	Technique ☐ Single-Load ☐ Multi-Load	Screen Type Pb	Screen Thickness Front: .010 Back: .010	No. of Film & Size (3) 4.5"x10"
Film Viewing ☑ Single ☐ Composite	Film Processing ☐ Automatic ☑ Manual. Time (min): 5	Developer Temperature 72°	Comments: E-251262-01 A&B	

Tested Item(s):

ID/Weld No.	View	Original or Repair	Geometric Unsharpness	Accept	Reject	Porosity	Slag/ Inclusions	Lack of Fusion	Incomplete Penetration	Crack	Root Concavity	Root Convexity	Tungsten	Undercut	Weld Contour	Film Artifact	Comments	IQI Density	Weld Density
W 1172	0-1	O		✓															
	1-2	O		✓															
	2-0	O		✓															

0418-006-007

Technician, Level & Date: CARRY CAMPBELL 10-29-11

Customer's Signature (if applicable)

Reviewed By (if applicable)

MISTRAS Services Division
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Radiographic Examination Report

Division:	590	Client:	JV INDUSTRIAL	Date:	10-31-2011	Page:	1 of 2
Address:	3985 TEAL CT BENICIA, CA 94510	Address:		Mistras Job No:			
				Purchase Order:			
		Contact:	ROYCE SMITH	Reference Number:	WO# 342644 JOB#104329		
Phone:	707-746-5870	Location:	CHEVRON RICHMOND	Part/Item Number:			

Code/Specification: ASME SEC V		Acceptance Criteria: ASME B31.3		Procedure: 100-RT-001 REV. 5	Technique: ☐SWE/SWV ☒DWE/SWV ☐DWE/DWV
Material Type: 5 CR	Base Mat'l Thickness: .237"	Weld Joint Type: SINGLE V	Weld Thickness: .387"	Weld Reinforcement: .125"	Radiation Source: ☒Ir 192 ☐Co 60 ☐SE 75 ☐X-Ray
Location Markers: ☒Source-Side ☐Film-Side		IQI Type & ID: 12	IQI Material: SS	IQI Location: ☒Source-Side ☐Film-Side	Focal Spot Size: .146" / Curies/mA-kV: 60
Quality Level: 2T	Shim Material: SS	Shim Thickness: .125"	Source-Film Distance: 4.5"	Min. Source-Object Distance: 4.113"	Max. Source Side of Object-Film Distance: .387"
Exposure Time: 0:13	Film Mfr. & Type: AGFA D5	Film Technique: ☒Single-Load ☐Multi-Load	Screen Type: Pb	Screen Thickness Front: .010" Back: .010"	No. of Film & Size: (46)4.5" X 10"
Film Viewing: ☒Single ☐Composite	Film Processing: ☐Automatic ☒Manual: Time (min): 4:30		Developer Temp: 72	Comments: B-251262-02 C&D	

Tested Item(s):

ID/Weld No.	View	Original or Repair	Geometric Unsharpness	Accept	Reject	Porosity	Slag/ Inclusions	Lack of Fusion	Incomplete Penetration	Crack	Root Concavity	Root Convexity	Tungsten	Undercut	Weld Contour	Film Artifact	Comments	IQI Density	Weld Density
DX200-E1	0-1	O	<.020"	✓															
W1153	1-2	O	<.020"		X	X													
WID: CZO/BHH	2-0	O	<.020"		X	X							✓						
DX200-E1	0-1	O	<.020"	✓		✓													
W1154	1-2	O	<.020"	✓							✓								
WID: DMT/BHH	2-0	O	<.020"	✓		✓							✓						
DX200-E1	0-1	O	<.020"	✓		✓						✓	✓						
W1155	1-2	O	<.020"		X	✓				X				✓					
WID: DMT/BHH	2-0	O	<.020"	✓		✓								✓					

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Technician, Level & Date	Customer's Signature (if applicable)	Reviewed By (Sign & Date)
RUSSELL SNYDER LVLII 10-31-2011		

RT WELD

100-RTFORM-001(Original)

MISTRAS Services Division
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Radiographic Examination Report

Division:	590	Client:	JV INDUSTRIAL	Date:	10-31-2011 Page: 2 of 2
Address:	3985 TEAL CT	Address:	ON FILE	Mistras Job No:	
	BENICIA, CA 94510			Purchase Order:	
		Contact:	ROYCE SMITH	Reference Number:	JOB# 104329 WO# 342644
Phone:	707-746-5870	Location:	CHEVRON RICHMOND	Part/Item Number:	

Tested Item(s):

ID/Weld No.	View	Original or Repair	Geometric Unsharpness	Accept	Reject	Porosity	Slag/ Inclusions	Lack of Fusion	Incomplete Penetration	Crack	Root Concavity	Root Convexity	Tungsten	Undercut	Weld Contour	Film Artifact	Comments	IQI Density	Weld Density
DX200-E1	0-1	O	<.020"	✓													B-251262-02 C&D		
W1161	1-2	O	<.020"	✓		✓													
WID: DPM	2-0	O	<.020"	✓		✓													
DX200-E1	0-1	O	<.020"	✓		✓											B-251262-02 C&D		
W1162	1-2	O	<.020"		X	X								X					
WID: BHH	2-0	O	<.020"	✓		✓								✓					
DX200-E1	0-1	O	<.020"	✓		✓											B-251262-02 C&D		
W1163	1-2	O	<.020"		X	X					✓			✓					
WID: BHH	2-0	O	<.020"	✓	✓							✓							
DX200-E1	0-1	O	<.020"		X			X									B-251262-02 C&D		
W1164	1-2	O	<.020"		X	✓					X			✓			(COLD LAP VIEW 0-1)		
WID: BHH	2-0	O	<.020"	✓		✓					✓	✓							
DX200-E1	0-1	O	<.020"		X	X											B-251262-02 C&D		
W1165	1-2	O	<.020"	✓		✓													
WID: BHH	2-0	O	<.020"		X	✓				X				✓					

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Technician, Level & Date	Customer's Signature (if applicable)	Reviewed By (Sign & Date)
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RT WELD Continuation Page

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MISTRAS
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Services Division

Radiographic Examination Report

Division:	590	Client:	JV INDUSTRIAL	Date:	10-31-2011 Page: 1 of 2
Address:	3985 TEAL CT BENICIA, CA 94510	Address:		Mistras Job No:	
				Purchase Order:	
		Contact:	ROYCE SMITH	Reference Number:	WO# 342644 JOB#104329
Phone:	707-746-5870	Location:	CHEVRON RICHMOND	Part/Item Number:	

Code/Specification: ASME SEC V		Acceptance Criteria: ASME B31.3		Procedure: 100-RT-001 REV. 5	Technique: ☐SWE/SWV ☒DWE/SWV ☐DWE/DWV
Material Type: 5 CR	Base Mat'l Thickness: .237"	Weld Joint Type: SINGLE V	Weld Thickness: .387"	Weld Reinforcement: .125"	Radiation Source: ☒Ir 192 ☐Co 60 ☐SE 75 ☐X-Ray
Location Markers: ☒Source-Side ☐Film-Side		IQI Type & ID: B WIRE	IQI Material: SS	IQI Location: ☒Source-Side ☐Film-Side	Focal Spot Size: .146" / Curies/mA-kV: 60
Quality Level: .010"	Shim Material: N/A	Shim Thickness: N/A	Source-Film Distance: 4.5"	Min. Source-Object Distance: 4.113"	Max. Source Side of Object-Film Distance: .387"
Exposure Time: 0:13	Film Mfr. & Type: AGFA D5	Film Technique: ☒Single-Load ☐Multi-Load	Screen Type: Pb	Screen Thickness Front: .010" Back: .010"	No. of Film & Size: 7)4.5" X 10"
Film Viewing: ☒Single ☐Composite	Film Processing: ☐Automatic ☒Manual: Time (min): 4:30		Developer Temp: 72	Comments: B-251262-01 C&D	

Tested Item(s):

ID/Weld No.	View	Original or Repair	Geometric Unsharpness	Accept	Reject	Porosity	Slag/ Inclusions	Lack of Fusion	Incomplete Penetration	Crack	Root Concavity	Root Convexity	Tungsten	Undercut	Weld Contour	Film Artifact	Comments	IQI Density	Weld Density
DX200-E1	0-5	O	<.020"		X			X											
W1156	5-10	O	<.020"	X	✓	✓								✓			ADDED Repair		
WID: FGQ/BHH	10-0	O	<.020"	✓							✓			✓					
DX200-E1	0-5	O	<.020"	✓		✓						✓		✓					
W1157	5-10	O	<.020"	✓		✓								✓					
WID: BHH	10-0	O	<.020"	✓		✓							✓	✓					
DX200-E1	0-5	O	<.020"		X	X													
W1158	5-10	O	<.020"		X	X													
WID: DPM	10-0	O	<.020"	✓															

0418-000-007

Technician, Level & Date	Customer's Signature (if applicable)	Reviewed By (Sign & Date)
LARRY CAMPBELL LVLII 10-31-2011		

MISTRAS Services Division
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Radiographic Examination Report

Division:	590	Client:	JV INDUSTRIAL	Date:	10-31-2011 Page: 1 of 1
Address:	3985 TEAL CT	Address:		Mistras Job No:	
	BENICIA, CA 94510			Purchase Order:	
		Contact:	ROYCE SMITH	Reference Number:	WO# 342644 JOB#104329
Phone:	707-746-5870	Location:	CHEVRON RICHMOND	Part/Item Number:	

Code/Specification: ASME SEC V		Acceptance Criteria: ASME B31.3		Procedure: 100-RT-001 REV. 5	Technique: ☐SWE/SWV ☒DWE/SWV ☐DWE/DWV
Material Type: 5CR	Base Mat'l Thickness: .258"	Weld Joint Type: SINGLE V	Weld Thickness: .383"	Weld Reinforcement: .125"	Radiation Source: ☒Ir 192 ☐Co 60 ☐SE 75 ☐X-Ray
Location Markers: ☒Source-Side ☐Film-Side		IQI Type & ID: B WIRE	IQI Material: SS	IQI Location: ☒Source-Side ☐Film-Side	Focal Spot Size: .146" / Curies/mA-kV: 60
Quality Level: .010"	Shim Material: N/A	Shim Thickness: N/A	Source-Film Distance: 5.563"	Min. Source-Object Distance: 5.180"	Max. Source Side of Object-Film Distance: .383"
Exposure Time: 0:20	Film Mfr. & Type: AGFA D5	Film Technique: ☒Single-Load ☐Multi-Load	Screen Type: Pb	Screen Thickness Front: .010" Back: .010"	No. of Film & Size: (4)4.5" X 10"
Film Viewing: ☒Single ☐Composite	Film Processing: ☐Automatic ☒Manual: Time (min): 4:30		Developer Temp: 72	Comments: B-251262-01 A&B	

Tested Item(s):

ID/Weld No.	View	Original or Repair	Geometric Unsharpness	Accept	Reject	Porosity	Slag/ Inclusions	Lack of Fusion	Incomplete Penetration	Crack	Root Concavity	Root Convexity	Tungsten	Undercut	Weld Contour	Film Artifact	Comments	IQI Density	Weld Density
DX200-F1	0-1	O	<.020"	✓		✓													
W1132	1-2	O	<.020"	✓		✓								✓					
WID: BHH	2-0	O	<.020"	✓		✓					✓								

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Technician, Level & Date	Customer's Signature (if applicable)	Reviewed By (Sign & Date)
RUSSELL SNYDER LVLII 10-31-2011		

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MISTRAS Services Division
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Radiographic Examination Report

Division:	590	Client:	JV INDUSTRIAL	Date:	10-31-2011 Page: 2 of 2
Address:	3985 TEAL CT	Address:	ON FILE	Mistras Job No:	
	BENICIA, CA 94510			Purchase Order:	
		Contact:	ROYCE SMITH	Reference Number:	JOB# 104329 WO# 342644
Phone:	707-746-5870	Location:	CHEVRON RICHMOND	Part/Item Number:	

Tested Item(s):

ID/Weld No.	View	Original or Repair	Geometric Unsharpness	Accept	Reject	Porosity	Slag/ Inclusions	Lack of Fusion	Incomplete Penetration	Crack	Root Concavity	Root Convexity	Tungsten	Undercut	Weld Contour	Film Artifact	Comments	IQI Density	Weld Density
DX200-E1	0-5	O	<.020"	✓		✓											B-251262-01 C&D		
W1159	5-10	O	<.020"	✓		✓								✓					
WID: DPM	10-0	O	<.020"	✓		✓													

04-18-008-002

Technician, Level & Date	Customer's Signature (if applicable)	Reviewed By (Sign & Date)
LARRY CAMPBELL LVLII 10-31-2011		

MISTRAS Services Division
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Radiographic Examination Report

Division:	590	Client:	JV INDUSTRIAL	Date:	10-31-2011	Page:	1 of 1
Address:	3985 TEAL CT	Address:		Mistras Job No:			
	BENICIA, CA 94510			Purchase Order:			
		Contact:	ROYCE SMITH	Reference Number:	WO# 342644 JOB#104329		
Phone:	707-746-5870	Location:	CHEVRON RICHMOND	Part/Item Number:			

Code/Specification: ASME SEC V		Acceptance Criteria: ASME B31.3		Procedure: 100-RT-001 REV. 5		Technique: ☐SWE/SWV ☒DWE/SWV ☐DWE/DWV
Material Type: 5 CR	Base Mat'l Thickness: .237"	Weld Joint Type: SINGLE V	Weld Thickness: .387"	Weld Reinforcement: .125"		Radiation Source: ☒Ir 192 ☐Co 60 ☐SE 75 ☐X-Ray
Location Markers: ☒Source-Side ☐Film-Side		IQI Type & ID: B WIRE	IQI Material: SS	IQI Location: ☒Source Side ☐Film-Side		Focal Spot Size: .146" / Curies/mA-kV: 60
Quality Level: .010"	Shim Material: N/A	Shim Thickness: N/A	Source-Film Distance: 4.5"	Min. Source-Object Distance: 4.113"		Max. Source Side of Object-Film Distance: .387"
Exposure Time: 0:13	Film Mfr. & Type: AGFA D5	Film Technique: ☒Single-Load ☐Multi-Load	Screen Type: Pb	Screen Thickness Front: .010" Back: .010"		No. of Film & Size: 7)4.5" X 10"
Film Viewing: ☒Single ☐Composite	Film Processing: ☐Automatic ☒Manual: Time (min): 4:30		Developer Temp: 72	Comments: B-251262-01 A&B		

Tested Item(s):

ID/Weld No.	View	Original or Repair	Geometric Unsharpness	Accept	Reject	Porosity	Slag/ Inclusions	Lack of Fusion	Incomplete Penetration	Crack	Root Concavity	Root Convexity	Tungsten	Undercut	Weld Contour	Film Artifact	Comments	IQI Density	Weld Density
DX200-E1	0-5	O	<.020"	✓										✓					
W1136	5-10	O	<.020"	✓		✓													
WID: DPM	10-0	O	<.020"	✓		✓								✓					
DX200-E1	0-5	O	<.020"	✓										✓					
W1137	5-10	O	<.020"	✓		✓					✓								
WID: BXX/BHH	10-0	O	<.020"	✓		✓													

0418-006-007

Technician, Level & Date	Customer's Signature (if applicable)	Reviewed By (Sign & Date)
LARRY CAMPBELL LVLII 10-31-2011		

RT WELD

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MISTRAS Services Division
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Radiographic Examination Report

Division:	590	Client:	JV INDUSTRIAL	Date:	10-31-2011	Page:	1 of 1
Address:	3985 TEAL CT	Address:		Mistras Job No:			
	BENICIA, CA 94510			Purchase Order:			
		Contact:	ROYCE SMITH	Reference Number:	WO# 342644 JOB#104329		
Phone:	707-746-5870	Location:	CHEVRON RICHMOND	Part/Item Number:			

Code/Specification: ASME SEC V		Acceptance Criteria: ASME B31.3		Procedure: 100-RT-001 REV. 5	Technique: ☐SWE/SWV ☒DWE/SWV ☐DWE/DWV
Material Type: SCR	Base Mat'l Thickness: .258"	Weld Joint Type: SINGLE V	Weld Thickness: .383"	Weld Reinforcement: .125"	Radiation Source: ☒Ir 192 ☐Co 60 ☐SE 75 ☐X-Ray
Location Markers: ☒Source-Side ☐Film-Side		IQI Type & ID: B WIRE	IQI Material: SS	IQI Location: ☒Source-Side ☐Film-Side	Focal Spot Size: .146" / Curies/mA-kV: 60
Quality Level: .010"	Shim Material: N/A	Shim Thickness: N/A	Source-Film Distance: 5.563"	Min. Source-Object Distance: 5.180"	Max. Source Side of Object-Film Distance: .383"
Exposure Time: 0:20	Film Mfr. & Type: AGFA D5	Film Technique: ☒Single-Load ☐Multi-Load	Screen Type: Pb	Screen Thickness Front: .010" Back: .010"	No. of Film & Size: (7)4.5" X 10"
Film Viewing: ☒Single ☐Composite	Film Processing: ☐Automatic ☒Manual: Time (min): 4:30		Developer Temp: 72	Comments: B-251262-01 C&D	

Tested Item(s):

ID/Weld No.	View	Original or Repair	Geometric Unsharpness	Accept	Reject	Porosity	Slag/ Inclusions	Lack of Fusion	Incomplete Penetration	Crack	Root Concavity	Root Convexity	Tungsten	Undercut	Weld Contour	Film Artifact	Comments	IQI Density	Weld Density
DX200-E1	0-1	O	<.020"	✓		✓					✓			✓					
W1148	1-2	O	<.020"	✓		✓								✓					
WID: DPM	2-0	O	<.020"	✓		✓								✓					
DX200-E1	0-1	O	<.020"	✓		✓													
W1151	1-2	O	<.020"		X	X													
WID: BHH	2-0	O	<.020"		X			X											

01-18-006-007

Technician, Level & Date	Customer's Signature (If applicable)	Reviewed By (Sign & Date)
RUSSELL SNYDER LVLII 10-31-2011		

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