MISTRAS
A World of NDT Solutions
Services Division

Radiographic Examination Report

Division:	590	Client:	JV INDUSTRIAL	Date:	11-05-2011 Page: 1 of 4
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: (19)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	0	<.020"	✓		✓					✓			✓					
W1148	1-2	0	<.020"	✓		✓													
WID: DPM	2-0	0	<.020"	✓		✓													
DX200-E1	0-1	0	<.020"	✓															
W1149	1-2	0	<.020"	✓									✓				TUNGSTEN ELECTROD ON INSIDE OF PIPE		
WID: DPM	2-0	0	<.020"	✓													Pending Removal		
DX200-E1	0-1	0	<.020"	✓															
W1150	1-2	0	<.020"	✓															
WID: DPM	2-0	0	<.020"	✓		✓													

0418-0001-007

Technician, Level & Date	Customer's Signature (if applicable)	Reviewed By (Sign & Date)
RUSSELL SNYDER LVEL II 11-05-2011		

RT WELD

100-RTFORM-001(Original)

MISTRAS Services Division
A World of NDT Solutions

Radiographic Examination Report

Division:	590	Client:	JV INDUSTRIAL	Date:	11-05-2011 Page: 2 of 4
Address:	3985 TEAL CT BENICIA, CA 94510	Address:	ON FILE	Mistras Job No:	
				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-251262-01 C&D		
W1151	1-2	O	<.020"	✓															
WID: CZO	2-0	O	<.020"		X			X									→ Repair		
DX200-E1	0-1	O	<.020"	✓													B-251262-01 C&D		
W1152	1-2	O	<.020"	✓										✓					
WID: DPM	2-0	O	<.020"	✓										✓					
DX200-E1	~~0-1~~	O	<.020"	✓													B-251262-01 C&D		
W1153	~~1-2~~	~~O~~	~~<.020"~~		X			X									→ Reshot Density Weld.		
WID: DPM	~~2-0~~	O	<.020"	✓		✓													
DX200-E1	0-1	O	<.020"	✓		✓										✓	B-251262-01 C&D		
W1154	1-2	O	<.020"	✓		✓							✓	✓					
WID: DMT/BHH	2-0	O	<.020"	✓		✓							✓						
DX200-E1	0-1	O	<.020"	✓													B-251262-01 C&D		
W1155	1-2	O	<.020"	✓		✓											Reshot Weld		
WID: BXX	2-0	O	<.020"	✓		✓													

Technician, Level & Date	Customer's Signature (if applicable)	Reviewed By (Sign & Date)
RUSSELL SNYDER/LVLII 11-05-2011		

RT WELD Continuation Page

100-RTFORM-001p2(Original)

MISTRAS Services Division
A World of NDT Solutions

Radiographic Examination Report

Division: 590
Address: 3985 TEAL CT
BENICIA, CA 94510
Phone: 707-746-5870

Client: JV INDUSTRIAL
Address: ON FILE
Contact: ROYCE SMITH
Location: CHEVRON RICHMOND

Date: 11-05-2011 Page: 3 of 4
Mistras Job No:
Purchase Order:
Reference Number: JOB# 104329 WO# 342644
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-251262-01 C&D		
W1156	1-2	O	<.020"	✓		✓								✓					
WID: CMV	2-0	O	<.020"	✓		✓							✓	✓					
DX200-E1	0-1	O	<.020"	✓		✓											B-251262-01 C&D		
W1157	1-2	O	<.020"	✓		✓								✓					
WID: BHH	2-0	O	<.020"	✓		✓						✓		✓					
DX200-E1	0-1	O	<.020"	✓													B-251262-01 C&D		
W1158	1-2	O	<.020"	✓															
WID: CMV	2-0	O	<.020"	✓		✓							✓						
DX200-E1	0-1	O	<.020"	✓		✓								✓			B-251262-01 C&D		
W1159	1-2	O	<.020"	✓		✓								✓					
WID: DPM	2-0	O	<.020"	✓															
DX200-E1	0-1	O	<.020"	✓													B-251262-01 C&D		
W1160	1-2	O	<.020"	✓		✓													
WID: DPM	2-0	O	<.020"	✓		✓													

Technician, Level & Date: RUSSELL SNYDER LVLII 11-05-2011

Customer's Signature (if applicable):

Reviewed By (Sign & Date):

RT WELD Continuation Page

100-RTFORM-001p2(Original)

MISTRAS Services Division
A World of NDT Solutions

Radiographic Examination Report

Division: 590
Address: 3985 TEAL CT
BENICIA, CA 94510
Phone: 707-746-5870

Client: JV INDUSTRIAL
Address: ON FILE
Contact: ROYCE SMITH
Location: CHEVRON RICHMOND

Date: 11-05-2011 Page: 4 of 4
Mistras Job No:
Purchase Order:
Reference Number: JOB# 104329 WO# 342644
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-251262-01 C&D		
W1161	1-2	O	<.020"	✓		✓													
WID: DPM	2-0	O	<.020"	✓		✓													
DX200-E1	0-1	O	<.020"	✓		✓								✓			B-251262-01 C&D		
W1162	1-2	O	<.020"	✓		✓								✓					
WID: BHH	2-0	O	<.020"	✓		✓								✓					
DX200-E1	0-1	O	<.020"	✓		✓								✓			B-251262-01 C&D		
W1163	1-2	O	<.020"	✓		✓								✓					
WID: BHH	2-0	O	<.020"	✓										✓					
DX200-E1	0-1	O	<.020"	✓													B-251262-01 C&D		
W1164	1-2	O	<.020"	✓															
WID: CMV	2-0	O	<.020"	✓		✓							✓						
DX200-E1	0-1	O	<.020"	✓		✓								✓			B-251262-01 C&D		
W1165	1-2	O	<.020"	✓		✓							✓	✓					
WID: BHH	2-0	O	<.020"	✓		✓								✓					

04-18-000-007

Technician, Level & Date: RUSSELL SNYDER II/III 11-05-2011
Customer's Signature (if applicable):
Reviewed By (Sign & Date):

RT WELD Continuation Page

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MISTRAS Asset Protection Solutions | Services Division

Radiography Examination Report

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

Client: JVI
Location: RLOP T/A
Date: 11-7-11
Page: 1 of 1
Part/Item No: 4" Butt Weld
Mistras Job No:
Contact: Royce Smith
Description: DX200-E1
Purchase Order: 342644

Code/Specification: ASME Sec V		Acceptance Criteria		Procedure: 100-RT-001	Technique: ☐ SWE/SWV ☑ DWE/SWV ☐ DWE/DWV
Material Type: 5 cr	Base Mat'l Thickness	Weld Joint Type: Butt Weld	Weld Thickness	Weld Reinforcement: .125	Radiation Source: ☑ Ir 192 ☐ Co 60 ☐ SE 75 ☐ X-Ray
Location Markers: ☐ Source-Side ☑ Film-Side		IQI Type & ID	IQI Material	IQI Location: ☐ Source-Side ☑ Film-Side	Focal Spot Size: .146 / Curies/mA-kV: 57 ci
Quality Level: .010	Shim Material: N/A	Shim Thickness: N/A	Source-Film Distance	Min. Source-Object Distance	Max. Source Side of Object-Film Distance
Exposure Time	Film Mfr. & Type: AGFA D-5	Film Technique: ☑ Single-Load ☐ Multi-Load	Screen Type: Pb	Screen Thickness: Front: .010 Back: .010	No. of Film & Size: 3-4.5x10
Film Viewing: ☑ Single ☐ Composite	Film Processing: ☐ Automatic ☑ Manual: Time (min): 5min		Developer Temperature: 68°	Comments: After Stress 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
#1153	0-1			✓		✓											After PWHT		
DPM	1-2				X	✓		X											
	2-0			✓		✓													

0418-006-007

Technician, Level & Date	Customer's Signature (if applicable)	Reviewed By (if applicable)
Eddie Bouvier Lvl II 11-7-11	[signature]	

CERTIFICATION OF INSPECTION, RADIOGRAPHY [WELDS]

100-RTFORM-001 | REV 1

CUSA-EPA-0007102

MISTRAS Asset Protection Solutions | Services Division

Radiography Examination Report

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

Client: JVI
Location: RLOP T/A
Date: 11-7-11
Page: 1 of 1
Part/Item No: 4" Butt Welds
Mistras Job No:
Contact: Royce Smith
Description: DX200-E1
Purchase Order: 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: Buttweld	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: B-Wire	IQI Material: SS	IQI Location: ☐ Source-Side ☑ Film-Side	Focal Spot Size: 146 / Curies/mA-kV: 57
Quality Level: .010"	Shim Material: N/A	Shim Thickness: N/A	Source-Film Distance: 4.5	Min. Source-Object Distance: Contact	Max. Source Side of Object-Film Distance: 4.5
Exposure Time: 12 sec	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"x10"
Film Viewing: ☑ Single ☐ Composite	Film Processing: ☐ Automatic ☑ Manual: Time (min): 5 min		Developer Temperature: 68°	Comments: ~~After Stress~~ CB 11-8-11	

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-1153-R1	0-1	0		✓										✓			B-251262-02 C+D Before Stress		
ID-DPM	1-2			✓		✓													
	2-0			✓		✓													
W-1145	0-1	0		✓		✓								✓			B-251262-01 A+B		
ID-BHH																	After Stress		

0418-006-007

Technician, Level & Date	Customer's Signature (if applicable)	Reviewed By (if applicable)
Eddie Bouvier 11-7-11	[signature]	

CERTIFICATION OF INSPECTION, RADIOGRAPHY [WELDS]

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CUSA-EPA-0007103

MISTRAS Asset Protection Solutions | Services Division

Radiography Examination Report

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

Client: JVI
Location: PICP T/A
Date: 11-7-11 Page: 1 of
Part/Item No: 4" Butt weld
Mistras Job No:
Contact: Kouce Smith
Description: DX200-E1
Purchase Order: 342641

Code/Specification: ASME Sec V		Acceptance Criteria: B313		Procedure: 100-RT-001	Technique: ☐ SWE/SWV ☑ DWE/SWV ☐ DWE/DWV
Material Type: SS	Base Mat'l Thickness: .237	Weld Joint Type: Butt weld	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: D-wire	IQI Material: SS	IQI Location: ☐ Source-Side ☑ Film-Side	Focal Spot Size: 1.6 / Curies/mA-kV: 57
Quality Level: 010	Shim Material: N/A	Shim Thickness: N/A	Source-Film Distance: 45	Min. Source-Object Distance: Contact	Max. Source Side of Object-Film Distance: 45
Exposure Time: 12 sec	Film Mfr. & Type: AGFA D-5	Film Technique: ☑ Single-Load ☐ Multi-Load	Screen Type: Pb	Screen Thickness: Front: .010 Back: .010	No. of Film & Size: 1 - 4.5x10
Film Viewing: ☑ Single ☐ Composite	Film Processing: ☐ Automatic ☑ Manual: Time (min): 5min		Developer Temperature: 68	Comments: ~~After Stress~~ 11-8-11	

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-1140 R1 DPM	0-1	R	.011	✓		✓							✓				B-251262-01 A&B		

0418-006-007

Technician, Level & Date: Eddie Bauer 11-7-11
Customer's Signature (if applicable):
Reviewed By (if applicable):

MISTRAS Asset Protection Solutions | Services Division

Radiography Examination Report

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

Client: JVI
Contact: Royce Smith
Location: PLOP T/A
Part/Item No: 5" Butt Weld
Description: DX200-E1
Date: 11-7-11
Page: 1 of 1
Mistras Job No:
Purchase Order: 342644

Code/Specification: ASME Sec V		Acceptance Criteria: B31.3		Procedure: 100-RT-001	Technique: ☐ SWE/SWV ☑ DWE/SWV ☐ DWE/DWV
Material Type: 5 Cr	Base Mat'l Thickness: .258	Weld Joint Type: Butt weld	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: 57
Quality Level: .010"	Shim Material: N/A	Shim Thickness: N/A	Source-Film Distance: 5.5	Min. Source-Object Distance: Contact	Max. Source Side of Object-Film Distance: 5.5
Exposure Time: 20 sec	Film Mfr. & Type: AGFA D-5	Film Technique: ☑ Single-Load ☐ Multi-Load	Screen Type: Pb	Screen Thickness: Front: .010 Back: .010	No. of Film & Size: 1-4.5x10
Film Viewing: ☑ Single ☐ Composite	Film Processing: ☐ Automatic ☑ Manual: Time (min): 5 min		Developer Temperature: 68°	Comments: ~~After Stress~~ 05-11-8-11	

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-1151 R1	2-0	R	.011	✓		✓							✓						

0418-006-007

Technician, Level & Date	Customer's Signature (if applicable)	Reviewed By (if applicable)
Eddie Bouvier 11-7-11	[signature]	

CERTIFICATION OF INSPECTION, RADIOGRAPHY [WELDS]

100-RTFORM-001 | REV 1

MISTRAS Asset Protection Solutions | Services Division

Radiography Examination Report

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

Client: JVI
Contact: Royce Smith
Location: RLOP TA
Part/Item No: 4" Butt Weld
Description: DX200-E1
Date: 11-7-11
Page: 1 of 1
Mistras Job No:
Purchase Order: 342644

Code/Specification: ASME Sec V		Acceptance Criteria: B313		Procedure: 100-RT-001	Technique: ☐ SWE/SWV ☑ DWE/SWV ☐ DWE/DWV
Material Type: Scr	Base Mat'l Thickness: .237	Weld Joint Type: Butt weld	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: B-wire	IQI Material: SS	IQI Location: ☐ Source-Side ☑ Film-Side	Focal Spot Size: .146 / Curies/mA-kV: 57
Quality Level: .010	Shim Material: N/A	Shim Thickness: N/A	Source-Film Distance: 4.5	Min. Source-Object Distance: Contact	Max. Source Side of Object-Film Distance: 4.5
Exposure Time: 12 sec	Film Mfr. & Type: AGFA D-5	Film Technique: ☑ Single-Load ☐ Multi-Load	Screen Type: Pb	Screen Thickness: Front: .010 Back: .010	No. of Film & Size: 4 - 4.5x10
Film Viewing: ☑ Single ☐ Composite	Film Processing: ☐ Automatic ☑ Manual: Time (min): 5min		Developer Temperature: 68°	Comments: After Stress	

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-1155 •	0-1	0	.011	✓													B-251262-01 A & B		
BXX	1-2			✓		✓													
	2-0			✓		✓							✓						
W-1146 •	2-0			✓										✓					
ESO																			

0418-006-007

Technician, Level & Date	Customer's Signature (if applicable)	Reviewed By (if applicable)
Eddie Bouvier 11-7-11	[signature]	

CERTIFICATION OF INSPECTION, RADIOGRAPHY [WELDS]

100-RTFORM-001 | REV 1

CUSA-EPA-0007106