

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 13.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-015042**Date Inspected:** 21-Jun-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1000**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**Contractor:** Oregon Iron Works Clackamas, Or.**Location:** Clackamas, OR

CWI Name:	M. Gregson, J. Salazar, G. Mundt	CWI Present:	Yes	No			
Inspected CWI report:	Yes	No	N/A	Rod Oven in Use:	Yes	No	N/A
Electrode to specification:	Yes	No	N/A	Weld Procedures Followed:	Yes	No	N/A
Qualified Welders:	Yes	No	N/A	Verified Joint Fit-up:	Yes	No	N/A
Approved Drawings:	Yes	No	N/A	Approved WPS:	Yes	No	N/A
				Delayed / Cancelled:	Yes	No	N/A
Bridge No:	34-0006	Component:	Hinge K Pipe Beams				

Summary of Items Observed:

The Quality Assurance Inspector Sean Vance arrived on site at Oregon Iron Works, Inc (OIW) in Clackamas, OR, to randomly observe the in process welding of the Hinge K Pipe Beam assemblies. The QA Inspector arrived on site to randomly observe the OIW Quality Control (QC) Inspectors in process and completed visual and nondestructive testing. Upon the arrival of the QA Inspector the following observations were made:

Hinge-K Pipe Beam Assembly 101A-3:

The QA Inspector observed WID # D23 (Viktor Deyna), performing Flux Core Arc Welding (FCAW), on the non-critical weld repair (WRR # 2244-10-06). The QA Inspector observed that this weld joint was designated as # W4-01, Fuse 120A-3 to Forging 102A-3 and that WID # D23 was performing the FCAW in the vertical position, from the interior side of the weld joint.

The QA Inspector observed that the pre-heat was being applied to the joint with a previously set-up stationary rosebud torch and observed that OIW QC Inspector Jose' Salazar was present on this shift. QC Inspector Salazar explained that he was intermittently monitoring the welding parameters and pre-heat during the FCAW, at approximately 30 minute intervals. QC Inspector Salazar explained that Welding Procedure Specification (WPS) 3048 was being utilized for the repair and the QA Inspector observed that a copy of the WPS was nearby the work area. QC Inspector Salazar explained that prior to the FCAW being started, that pre-heat was verified to be approximately 400 degrees Fahrenheit and travel speed of 7 inches per minute (178 mm/minute). The QA Inspector then observed the welding parameters to be 220 amps and 25 volts, during the in-process FCAW. The QA Inspector reviewed the applicable Weld Repair and Ultrasonic Testing Report (WRR # 10-06 and 10-UT-08) and observed that this repair was designated as Indication # 5, per the reports.

The QA Inspector later observed that the FCAW had been completed by end of shift and post heat was being

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applied to the repair area, utilizing the stationary torch. The QA Inspector randomly recorded a post heat temperature of approximately 450 degrees Fahrenheit and observed that the post heat had been started at 1500 and requires 2 hrs. , per the WRR.

The QA Inspector was present on this swing shift and observed that the post heat had continued until 1700, which appeared to be in compliance with the WRR.

The QA Inspector observed swing shift WID #S74 (Bounheune Savanh) performing additional backgouging, utilizing the Carbon Arc process on the above mentioned weld joint. The QA Inspector observed that the backgouging was being performed on the non-critical weld repair plotted as Indication # 3, per the applicable WRR # 10-06. The QA Inspector observed that OIW QC Inspector Gary Mundt was present on this swing shift and Mr. Mundt explained that OIW production had decided to perform this additional backgouging, due to not visually discovering the defect in the weld on the initial backgouge.

The QA Inspector later observed that the backgouging had been completed and WID # S74 was performing Flux Core Arc welding (FCAW) on the repair, in the vertical position. QC Inspector Mundt explained that he had performed Visual and Magnetic particle testing on the excavation and found no rejectable indications. QC Inspector Mundt explained that the backgouge area was measured and did not exceed 65 % of the weld thickness, which would require a Critical Weld Repair.

QC Inspector Mundt then explained that Welding Procedure Specification (WPS) 3048 was being utilized for the repair and that prior to the FCAW being started, pre-heat was verified to be approximately 400 degrees Fahrenheit and travel speed of 9 inches per minute (229 mm/minute). QC Inspector Mundt explained that in-process welding parameters were recorded at 230 amps and 25 volts, during the in-process FCAW and the QA Inspector verified these parameters.

Material, Equipment, and Labor Tracking (MELT)

QA Inspector Sean Vance performed a verification of material, personnel and equipment involved with the project.

The QA Inspector observed at Oregon Iron Works Clackamas: 3 OIW production personnel and 2 QC Inspectors.



Summary of Conversations:

As noted above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

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Inspected By:	Vance,Sean	Quality Assurance Inspector
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Reviewed By:	Adame,Joe	QA Reviewer
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