

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-013877**Date Inspected:** 04-May-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-4:

The QA Inspector observed WID #S53 (Jerry Shephard), performing the backgouge on the Weld Joint #W4-01. The QA Inspector noted that this Complete Joint Penetration (AWS D1.5 B-U7-S), was the Fuse 120A-4 to Forging 102A-4 and that OIW QC Inspector Jose' Salazar was present, during this shift. QC Inspector Salazar explained that prior to the backgouging, he had verified a pre-heat temperature of approximately 150 degrees Fahrenheit (66 C). The QA Inspector noted that the interior portion of the weld had been previously completed and that the backgouging being performed was from the exterior, to clean the root pass to sound metal. The QA Inspector observed that WID #S53 was performing the backgouge utilizing the Carbon Arc process and observed that WID #S73 was performing this from a scissor lift and that the Assembly was slowly rotating, for ease of performing the backgouge. The QA Inspector randomly verified pre-heat temperature to be in compliance with the minimum 150 degrees Fahrenheit. The QA Inspector spoke with QC Inspector Jose' Salazar and QC Inspector Salazar explained that the Carbon Arcing will remove most of the material and then a grinder will be utilized, to remove the remaining material. The QA Inspector noted that with the backgouging of the previous assemblies, OIW had utilized a hand held grinder with an attached 9" disc. The QA Inspector observed that the backgouging continued throughout the end of the shift.

The QA Inspector was present on this swing shift and observed that WID #B10 (Liem Bui) was continuing to

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perform the backgouging, utilizing the Carbon Arc process, on the above mentioned Weld Joint. The QA Inspector observed that OIW QC Inspector Gary Mundt was present and QC Inspector Mundt explained that he had verified the minimum pre-heat temperature of 150 degrees Fahrenheit. The QA Inspector then randomly observed WID #B10, perform a check with a 150 degree Fahrenheit Tempilstick indicator. QC Inspector Mundt explained that the backgouging will continue throughout the shift. See attached pictures below.

Hinge-K Pipe Beam Assembly 102A-3:

The QA Inspector observed WID #B62 (Marcus Belgarde), performing the submerged arc welding (SAW) on the a109 Post Tension Cap plate to b106 HPS 485W stiffener. The QA Inspector noted that this weld joint was designated as a partial joint penetration (AWS D1.5 TC-P4-S), weld joint (WJ) #W2-18 and WID #B62 was performing the SAW in the flat (1G) position. The QA Inspector noted that the SAW root passes were currently in-process and that the OIW approved welding procedure specification (WPS 4020), was being utilized. The QA Inspector observed that QC Inspector Jose´ Salazar, was present and QC Inspector Salazar explained that the in-process welding parameters/pre-heat temperatures, were intermittently verified. QC Inspector Salazar explained that the average welding parameters for the SAW root passes were recorded at 405 amps/27.9 volts, with a pre-heat of approximately 350 degrees Fahrenheit (177 C) and travel speed of 16 inches per minute (i.p.m). The QA Inspector randomly verified pre-heat of approximately 350 degrees Fahrenheit (177 C) and welding parameters to be in compliance with the applicable WPS 4020. QC Inspector Salazar later explained that the root pass had been completed and he then performed 100% Visual and Magnetic Particle Testing (VT/MT) on the root pass. QC Inspector Salazar explained that no rejectable indications were found during the testing and WID #B62 was currently depositing the fill passes, on the Weld Joint QC Inspector Salazar explained that the SAW fill passes will continue throughout the entire shift and swing shift will resume.

The QA Inspector observed on this swing shift that WID #B61 (Yuriy Bannikov) was continuing to perform the SAW on the above mentioned weld joint. The QA Inspector observed that WID #B61 was currently depositing the fill passes in the flat (1G position). The QA Inspector observed that OIW QC Inspector Gary Mundt was present and QC Inspector Mundt explained that he had recorded welding parameters of 620 amps, 33 volts and a travel speed of 18 inches per minute. QC Inspector Mundt explained that he had verified pre-heat to be approximately 350 degrees Fahrenheit. The QA Inspector randomly verified the welding parameters and pre-heat to be in compliance with the applicable WPS. QC Inspector Mundt later explained that the SAW has been completed on Weld Joint #W2-18 and WID will start the SAW on Weld Joint #W2-17.

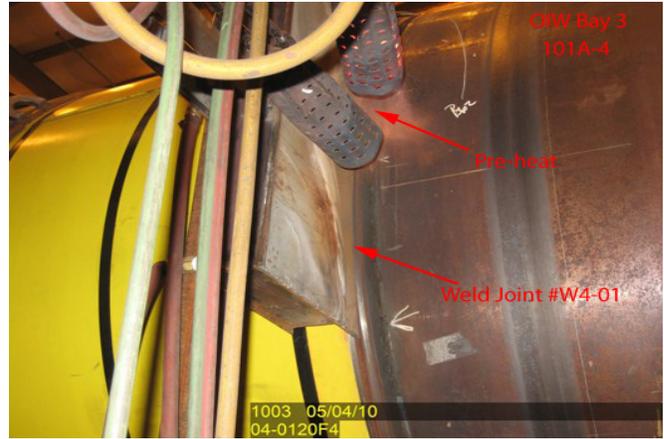
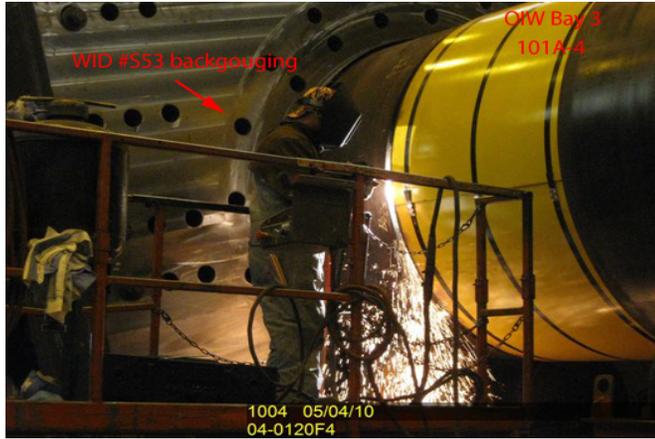
The QA Inspector later observed that WID #B62 was in-process of SAW on the Partial Joint Penetration (#W2-17) and was depositing the fill passes.

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: 4 OIW production personnel and 2 QC Inspectors.

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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.

Inspected By: Vance, Sean

Quality Assurance Inspector

Reviewed By: Adame, Joe

QA Reviewer