

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-012793**Date Inspected:** 18-Mar-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**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 102A-2:

The QA Inspector witnessed WID #B62 (Marcus Belgarde), performing the submerged arc welding (SAW) on the a110-2 Base plate to ab106 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) #W2-23 and WID #B62 was performing the SAW in the flat (1G) position. The QA Inspector noted that the SAW fill passes were currently in-process and noted that the OIW approved welding procedure specification (WPS 4020), was being utilized. The QA Inspector noted 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 fill passes were recorded at 620 amps/33.5 volts, with a pre-heat of approximately 350 degrees Fahrenheit (177 C) and travel speed of 23 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. The QA Inspector noted that the SAW appeared to be in compliance with AWS D1.5 and the applicable WPS.

Hinge-K Pipe Beam Assembly 101A-1:

The QA Inspector was informed by OIW QC Inspector Jose´ Salazar that he had completed the Visual and

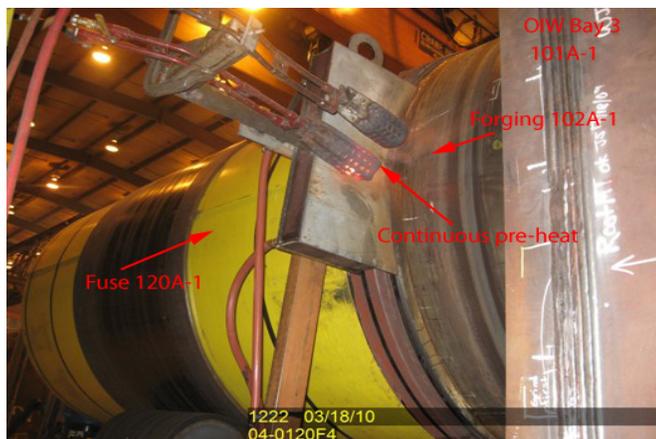
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Magnetic Particle Testing (VT/MT) on the previously backgouged root pass, designated as weld joint (WJ) # WM4-1. The QA Inspector noted that this WJ was the 120A-1 Fuse to 102A-1 Forging and was designated as an AWS D1.5 B-U7-S Complete Joint Penetration (CJP), double U Groove, with a 20 degree included angle bevel prep. QC Inspector Salazar explained that the VT/MT was performed in accordance to AWS D1.5 Visual Testing Standards and OIW approved Magnetic Particle Testing procedure, QC -113 and no rejectable indications were found. QC Inspector Salazar explained that he had measured the completed backgouge depth from the outside, where the backgouging had been performed, during the VT and had recorded an average depth of 65 mm and the QA Inspector verified this. QC Inspector Salazar explained that he will then complete an applicable MT report and sign off on the part as VT/MT OK-Root Pass, on this date. The QA Inspector then performed 100% VT and MT on the completed WJ #WM4-1 root pass and found no rejectable indications. The QA informed QC Inspector Salazar of the testing results and completed the applicable Magnetic Particle Testing report (TL6028). QC Inspector Salazar then explained that OIW production will start the pre-heating in preparation for the exterior fill passes on the weld joint # WM4-1. QC Inspector Salazar explained that he will be present the entire shift, to monitor the pre-heat temperatures and welding activities, if any. The QA Inspector noted that the Visual and Magnetic particle testing performed by QC Inspector Salazar appeared to be in compliance with AWS D1.5 and the applicable testing procedure. See attached pictures below.

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: 2 OIW production personnel and 2 QC Inspectors. The QA Inspector noted the following personell were present at AG Machine Works: 1 AG Machinist and 1 Supervisor.



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

Reviewed By: Adame,Joe

QA Reviewer