

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-012481**Date Inspected:** 04-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, 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:

OIW Fabrication Shop-Bay 3

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 a106 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) #W2-20 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 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 these SAW root passes, were recorded at 470 amps/32 volts, with a pre-heat of approximately 350 degrees Fahrenheit (177 C) and travel speed of 18 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 was later informed by QC Inspector Salazar that the weld joint #W2-20 root pass was complete. QC Inspector Salazar then explained that the root pass had cooled to ambient temperature and he then performed 100% visual (VT) and magnetic particle testing (MT). QC Inspector Salazar explained that no rejectable indications, per AWS D1.5 and OIW MT procedure QC-113, Rev. #3. The

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QA Inspector noted that the SAW and VT/MT Inspection appeared to be in compliance with AWS D1.5, the applicable WPS and OIW approved procedures. See attached picture below.

The QA Inspector was present on this swing shift and noted that WID #V7 (Vincent Vue), was setting up to continue the SAW on this weld joint #W2-20. The QA Inspector spoke with QC Inspector Gary Mundt and he explained that he will be present during the entire swing shift to monitor welding activities. QC Inspector Mundt later explained that WID #V7 had finished setting up and was now performing the SAW and that he had verified the pre-heat to be in compliance with the minimum 350 degrees Fahrenheit, prior to performing the SAW. QC Inspector Mundt explained that he then recorded average in-process welding parameters of 600 amps, 33 volts and travel speed of 24 i.p.m., for the cover passes. QC Inspector Mundt explained that WID #V7 will continue the SAW, for the entire shift.

Hinge-K Pipe Beam Assembly 102A-3:

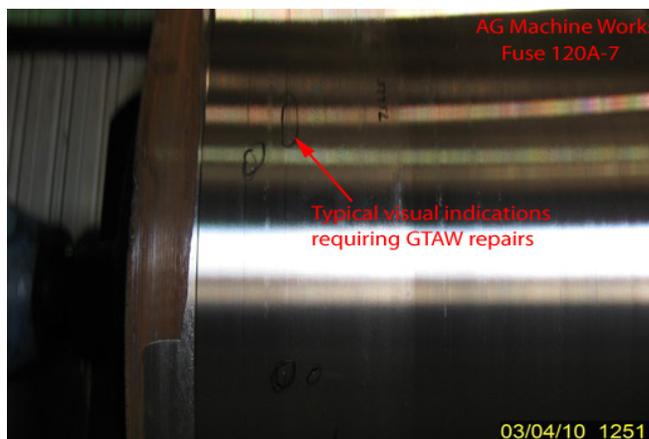
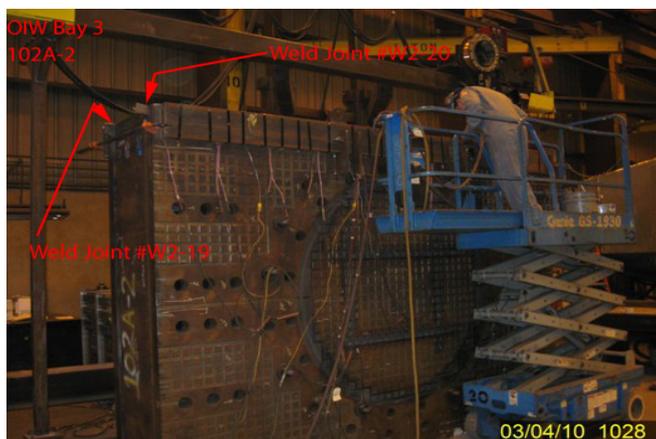
The QA Inspector noted that OIW production personell were continuing to set this assembly 102A-3 in the machining positioner, in preparation for the machining on the mill-to-bear stiffeners. The QA Inspector noted that OIW did not start machining on the stiffeners, on this date. See attached picture below.

AG Machining (Boring, OR)

On this date, the QA Inspector arrived at AG Machine Works, to witness the final machining on the Fuse 120A-7. The QA Inspector met with the AG machinist and the machinist explained that the second cut pass was currently in-process and was approximately 90% complete. The machinist explained that approximately 50 + visual indications were now present in the machined overlay surface, that will require weld repairs. The machinist explained that due to the depths, up to 3mm and lengths up to 145 mm, the indications will not completely machine out and the repairs will be needed. The machinist then explained that OIW will probably be arriving on 3/5/10, to perform the weld repairs and explained that once the repairs are complete, no blending will be required, as one more additional cut pass will be required of approximately .5 mm deep and then the finish honing will start. See attached picture 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, 1 QC Inspector and 1 Supervisor. The QA Inspector observed at AG Machine Works: 1 AG Machinist and 1 AG Supervisor.



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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
