

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-013192**Date Inspected:** 15-Apr-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 120A-2:

The QA Inspector witnessed WID #F17 (Igor Frolov), removing the temporary ring, on the end of the Fuse 120A-2. The QA Inspector noted that OIW had previously tack welded this ring to the end of the Fuse, to accommodate a fit on the mechanical rollers, during the Electroslag Welding (ESW) and overlay repairs. The QA Inspector noted that WID #F17 was utilizing a hand held oxygen acetylene cutting torch, to cut the temporary tack welds. WID #F17 explained to the QA Inspector that he was currently removing the last two tacks and he will then grind the areas flush, to the adjacent base metal. The QA Inspector later witnessed WID #F17 grinding the areas flush, utilizing a hand held mechanical grinder, with an attached 9" disc. WID #F17 explained that he will continue to perform the grinding on the tack welds and then will grind on the arc strikes which are present on the a125 ring stiffener. The QA Inspector noted that the arc strikes were due to improper placement of the welding ground clamp, during the previous overlay repairs at AG Machine Works. The QA Inspector noted that there were a total of 8 arc strike areas on the stiffener and that once ground to sound metal, 100 % Visual and Magnetic Particle (VT/MT) will be performed by OIW QC personell. The QA Inspector noted that per AWS D1.5, that a Brinell hardness test will also be performed. The QA Inspector noted that this Fuse will eventually be transferred to AG Machine Works, for final machining of the overlay and final facing of the end, in which the temporary ring was removed. See attached pictures below.

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

Hinge-K Pipe Beam Assembly 101A-2:

The QA Inspector witnessed OIW production Darren Dozier, perform grinding, on the completed weld joint (WJ) # WM4-1. The QA Inspector noted that this was the AWS D1.5 Complete Joint Penetration B-U7-S Fuse 120A-5 to Forging 102A-2. The QA Inspector noted that Mr. Dozier was grinding ,utilizing a hand held mechanical grinder, with an attached 9” disc. Mr. Dozier explained to the QA Inspector, that he was instructed to grind the weld cap flush and that he will probably continue grinding the entire shift.

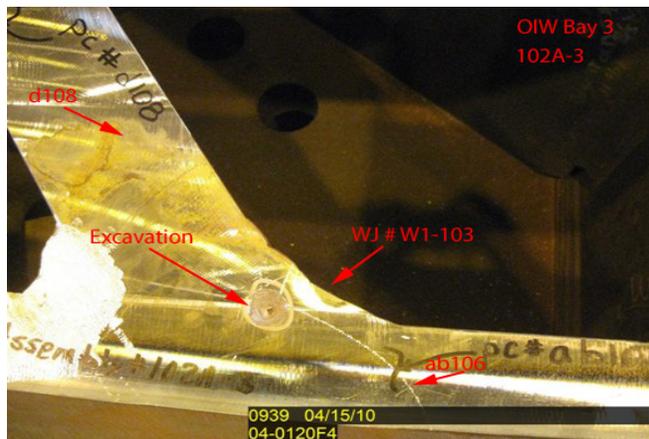
The QA Inspector was present on this swing shift and witnessed WID #V7 (Vincent Vue) continuing to grind the above mentioned weld joint, in the same manner. WID #V7 explained to the QA Inspector that he will continue grinding, possibly the entire shift, until the grinding flush of the weld cap is complete. The QA Inspector noted that once the grinding is complete and the 72 hrs. cooling time expires, per AWS D1.5, that OIW QC Personell will perform Ultrasonic Weld Inspection (UT), on the weld joint. See attached picture below.

Hinge-K Pipe Beam Assembly 102A-3:

The QA Inspector was informed by OIW QC Inspector that during the Final Magnetic Particle Testing (MT) on the Mill to Bear Stiffener ends, indications were discovered. QC Inspector Salazar explained that once the indications were initially discovered, that WID #B62 (Marcus Belgarde) had performed exploratory grinding, utilizing a mechanical die grinder with an attached burring bit. QC Inspector Salazar explained that the grinding was performed to depths of 9.5 mm and the indications were still present, after additional MT was performed. QC Inspector Salazar explained that the indications appeared to be slag inclusions deposited during the first fill pass, on the two weld joints. The QA Inspector noted that the two weld joints are designated as AWS D1.5 TC-P5-S, WJ # W1-118 (c107 to a107) and # W1-103 (d108 to ab106). QC Inspector Salazar explained that these two areas are currently on hold, pending an OIW Critical Weld Repair #2244-024 submittal and State approval to proceed. Once submitted and approved, QC Inspector Salazar explained that the grinding and MT will continue, until the inclusions are removed and rewelded. The QA Inspector then measured and recorded the excavations as follows: WJ # 103 (9.5 mm deep x 20 mm wide x 20 mm long) and WJ # 118 (9.5 mm deep x 15 mm wide x 20 mm long). See attached pictures below.

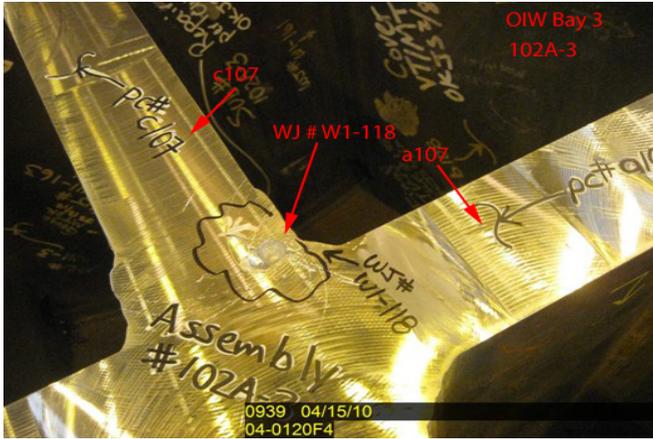
Material, Equipment, and Labor Tracking (MELT)

QA Inspector Sean Vance performed a verification of material, personnel and equipment involved with the project. The QA Inspector observed at Oregon Iron Works: 4 OIW production personnel and 1 QC Inspector.



WELDING INSPECTION REPORT

(Continued Page 3 of 3)



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
