

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-010938**Date Inspected:** 28-Dec-2009**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-1**a111-1 Forging to a110-1 Base Plate**

The QA Inspector spoke with QC Inspector Jose Salazar and Mr. Salazar explained that welder #T23, Mr. John Tellone was in-process of rotating this assembly 102A-1, 90 degrees. Mr. Salazar explained that the submerged arc welding (SAW), had been previously completed on the partial joint penetration (PJP) welds, designated as W2-19 (a109/a106) and W2-20 (a110/a106). Mr. Salazar explained that OIW was utilizing the overhead crane and slings attached to 102A-3 to rotate, in preparation for the submerged arc welding on weld joint # W2-02 (A110/B106) and W2-01 (a109/b106). The QA Inspector noted that these weld joints were designated as partial penetration joints (AWS D1.5 TC-U4-S) and that the SAW will be performed in the flat position, once the assembly is rotated. Mr. Salazar explained that it will take most of this shift to rotate and set-up 102A-3 and the SAW will possibly start on 12/29/09.

Mr. Salazar explained that the non-critical weld repair (WRR #2244-29), had been previously completed and 100% final visual/magnetic particle testing had been performed. QC Inspector Salazar explained that OIW had utilized welding procedure specification (WPS 3048) and that post heat had been previously applied, for a minimum of 2hrs. (230 C-315 C max). QC Inspector Salazar explained that the visual and magnetic particle testing had been performed, after the minimum 48hrs. required and no rejectable indications were found. The QA

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Inspector noted that this repair was due to base metal gouges (2 areas), caused by grinding on the a110-3 forging, which measured approximately 5mm deep. The QA Inspector noted that the visual and magnetic particle testing performed by Mr. Salazar, appeared to be in compliance with AWS D1.5 and OIW MT procedure, QC-113, rev. 3.

Hinge-K Pipe Beam Assembly 102A-3

a111-3 Forging to a110-3 Base Plate

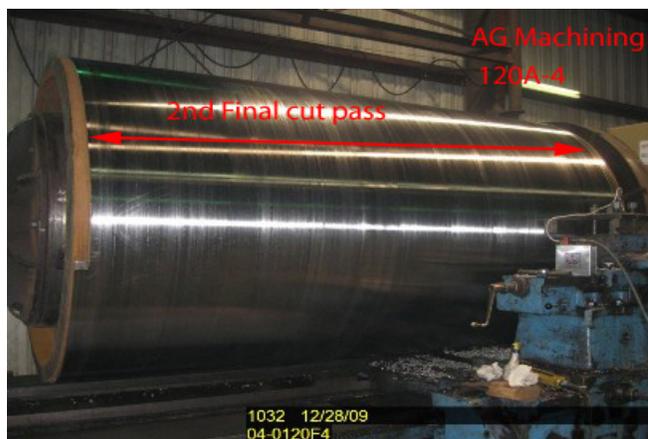
The QA Inspector noted that OIW welder # O6, Mr. Tim O'Brian was continuing to blend the weld start/stops, removing weld spatter and grinding all areas, which were previously marked by OIW QC Inspectors. The QA Inspector noted that these areas were on the previously completed submerged arc welded (SAW), HPS 485W stiffeners, designated as weld joints #W1-01 thru W1-163. The QA Inspector spoke with QC Inspector Jose Salazar and Mr. Salazar explained that the visual clean-up that was being performed by Mr. O'Brian, was intermittently monitored and areas that were completed, were then visually re-inspected.

AG Machining (Boring, OR)

On this date, the QA Inspector arrived at AG Machining to witness the final machining on Fuse 120A-4. The QA Inspector met with the AG machinist and AG explained that the second cut pass was in-process and will be complete on this date, at approximately 1100. AG explained that the outside diameter of the Fuse is currently measured at approximately 75.640" (1921.26mm). AG explained that OIW will then be arriving in the a.m. on 12/29/09, to perform 100% informal penetrant testing (PT) and the GTAW repairs, discovered during the machining. AG explained that after OIW performs the informal PT and GTAW repairs, AG will then set up for the third and final cut pass. AG explained that this cut pass will be approximately .005" (.13mm), deep to achieve the final outside diameter measurement of 1920mm (+/- 1mm), per the contract requirements. AG explained that the entire surface overlay finish will then be honed, to achieve the final surface finish requirement of .8um. The QA Inspector noted that after AG performs the honing, OIW will arrive at AG, to perform the FARO laser measurements and final visual/PT testing, on the Fuse. 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: 3 OIW production personnel and 2 QC Inspectors. The QA Inspector observed at AG Machine shop: 1AG machinist and 1 AG supervisor. The QA Inspector noted that no work was performed at OIW Vancouver paint shop.



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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
