

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-012640**Date Inspected:** 10-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 a109 Post Tension Cap 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) #W2-24 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 Mike Gregson, was present and QC Inspector Gregson explained that the in-process welding parameters/pre-heat temperatures, were intermittently verified. QC Inspector Gregson explained that the average welding parameters for these SAW root passes, were recorded at 410 amps/30 volts, with a pre-heat of approximately 350 degrees Fahrenheit (177 C) and travel speed of 17 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 Gregson that the weld joint #W2-20 root passes had been completed. QC Inspector Gregson then explained that the root pass had cooled to ambient temperature and he then performed 100% visual (VT) and magnetic particle testing (MT) and that no rejectable indications, were found, per AWS D1.5 and OIW MT procedure QC-113, Rev. #3. The QA Inspector noted that the SAW and VT/MT Inspection appeared to be in

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

compliance with AWS D1.5, the applicable WPS and the OIW approved procedure.

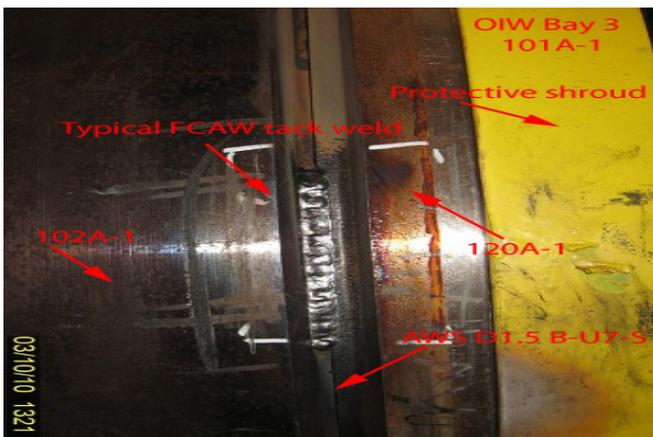
Hinge-K Pipe Beam Assembly 101A-1:

The QA Inspector witnessed WID #F17 (Igor Frolov), performing Flux Core Arc Welding (FCAW) on the Complete Joint Penetration (CJP), designated as an AWS D1.5 B-U7-S, in the vertical (3G) position. The QA Inspector noted that WID #F17 was currently performing the FCAW tack welding on the previously fit-up 120A-1 Fuse to 102A-1 Forging assembly. The QA Inspector noted that QC Inspector Mike Gregson was present during the tack welding, to monitor in process parameters (amps/volts) and pre-heat temperatures. QC Inspector Gregson explained to the QA Inspector that average parameters were previously recorded at 220 amps/23 volts, 400 degrees Fahrenheit preheat and a travel speed of 6-8 inches per minute (i.p.m.). QC Inspector explained that welding procedure specification (WPS 3050) was being utilized for the tack welding. The QA Inspector randomly verified pre-heat of approximately 400 degrees Fahrenheit (204 C) and welding parameters to be in compliance with the applicable WPS 3050. QC Inspector Gregson later explained that he will verify the joint fit-up, after the tack welding is complete. 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: 3 OIW Production, 1 QC Inspector and 1 Supervisor.

The QA Inspector noted that the following personell were present at AG Machine Works: 1 AG Machinist and 1 AG Supervisor.



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
