DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 13.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-009525
Date Inspected: 09-Oct-2009

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Oregon Iron Works Clackamas, Or.

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Clackamas, OR

CWI Name:	Mike Gregson, Jose 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:

OIW Fabrication Shop-Bay 3
Hinge-K Pipe Beam Assembly 102A-1: 10/9/09
a111-1 Forging to a110-1 Base Plate
QA Inspector noticed that OIW had previously placed this forging assembly 102A-1 in position and was in-process of machining the completed stiffeners, utilizing a mechanical machining bit. QA Inspector had previously measured the stiffener heights to be approximately 662mm and noted that approximately 12mm of material (485W) was in process of being removed, to achieve a desired result of 650mm (+3mm/-10mm), which is in accordance to contract requirements. QA Inspector had previously spoken with OIW machinist and OIW explained that the mechanical machining bit was set to remove approximately 1/32” (.8mm) of material (485W), per each cutting pass. QA Inspector noted that once the machining process is complete, OIW will perform dimensional measurements utilizing a laser tracker, prior to fitting the a109 (Post Tension Cap) plates. See attached picture below.

Hinge-K Pipe Beam Assembly 102A-3: 10/9/09
a111-3 Forging to a110-3 Base Plate
QA Inspector noticed this assembly 102A-3 had been previously placed in position and welder #J6, Mr. Craig

Jacobson, was in process of performing submerged arc welding, on the c107 radial stiffener plate to a111-3 tubular forging, designated as weld joint #W1-163, in the flat position. QA Inspector noted that this weld joint was designated as a partial joint penetration (AWS D1.5 TC-P5-S) and QA Inspector noted that Mr. Jacobson was currently performing the submerged arc welding on the root pass. QA Inspector noted that Mr. Jacobson was utilizing OIW approved welding procedure specification (WPS 4016) and randomly recorded pre-heat temperatures of approximately 350 degrees Fahrenheit (177 C) and in-process welding parameters of 420 amps/30 volts. QA Inspector noticed QC Inspector Jose Salazar was present to monitor in-process welding parameters (amps/volts) and noted that Mr. Salazar had previously recorded in-process welding parameters of 430 amps and 30 volts, which appears to be in-compliance with the applicable welding procedure specification (WPS 4016). QA Inspector later spoke with QC Inspector Jose Salazar and Mr. Salazar explained that the above mentioned weld joint, in addition to weld joint #161, was completed by Mr. Jacobson, by end of shift. Mr. Salazar explained that 100% magnetic particle testing was performed on the completed weld joint root passes and no rejectable indications were found, per AWS D1.5 and contract requirements. See attached picture below.

Hinge-K Pipe Beam Fuse Assembly 120A-1 and Hinge-K Pipe Beam Fuse Assembly 120A-7: 10/9/09
a124-5 Half Fuse to a124-15 Half Fuse and a124-6 Half Fuse to a124-7 Half Fuse
QA Inspector spoke with QC Inspector Jose Salazar and Mr. Salazar explained that welder #F17, Mr. Igor Frolov, was currently in-process, of performing the weld clean-up and grinding, on the previously marked interior of fuse assemblies 120A-1 and 120A-7. Mr. Salazar explained to QA Inspector that additional weld clean-up, on the interior base metal/ring stiffeners, would be needed, prior to transfer to OIW Vancouver painting facility, to meet the criteria of AWS D1.5 and contract requirements. Mr. Salazar explained that the interior areas that were marked up included weld blending, excessive weld spatter, sharp edges and various minor base metal gauges, to be blended and transitioned on the fuse assembly base metal and interior stiffener rings.
Note: QC Inspector Jose Salazar later notified QA Inspector that welder #F17, Mr. Igor Frolov had completed the weld-clean up on the previously marked areas on these fuse assemblies 120A-1/120A-7 and Mr. Salazar had verified that the work had been completed and visually accepted these above mentioned fuse assemblies. QA Inspector also verified that the previously marked up areas by Mr. Salazar had been completed and noted additional interior weld spatter, to be removed. QA Inspector informed Mr. Frolov of the additional weld spatter that needed to be removed and QA Inspector witnessed Mr. Frolov performing this.
QA Inspector noted that these fuse assemblies 120A-1 and 120A-7, would be transferred to OIW Vancouver, WA. painting facility and the interior blasted at a later date and an OIW QC Inspector and QA Inspector will then perform an after blast visual inspection, per AWS D1.5 and contract requirements, prior to OIW applying inorganic zinc primer coat.

Material, Equipment, and Labor Tracking
QA Inspector Sean Vance performed a verification of material, personnel and equipment involved with the project. The QA Inspector observed at Oregon Iron Works: 5 OIW production personnel and 2 QC Inspectors.

WELDING INSPECTION REPORT

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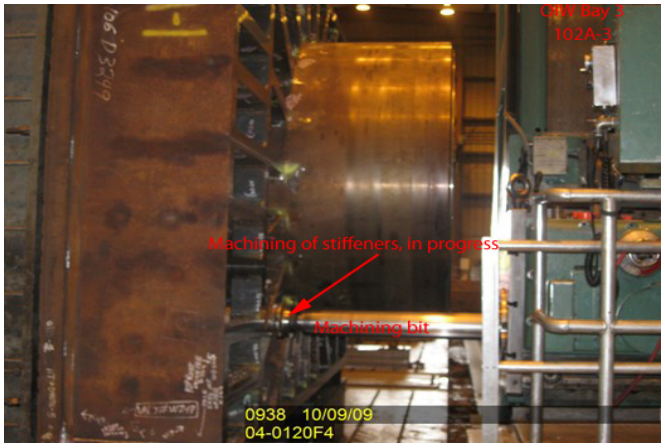

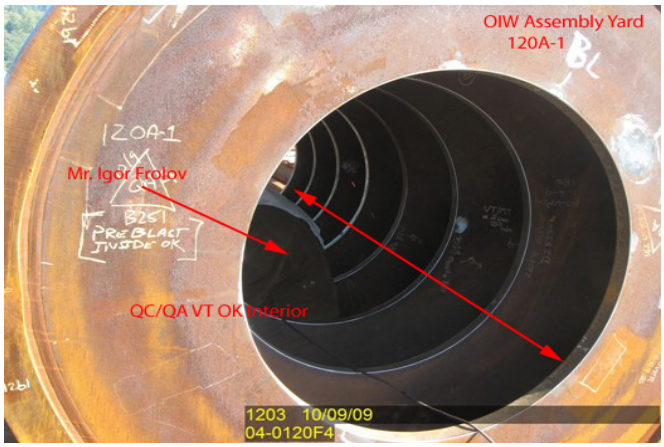

Summary of Conversations:

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