

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-009518**Date Inspected:** 08-Oct-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Oregon Iron Works Clackamas, Or.**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: 10/8/09

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: 10/8/09

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

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Jacobson, was in process of performing submerged arc welding, on the b108 radial stiffener plate to a111-3 tubular forging, designated as weld joint #W1-140, 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 415 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 joints #136 and #138, were completed by Mr. Frolov, 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-2: 10/8/09

a124-3 Half Fuse to a124-11 Half Fuse

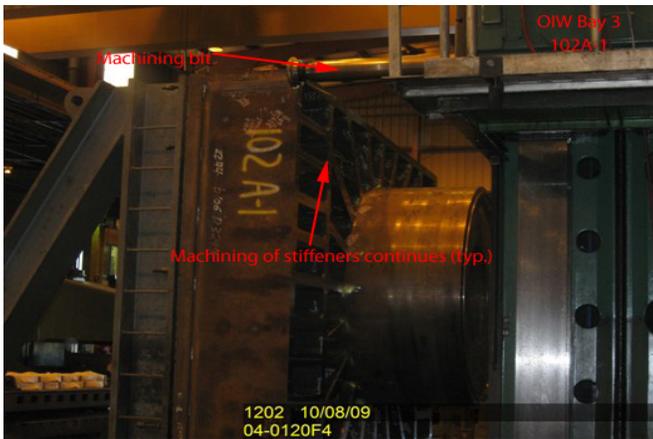
QA Inspector was previously notified by OIW Project Manager Bill Pender, on 10/7/09, that OIW would like to transfer the completed fuse assembly 120A-2, to OIW painting facility, located in Vancouver, Wa. for the interior blast and inorganic zinc primer coating process. QA Inspector met with OIW QC Inspector Jose Salazar and explained that additional weld clean-up, on the interior base metal/ring stiffener, would be needed, prior to transfer to OIW Vancouver painting facility, to meet the criteria of AWS D1.5 and contract requirements. QA Inspector and QC Inspector Jose Salazar performed 100% visual testing, on the interior of this fuse assembly 120A-2 and marked up areas of 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. See attached picture below. 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 and Mr. Salazar had verified that the work had been completed and visually accepted this fuse assembly 120A-2. QA Inspector also verified that the previously marked up areas had been completed and noted that the interior of this fuse assembly 120A-2, was visually acceptable, per AWS D1.5 and contract requirements. QA Inspector noted that the assembly was later picked up by OIW, at approximately 0900 hrs. and shipped to the OIW Vancouver, WA. painting facility. QA Inspector noted that this fuse assembly 120A-2 would be blasted at a later date and OIW QC Inspector and QA Inspector will 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.

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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