

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-008145**Date Inspected:** 05-Aug-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: 8/5/09

a111-1 Forging to a110-1 Base Plate

QA Inspector noticed this assembly 102A-1 had been previously placed in position and welder #O6, Mr. Tim O'Brian, was in process of performing submerged arc welding, on the d108 stiffener plate to a111-1 forging, designated as weld joint # W1-129, in the flat position. QA Inspector noted that this weld joint was designated as AWS D1.5 TC-P5-S and verified Mr. O'Brian was currently qualified for this process/position. QA Inspector noted that Mr. O'Brian was utilizing OIW approved welding procedure specification (WPS 4020) and randomly recorded pre-heat temperatures of approximately 350 degrees Fahrenheit. 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 570 amps and 32 volts, which appears to be in compliance with the applicable welding procedure specification and contract requirements.

QA Inspector noticed welder #J6, Mr. Craig Jacobsen, was in process of performing submerged arc welding, on the a108 stiffener plate to a111-1 forging, designated as weld joint # W1-144, in the flat position. QA Inspector

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noted that this weld joint was designated as AWS D1.5 TC-P5-S and verified Mr. Jacobsen was currently qualified for this process/position. QA Inspector noted that Mr. Jacobsen was utilizing OIW approved welding procedure specification (WPS 4020) and randomly recorded pre-heat temperatures of approximately 350 degrees Fahrenheit. 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 and contract requirements.

Hinge-K Pipe Beam Assembly 102A-3: 8/5/09

a111-3 Forging to a110-3 Base Plate

QA Inspector noticed welder #J6, Mr. Craig Jacobsen, was in-process of flux core arc welding (FCAW) on the critical weld repair (CWR 2244-006), a111-3 forging to a110-3 base plate, designated as weld joint #WM3-13, in the vertical position. QA Inspector noted that this critical weld repair was previously excavated, 100% visual/magnetic was performed and no rejectable indications were found. QA Inspector noticed QC Inspector Jose Salazar was present and Mr. Salazar had recorded in-process welding parameters of 227 amps/25.6 volts and pre-heat temperatures of 350 degrees Fahrenheit, which is in accordance to the applicable welding procedure specification (WPS 3048). QA Inspector randomly recorded pre-heat temperatures of approximately 350 degrees Fahrenheit and verified Mr. Jacobsen was currently qualified for this welding process/position. QA Inspector noted that Mr. Jacobsen appeared to be in compliance with AWS D1.5 and WPS 3048, on this date.

Note: QA Inspector noticed that Mr. Jacobson was performing FCAW on the final cover passes on this CWR #006 and will be completed sometime in the A.M., on this date. QA Inspector spoke with lead QC Inspector Mike Gregson and Mr. Gregson explained that 100% preliminary ultrasonic weld testing will be performed by OIW QC Inspector Rob Walters, prior to the final ultrasonic weld inspection, after the required 72 hr. cooling time, per AWS D1.5 and contract requirements. Mr. Gregson explained that QC Inspector Rob Walters will perform the inspection utilizing a 60/70 degree transducer from face "A" and a 60 degree transducer from face "B" for both preliminary and final ultrasonic weld inspection (after 72 hrs.)

Hinge-K Pipe Beam Fuse Assembly 120A-8: 8/5/09

a124-8 Half Fuse to a124-16 Half Fuse

QA Inspector randomly witnessed welder #T23, Mr. John Tellone, perform submerged arc welding (SAW) on CJP (AWS D1.5 B-U3c-S), half fuse pipe assembly, (piece mark identified as a124-8), to half fuse pipe assembly, (piece mark identified as a124-16), weld joint #WM3-18, in the flat position (1G). QA Inspector spoke with Lead QC Inspector Mike Gregson and Mr. Gregson explained that the OIW welder #T23 was performing submerged arc welding in accordance with the OIW approved welding procedure specification (WPS 4020).

QA Inspector noticed QC Inspector Jose Salazar was present and monitoring in-process welding parameters (amps/volts) and pre-heat temperatures, verifying Mr. Tellone was in compliance with the applicable welding procedure specification (WPS 4020). QA Inspector noted that QC Inspector Jose Salazar had recorded in-process welding parameters of 570 amps/32 volts.

QA Inspector verified Mr. Tellone was currently qualified for this welding process/position and performed a random pre-heat check and recorded temperatures of approximately 350 degrees Fahrenheit, which is in compliance with the OIW welding procedure specification (WPS 4020). See attached picture below.

OIW Fabrication Shop-Bay 6 (ESW Overlay Process)

Hinge-K Pipe Beam Fuse Assembly 120A-1: 8/5/09

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a124-6 Half Fuse to a124-7 Half Fuse

QA Inspector noticed that the stainless steel overlay welding was in-process, on this fuse assembly 120A-1. QA Inspector witnessed welder #F17, Mr. Igor Frolov, performing electro slag welding (ESW) in the flat position, utilizing Soudokay brand Soudotape 316L stainless steel consumable strip. QA Inspector noted that the first/second overlay weld passes were 100% complete and the third layers were in-process, approximately 70% complete. QA Inspector noticed QC Inspector Jose Salazar was present on this date, to verify in-process welding parameters (amps/volts) and monitor in-process continuous pre-heat temperatures. QA Inspector spoke with QC Inspector Jose Salazar and Mr. Salazar explained that welding amps were recorded as 1200 amps/25.2 volts, with travel speed at 229 mm/minute and a pre-heat temperature of approximately 70 degrees Fahrenheit. QA Inspector verified Mr. Igor Frolov was currently qualified for this welding process/position and randomly recorded pre-heat temperatures of approximately 70 degrees Fahrenheit. QA Inspector noted that Mr. Igor Frolov appeared to be in compliance with the applicable approved welding procedure specification (WPS 7003). See attached picture below.

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: 6 OIW production personnel and 2 QC Inspectors.



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
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Reviewed By:	Adame,Joe	QA Reviewer
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