

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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Contract #: 04-0120F4Cty: 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-009768**Date Inspected:** 22-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

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|------------------------------------|--------------|----|-----|
| CWI Name: | Mike Gregson | | |
| Inspected CWI report: | Yes | No | N/A |
| Electrode to specification: | Yes | No | N/A |
| Qualified Welders: | Yes | No | N/A |
| Approved Drawings: | Yes | No | N/A |

| | | | |
|----------------------------------|-----|----|-----|
| CWI Present: | Yes | No | |
| Rod Oven in Use: | Yes | No | N/A |
| Weld Procedures Followed: | Yes | No | N/A |
| Verified Joint Fit-up: | 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-3: 10/22/09

a111-3 Forging to a110-3 Base Plate

QA Inspector noticed this assembly 102A-3 had been previously placed in position and welder #06, Mr. Tim O'Brian, was in process of performing submerged arc welding, on the c107 stiffener plate to a107 stiffener, designated as weld joint # W1-119, 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 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 (177 C). QA Inspector noticed QC Inspector Mike Gregson was present to monitor in-process welding parameters (amps/volts) and Mr. Gregson had previously recorded in-process welding parameters of 570 amps and 35 volts, on the in-process welding cover passes. QA Inspector verified the in-process welding parameters, as mentioned above and noted that the submerged arc welding, performed by Mr. O'Brian appeared to be in compliance with the applicable welding procedure specification and AWS D1.5.

QA Inspector noticed that welder #T23, Mr. John Tellone, was in process of performing submerged arc welding, on the d108 stiffener plate to ab106 stiffener, designated as weld joint # W1-103, in the flat position. QA Inspector

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noted that this weld joint was designated as a partial joint penetration (AWS D1.5 TC-P5-S) weld and QA Inspector verified Mr. Tellone was currently qualified for this process/position. QA Inspector noted that Mr. Tellone was utilizing OIW approved welding procedure specification (WPS 4020) and randomly recorded pre-heat temperatures of approximately 350 degrees Fahrenheit (177 C). QA Inspector noticed QC Inspector Mike Gregson was present to monitor in-process welding parameters (amps/volts) and Mr. Gregson had previously recorded in-process welding parameters of 405 amps and 32 volts, on the in-process welding root pass. QA Inspector verified the in-process welding parameters, as mentioned above and noted that the submerged arc welding, performed by Mr. Tellone appeared to be in compliance with the applicable welding procedure specification and AWS D1.5.

QA Inspector noted that 100% magnetic particle testing was performed on the above mentioned root passes, by QC Inspector Mike Gregson and no rejectable indications were found, per AWS D1.5 and contract requirements. Note: QA Inspector later noted that the following weld joints were completed by Mr. O'Brian and Mr. Tellone, by end of shift: WJ #W1-119, W1-121 and W1-103.

Hinge-K Pipe Beam Assembly 102A-4: 10/22/09

a111-4 Forging to a110-4 Base Plate

QA Inspector noticed that welder #T23, Mr. John Tellone and a production helper, had previously removed this assembly 102A-4, from the welding positioner and placed on the floor, in Bay 3.

Note: QA Inspector noted that the weld joints, designated as #'s, W2-01, W2-02, W2-17 and W2-18, had been previously completed in the welding positioner and OIW had removed the assembly 102A-4, to eventually begin the submerged arc welding on weld joint's #W2-19 and W2-20, at a later date.

A&G Machining

Hinge-K Pipe Beam Fuse Assembly 120A-2: 10/22/09

a124-3 Half Fuse to a124-11 Half Fuse

QA Inspector noted, on this date, that OIW machinist Russ Bacardi, had arrived at AG Machine shop and had verified the setup and measurements, that were previously performed by AG Machinist, on this fuse assembly 120A-2. QA Inspector was notified that OIW had released this fuse assembly to AG, to begin the final machining process, on the completed exterior finished overlay. AG explained that the final machining will begin on 10/26/09.

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.

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

The QA Inspector noted that the following were present OIW Vancouver Paint shop: 1 Painter and 1 Supervisor.

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.

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| Inspected By: | Vance,Sean | Quality Assurance Inspector |
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| Reviewed By: | Adame,Joe | QA Reviewer |
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