

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-008455**Date Inspected:** 11-Aug-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2230**Contractor:** Oregon Iron Works Clackamas, Or.**Location:** Clackamas, OR**CWI Name:** Steve Barnett, William Buck**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 Components**Summary of Items Observed:**

Summary of Items Observed: On this date, Caltrans Quality Assurance Inspector (QA) Clete Henke was present at Oregon Iron Works, Inc. (OIW) in Clackamas, OR for observation of fabrication of the Hinge K Pipe Beams and related activities including in process welding and OIW Quality Control (QC) visual and nondestructive testing. The following observations were recorded:

OIW Fabrication Shop-Bay 3

Hinge-K Pipe Beam Base Assembly 102A-1:

a111-1 forging to a110-1 base plate

The QA Inspector intermittently monitored OIW welder Phuong Huynh (WID H4) during in progress Submerged Arc Welding (SAW) at weld joint W1-98 joining d107 radial stiffener to a107 stiffener as well as OIW welder Vincent Vu (WID V7) during in progress Submerged Arc Welding (SAW) at weld joints W1-115 joining f108 radial stiffener to a107 stiffener, W1-117 joining b108 radial stiffener to a107 stiffener and W1-119 joining c107 radial stiffener to a107 stiffener. The QA Inspector observed as OIW QC Inspector William Buck performed Magnetic particle Testing (MT) and Visual Inspection (VT) of completed root pass at weld joints referenced above.

Mr. Buck stated that he had located no rejectable indications. The QA Inspector subsequently performed 100% VT & 50% MT verification at the noted locations finding the root passes to be in general compliance with contract documents. Please reference TL-6028 report for this date for details. The QA Inspector intermittently observed as welders H4 & V7 continued to deposit SAW fill and cover passes in the horizontal (2G) position in accordance with approved welding procedures 4016. The QA Inspector noted the OIW welder was maintaining continuous preheat utilizing a torch. The QA Inspector observed OIW QC Inspector Steve Barnett regularly monitoring and recording the in process SAW parameters. The QA Inspector also intermittently observed in process welding

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parameters and determined that the SAW parameters and minimum preheat/interpass temperature appeared to be in general compliance with the contract requirements -- (W1-115: 35 volts, 563 amperes, 432mm/min travel speed).

Hinge-K Pipe Beam Fuse Assembly 120A-8:

a124-8 to a124-16

The QA Inspector was informed by OIW QC Inspector Steve Barnett that fuse assembly 120A-8 had undergone QC NDT and was available for final QA NDT verification. The QA Inspector performed visual testing (VT) of 100% of the complete joint penetration (CJP) weld joining a124-8 fuse section with a124-16 fuse section identified as WM3-18 prior to performing UT and MT verification. The QA Inspector noted that the above identified weld joint appeared to be in general compliance with the contract requirements. The QA Inspector performed MT & UT of approximately 10% of the above identified CJP weld joint, locating no rejectable indications per AWS D1.5 2002, Section 6.26.2.1 & 6.26.2.3 and Table 6.3 -Tensile Stress respectively. Please reference TL-6027 & TL-6028 for 8/11/09 for additional information. The QA Inspector marked the adjacent areas accordingly.

OIW Fabrication Shop-Bay 6

Hinge-K Pipe Beam Fuse Assembly 120A-1:

a124-6 to a124-7

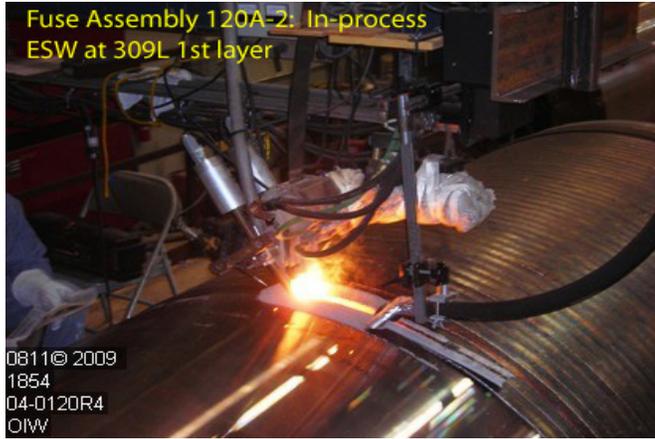
The QA Inspector intermittently observed OIW qualified welder Bounheune Savanh (WID S74) during in-process welding of Soudotape 309L stainless steel overlay to hinge k pipe beam fuse sub-assembly 120A-1. The weld joint is identified as 309L 1st layer. Mr. Savanh was observed welding in the flat position utilizing automatic electro slag welding (ESW) overlay process with a .5mm x 60mm Soudotape 309L stainless electrode, filler metal brand Soudotape class EQ309L automatic. An OIW helper was observed assisting welder S74 during ESW activity. The QA Inspector observed OIW QC Inspector Steve Barnett regularly monitoring and recording the in process ESW parameters. The QA Inspector also intermittently observed in process welding parameters and determined that the ESW parameters (1225 amps, 25.5 volts, 267mm/min travel speed) and minimum preheat temperature of 225° F appeared to be in general compliance with the contract requirements and approved OIW Welding Procedure Specification (WPS) 7003.

Material, Equipment, and Labor Tracking:

The QA Inspector performed verification of personnel involved with this project and equipment in use. The QA Inspector accounted for 4 OIW production personnel and 1 Quality Control Inspector present on this date.

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Summary of Conversations:

As noted in the body of the report.

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:	Henke,Clete	Quality Assurance Inspector
Reviewed By:	Adame,Joe	QA Reviewer
