

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-005484**Date Inspected:** 18-Feb-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**Contractor:** Oregon Iron Works Clackamas, Or.**Location:** Clackamas, Oregon**CWI Name:** See below**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:**

On this date, Caltrans Quality Assurance Inspector (QA) Sherri Brannon is present at the Oregon Iron Works, Inc. (OIW) jobsite in Clackamas, Oregon for the purpose of observing fabrication of the Hinge K Pipe Beams.

OIW Fabrication Shop-Bay 1:

QA Inspector Brannon randomly observed OIW personnel continuing in Bay 1 at the CNC mill for facing hinge k pipe beam post tension cap plate (A825M) MK#a109 in preparation for welding.

OIW Fabrication Shop-Bay 1 (sub-assembly):

QA Inspector Brannon randomly observed two OIW personnel continuing prepping internal ring stiffeners round plate MK# a125 – 40mm x 1720mm x 1720mm and round plate MK#b125- 50mm x 1720mm x 1720mm (HPS 485 W) for fit-up and welding. Internal ring stiffeners will be welded inside the hinge k pipe beam fuse half sections. Ring stiffeners plates are being beveled to 55 degrees on both sides with a 4mm land. See OIW fabrication drawing 2244-123 sheet 1 of 2 for bevel profile and weld detail.

OIW Fabrication Shop-Bay 1 (sub-assembly):

QA Inspector Brannon randomly observed OIW personnel continuing cutting internal ring stiffeners round plate MK# a125 – 40mm x 1720mm x 1720mm and round plate MK#b125- 50mm x 1720mm x 1720mm (HPS 485 W).

QA Inspector Brannon observed OIW personnel using an oxy-fuel programmable CNC machine to remove the center portion of the ring stiffener plates.

OIW Fabrication Shop-Bay 2 (Post Weld Heat Straightening):

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QA Inspector Brannon randomly observed OIW welder Mr. Rick Hinkle ID#H49 continuing heat straightening on hinge k pipe beam fuse half section a124-11 (HPS 485 W) into acceptable tolerances. Mr. Hinkle was observed using a temperature indicator of 1050°F to insure that the heat straightening process did not exceed 1100 °F. Cause for heat straightening due to the rolling process and welding distortion. Heat straightening is performed by flame straightening using a portable torch mounted on a traveler. Heat straightening randomly observed by QA Inspector Brannon appeared to comply with OIW's Upset Shortening Procedure (Heat Straightening) Procedure SP-006 revision 2. QA Inspector Brannon observed OIW QC CWI Inspector's Mr. Mike Gregson and Mr. Rob Walters randomly monitoring the heat straightening process. QA observed 25 heat passes on this date.

OIW Fabrication Shop-Bay 2 (sub-assembly):

QA Inspector Brannon randomly observed OIW qualified welder Mr. Tim O'Brien ID#O6 groove welding a hinge k pipe beam fuse section a124-12 (HPS 485 W). The complete joint penetration (CJP) weld is identified as weld joint #W3-01L. Mr. O'Brien was observed welding in the 1G (flat) position utilizing submerged arc welding (SAW) process with a 2.4mm diameter electrode, filler metal brand Lincoln Electric LA85 class F9A4-Eni5-G-H2.

QA Inspector Brannon observed the OIW QC CWI Inspector's Mr. Mike Gregson and Mr. Rob Walters verifying that the pre-heat and welding parameters were in accordance with the Welding Procedure Specification (WPS). Welding parameters measured by QA are as follows: 576 amps and 33 volts appear to be in conformance with welding procedure specification (WPS) 4020 revision number 0.

OIW Fabrication Shop-Bay 3 (non-critical repair WRR-2244-002):

Quality Assurance Inspector Brannon was informed by OIW QC Inspector Mr. Mike Gregson that OIW will be repairing WRR-224-002 today. The non-critical weld repair measured by QA Inspector was found to be 65mm (length) x 11mm (width) x 5mm (depth). QA Inspector Brannon observed OIW qualified welder Mr. Craig Jacobson ID#J6 repair welding at hinge K pipe beam section a111-2 ring stiffener base metal of MK#b112 (HPS 485 W). Mr. Jacobson was observed welding in the (flat) position utilizing flux cored arc welding (FCAW) process with a 1.6mm diameter electrode, filler metal brand Hobart Fabco 91k2, class E91T1-K2 semi-automatic. QA Inspector Brannon observed the OIW QC CWI Inspector Mr. Rob Walters verifying that the pre-heat and welding parameters were in accordance with the OIW Repair Welding Procedure Specification (WPS). Welding parameters measured by QA are as follows: 275 amps, 26.7 volts and a shielding gas flow of 37cfh appear to be in conformance with welding procedure specification (WPS) 3045 revision number 0. Note: Non-Destructive Testing will be performed on the above repair after 48 hours.

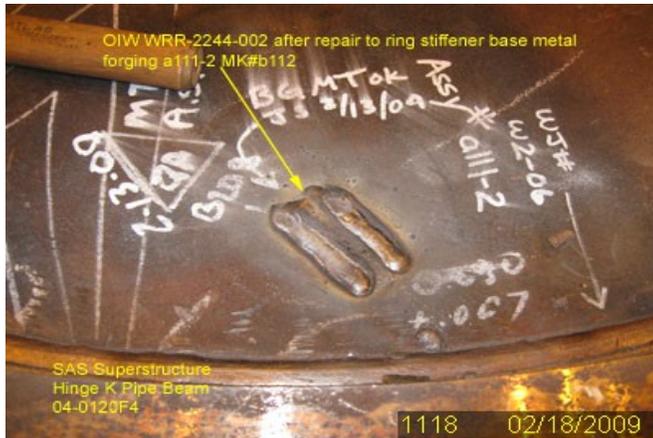
Material, Equipment, and Labor Tracking:

QA Inspector Brannon performed a verification of personnel at OIW. QA Inspector Brannon observed 1 Supervisor, 2 Quality Control and 8 production personnel on this date.

The following digital photograph below illustrates observation of the activities being performed.

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Summary of Conversations:

As stated within this 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:	Brannon, Sherri	Quality Assurance Inspector
Reviewed By:	Adame, Joe	QA Reviewer
