

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-005782**Date Inspected:** 18-Mar-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1600**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 3:

QA Inspector Brannon observed OIW qualified welder Mr. Tim O'Brien ID#O6 build up welding (due to the gap tolerance exceeding 5mm) on interior ring stiffener MK#a125. The interior ring stiffener is to be welded at hinge k pipe beam half fuse section MK#a124-3 weld joint WM3-06 and WM3-07. Mr. O'Brien was observed welding in the 1G (flat) position utilizing flux corded arc welding (FCAW) process with a .045 inch (1.2mm) diameter electrode, filler metal brand Hobart Fabco 91K2-C class 91T1-K2J semi-automatic. Length of the built up welding is approximately 890mm. QA Inspector Brannon questioned QC Inspector Mr. Mike Gregson about OIW using .045 inch (1.2mm) diameter electrode when the welding procedure specification WPS 3046 states Hobart 1/16 inch (1.6mm) diameter electrode. QC Inspector Mr. Gregson choose at this time to stop the built up welding on the interior ring stiffeners. Mr. Gregson stated the Mr. Vern Taute informed him that Hobart does make a .054 inch (1.4mm) diameter electrode but it would need to be a special order but since the electrode is not a standard size that using a .045 inch (1.2mm) diameter electrode that is would be ok to use for the tack welding and building up welding on the interior ring stiffeners. QA Inspector Brannon informed QA Lead Inspector Joe Adame of the above. QA Lead Inspector Joe Adame informed QA Inspector Brannon that Mr. Patrick Lowery stated that OIW has exceeded the welding electrode diameter limitations as listed in Table 5.3 of the AWS D1.5 2002 by decreasing the electrode diameter by more than one standard size. And, that it should be ok to use the .045 inch (1.2mm) diameter electrode for tack welding since the weld metal is consumed by the submerged welding process. QA Inspector Brannon informed QC Mr. Mike Gregson of the above. Welding on the above

WELDING INSPECTION REPORT

(Continued Page 2 of 2)

interior ring stiffener plate was stopped from approximately 11:00 to 1530 hour. QC Inspector Mr. Rob Walters informed QA Inspector Brannon that Welding Repair Report (WRR) Wrr-2244-09 will be submitted for the above build up welding.

Quality Assurance Inspection (VT/MT):

QA Inspector Brannon performed visual inspection (VT) and magnetic particle testing (MT) on tubular forging a111-3, complete joint penetration weld, and CWR-2244-002. See Caltrans Magnetic Particle Test Report TL-6028 dated March 18, 2009 for additional information.

OIW Fabrication Shop-Bay 3:

QA Inspector Brannon randomly observed OIW personnel preparing positioner for welding forging MK#a111-1 (A508 Gr. 4N Class 2) to base plate MK#a110 (HPS 485 W) in preparation for welding.

Material, Equipment, and Labor Tracking:

QA Inspector Brannon performed a verification of personnel at OIW. QA Inspector Brannon observed 2 Supervisor's, 3 Quality Control and 3 production personnel on this date.

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



Summary of Conversations:

No relevant conversations on this date.

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
