

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 #: 70.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002935**Date Inspected:** 03-Jun-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1100**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Japan Steel Works**Location:** Muroan, Japan**CWI Name:** Kuan Chung**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:** Tower, Jacking and Deviation Saddle**Summary of Items Observed:**

The following report is based on METS observations at Japan Steel Works (JSW) in Muroan Japan. Current work: Casting, machining and repair of Saddles.

Fabrication Building number 4

W2-E2

On this date the Caltrans Quality Assurance (QA) inspector, Dong J, Shin arrived at JSW fabrication shop number 4 and observed the in process assembly fit-up operation of the structural steel plates for the West Deviation Saddle base W2E2. The JSW fitter personnel Kiyotaka Koanagi began assembly of the West Deviation Saddle base W2E2 by aligning the stem plate on the base plate, joint designation 2-14. The JSW welding personnel Kiyotaka Koyanagi, identified as number 08-5144 performed the in process tack welding utilizing the Shielded Metal Arc Welding (SMAW) process per the welding procedure specification (WPS) SJ-3011-1. After the stem plate was tack welded in place, Mr. Koanagi set rib number 12 plates in place on the base plate.

W2-E1

The QA inspector periodically observed The Nikko Inspection Services (NIS) QC/NDT technicians Mr. Kazuya Kobayashi perform magnetic particle (MT) testing of West Deviation Saddle base W2E1 all of tack welds. The MT was performed in accordance with ASTM standard E709, using the yoke method. The yoke utilized appeared to be model VM3, serial numbers 97049. The yoke dead lift was verified with a 4.65kg test plate. The magnetic

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field was verified with a field indicating gauge (pie gauge). Use red dry powder. All calibrations appear to meet the minimum requirements of ASTM E709. The testing was evaluated in accordance with the contract special provisions. The testing was completed on this date and results were 16 cracks out of total 184 tack welds.

Foundry

On this date the QA representative Dong J, Shin arrived at Japan Steel Works (JSW) of Muroran Japan and traveled to JSW foundry, QA Inspector observed the casting Build up welding on West Deviation Saddle casting W2-E1. The welding was performed to build up the thickness of the ribs in areas that were found to not meet the minimum thickness of the contract special provisions. The repair locations and repair details for this casting were submitted as number 000643, revision 02. The JSW welding personnel Mr. Hitoshi Sato, identified as number 69-2697 continued the in process build up welding of Rib 7L, repair 2-6 location C-11 and Mr. A Takenami, identified as number 69-2697 continued the in process build up welding of Rib 2L, repair 3-20 location H-5, both welders with utilizing the Shielded Metal Arc Welding (SMAW) process per the welding procedure specification (WPS) SJ 3026-2. The welding was performed in the 2G (Horizontal) position. The filler metal utilized was identified as 5mm diameter, Class E10016-G, Brand name LB-106. The minimum preheat temperature of 150 degrees Celsius and maximum interpass temperature of 260 degrees Celsius was verified to meet the WPS requirements by Mr. Imai. The SMAW welding average amperage and voltage by clamp type meter and travel speed were verified to be within the welding procedure specification parameter range of 180 amps to 240 amps, 22 volts to 26 volts and travel speed of 115 to 280 mm per minute by the QA inspector. The work was not completed on this date and appears to meet the minimum requirements of the welding procedure specification and contract documents.

Summary of Conversations:

No specific conversations.

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 Venkatesh Iyer, (858) 967-6363, who represents the Office of Structural Materials for your project.

Inspected By:	Shin,DJ	Quality Assurance Inspector
Reviewed By:	Lanz,Joe	QA Reviewer
