

**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 #: 70.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003108**Date Inspected:** 23-Jun-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1000**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1800**Contractor:** Japan Steel Works**Location:** Muroan, Japan**CWI Name:** Makhmud Ashadi**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.

Foundry shop

On this date the QA representative Dong J, Shin arrived at Japan Steel Works (JSW) of Muroan 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. Y, Kabutomori identified as number 06-8000 continued the in process build up welding of Rib2, repair 3-7 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. 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.

Fabrication Shop # 4

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# WELDING INSPECTION REPORT

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On this date the QA representative Dong J, Shin arrived at Japan Steel Works (JSW) of Muroran Japan and traveled to JSW fabrication shop # 4, QA Inspector observed Mr. Y. Arai, (A Shift), Mr. S. Watanabe, (A Shift) and Mr. H,Nishikawa, (B Shift) welding on W2-E1 fill pass (up to 90%) of Rib to stem plate and base plate. The welding of the rib to stem and base plate second side on E1Y-4L-1, E1Y-4L-2, E1Y-9L, E1Y-10L and E1Y-7L. The welding was performed utilizing Gas Shielded Flux Core Arc Welding (FCAW) process per the welding procedure specification (WPS) SJ-3011-2 & 3. The welding was performed in the 1G (Flat) position. The filler metal utilized was identified as 1.6 mm diameter, Class TM 95K2, Brand name Tri Mark. The welding parameters and heat control were monitored by Intertek Testing Services Quality Control (QC) inspector Mr. Makhmud Ashadi at periodic intervals. The minimum preheat temperature of 160 degrees Celsius and maximum inter pass temperature of 218 degrees Celsius was verified to meet the WPS requirements by Mr. Makhmud and the QA inspector utilizing Tempilstick temperature indicators. This data was entered into the QC inspector's daily log, identifying the location on a weld map. The FCAW welding average amperage and voltage by clamp type meter and travel speed were verified to be within the welding procedure specification parameter range of 311 amps to 355 amps, 34 volts to 37 volts and travel speed of 254 to 310 mm per minute for the 1.6mm wire. The welding was continued to night shift. Visually, general welding 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.

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<b>Inspected By:</b>	Shin,DJ	Quality Assurance Inspector
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<b>Reviewed By:</b>	Lanz,Joe	QA Reviewer
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