

**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-003989**Date Inspected:** 24-Sep-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**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.

**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 to the casting Build up welding on West Deviation Saddle casting W2-E2. 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. A, Takenami identified as number 06-8001 Continue the in process build up welding of Rib1U, repair 3-9 location I-7 build up weld processed 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 160 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.

**PQR WITNESS**

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## WELDING INSPECTION REPORT

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At 1300 hours, the Caltrans Quality Assurance (QA) inspector arrived at JSW fabrication shop number 4 and observed a procedure qualification test designated SJ-2942 WP-16 performed by JWS welding personnel Mr. K. Kobayashi. The welding was performed utilizing the Shield Metal Arc Welding and Flux Core Arc welding Process in the Flat (1G) position. The SMAW filler metal appeared to be Hoballoy, E9018-M H4R AWS designation A5.5, 4.0 mm diameter and the FCAW filler metal appears to be TM 95K2 E90T5-K2C H4, AWS designation A5.29. The test plate thickness was 110mm (0- 30% for SMAW and 30%-100% for FCAW). The welding was performed per the AWS D1.5, 2002 Section 5.7. requirements. The Intertek QC inspector, Mr. Kuan Chung checked welding parameter and recorded the preheat and interpass temperatures, the average amperage, voltage and the travel speed for all weld passes. The QA inspector observed that the welder Mr. Masao Yamashita ground cleaning each weld pass to smooth bright finish prior to starting the next weld pass. The welding of this plate was not completed on this date. The QA inspector noted that the welding appeared to meet the minimum requirements of AWS D1.5-2002 and the contract documents.

### WQT WITNESS

QA Inspector observed a welder qualification test with SJ-2983 WP-1 performed by JWS welding personnel Mr. Takashi Watanabe, ID08-5153 and Mr. K. Shimazu, ID 02-2889. The welding was performed utilizing the Shield Metal Arc Welding Process in the Vertical up (3G) position. The filler metal Electrode appeared to be Hoballoy 9018-M AWS designation A5.1, 4.0 mm diameter. The welding was performed per the AWS D1.5, 2002 Section 5.23 requirements. The Intertek QC inspector, Mr. Kuan Chung checked welding parameter and recorded the preheat and interpass temperatures, the average amperage, voltage and the travel speed for all weld passes. The welding of this plate was completed on this date. The QA inspector noted that the welding appeared to meet the minimum requirements of AWS D1.5-2002 and the 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
<b>Reviewed By:</b>	Lanz,Joe	QA Reviewer

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