

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

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-003113**Date Inspected:** 27-Jun-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:** Muroran, 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 Muroran Japan. Current work: Casting, machining and repair of Saddles.

**Fabrication Shop # 4**

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. M. Kato, (A Shift) welding on W2-E1 fill pass (100%) of the rib to stem and base plate of first side of E1Y-17-1L and E1Y-17-2L. The welding was performed utilizing the 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 interpass temperature of 218 degrees Celsius was verified to meet the WPS requirements by the QC and QA inspectors utilizing Tempilstik 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.

---

---

# WELDING INSPECTION REPORT

( Continued Page 2 of 2 )

---

---

## PQR Witness

The Caltrans Quality Assurance (QA) inspector Mr. Dong J, Shin arrived at JSW fabrication shop number 4 and observed a welding procedure qualification test designated SJ6-2942 SW-14 and SW-9 performed by JWS welding personnel Mr. Masao Yamashita, ID 73-4195. The welding was performed utilizing the Shield Metal Arc Welding Process in the Vertical (3F Uphill) position. The filler metal Shield metal electrode appeared to be E9018M H4R, AWS designation A5.5 (96), 4.0 mm diameter. The welding was performed per the AWS D1.5, 2002 Section 5.10.3 and Figure 5.8 requirements. The Intertek QC inspectors, Mr. Makhmud Ashadi 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 each weld pass to smooth bright finish prior to starting the next weld pass. 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. See detail information in Welding Witness Report (TL-6032) dated 06-27-2008.

## Radiographic test film review

The Caltrans QA Inspector has reviewed radiographic test film for PQR SW-6-1 and SW-6-2. The quality of radiographic film was acceptable in accordance with AWS D1.5, 2002, Sec 6. JSW submitted two sets of RT film each test coupon. NISC radiographic testing was performed before and after PWHT. The quality of welding was acceptable in accordance with AWS D1.5, 2002, SEC 6.

### 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.

---

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

---