

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-003384**Date Inspected:** 01-Aug-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:** 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.

At 1000 hours, the Caltrans Quality Assurance (QA) inspector arrived at JSW fabrication shop number 4 and observed Mr. K. Kubota, Mr. Kawakami, Mr. Naitoh and Mr. Nakano perform tack welding on W2E2, additional tack welds, and added three passes on the top of existing tack welds. Cracked tack welds were ground out and all weld metal was removed. NISC NDT technician Mr. Kazuya Kobayashi performed magnetic particle testing of the base metal after tack welds were removed.

The tack welding of weld numbers 2-16, 2-8, 2-15, 2-5, 2-5, 2-7, 2-9, 2-11, 2-14 and 2-10 was performed utilizing the Shielded Metal Arc Welding (SMAW) process per the welding procedure specification (WPS) SJ-3011-2 and SJ-3011-3. The welding was performed in the 2G (Horizontal). The filler metal utilized was identified as 4.8mm diameter, Class E9018-M-H4R, Brand name Hoballoy 9018-M. The welding parameters and heat control were monitored by Intertek Testing Services Quality Control (QC) inspector Mr. Chung-Fu Kuan at periodic intervals. 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. Kuan and the QA inspector utilizing Tempilstik temperature indicators. This data was entered into the QC inspector's daily log, identifying the location on a weld map. 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 245 amps to 270 amps, 22 volts to 25 volts and travel speed of 132 to 168 mm per minute for the 4.8mm electrode and 145 amps to 165 amps, 21 volts to 24 volts and travel speed of 72 to 97 mm per minute for the 4.0mm electrode 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

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contract documents.

WQT Witness

At 1300 hours, the Caltrans Quality Assurance (QA) inspector arrived at JSW fabrication shop number 4 and observed a welder qualification test designated following welders, WPS, and positions. The welding was performed utilizing the Shield Metal Arc Welding Process in the Flat (1G) position. The welding was performed per the AWS D1.5, 2002 Section 5.13 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 cleaning 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.

Please see following information for WQT.

Welder Name	ID number	WPS	Position	Visual inspection result
Masafumi Nagakawa	92-2439	SJ-2893 WP-4	3G 2" Plate PJP	QC Accepted
Masatsugu Kobayashi	08-5154	SJ-2893 WP-4	3G 2" Plate PJP	QC Accepted

NDT Inspection Fabrication Shop#4

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 W2E2. The MT testing on previous root pass and first root pass of multi root pass of stem plate to base plate root weld . 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 field was verified with a field indicating gauge (pie gauge). All calibrations appear to meet the minimum requirements of ASTM E709. The testing was evaluated in accordance with the contract special provisions.

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
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Reviewed By:	Lanz,Joe	QA Reviewer
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