

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-003928**Date Inspected:** 05-Sep-2008**Project Name:** SAS Superstructure**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Contractor:** Japan Steel Works**OSM Arrival Time:** 900**OSM Departure Time:** 1700**Location:** Muroran, 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 Muroran Japan. Current work: Casting, machining and repair of Saddles.

Fabrication Shop # 4**NDT Inspection**

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 and observed NISC NDT Technician Mr. K. Kobayashi and Mr. R. Kumagai perform Magnetic Particle testing on weld run out tab removal areas. Magnetic particle testing was with yoke, AC current with red particles. JSW QC inspector Mr. Kuan Fu Chung observed NISC perform testing in progress and kept record for test results.

Foundry Shop

On this date the QA representative Dong J. Shin traveled to JSW foundry shop and observed JSW welding personnel Mr. H. Nishikawa perform welding on Casting T1-1. The welding of 30%-60% of the rib plate to side plate, joint designation T1-1 7Y-9V(1-2) and &7Y-9V(1-3). The welding was performed utilizing the Shielded Metal Arc Welding (SMAW) process per the welding procedure specification (WPS) SJ-3011-2. The welding was performed in the 1G (Flat) and 2G (Horizontal) positions. The filler metal utilized was identified as 4.8mm diameter, Class E7016, Brand name LB-52A. 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 110 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

WELDING INSPECTION REPORT

(Continued Page 2 of 2)

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 140 amps to 200 amps for 1G position and 200 amps to 250 amps for 2G position, 21 volts to 24 volts and travel speed of 70 to 82 mm per minute for the 4.8mm electrode used. All welding parameters checked QC inspector and verified 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.

Test Lab

The QA inspector observed one casting material reduce section round tensile test in accordance with ASTM A370. The test machine was a Shimazu 1000kn model, serial number I22104400055. Calibration was verified to be due 05-15-2009. JSW QC personnel Mr. Naoya Takahashi verified the specimen dimensions and the testing was performed and results recorded as follows.

Test Plate W2-E1, Heat Number 07W173-1, 657MPa tensile, failure was in the base metal. The samples were found Acceptable in accordance ASTM A148-Gr.620-415.

The QA inspector observed Three each Impact Test samples test temperature at -0C results were 14, 83 and 81 Joules. The samples were found to be unacceptable in accordance with project specification (project specification required minimum 42 Joules).

Caltrans witness lot number B85-036-08 was assigned to test plate ASTM A 418-Gr.620-415 for tracking purposes.

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
