

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 #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002212**Date Inspected:** 14-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1500**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2200**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Li Hanjie**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:** See below**Summary of Items Observed:**

On this date, Caltrans Office of Structural Materials (OSM) Quality Assurance (QA) Inspector Edward Leach was present to randomly observe and document the welding and Quality Control (QC) functions performed by ZPMC personnel relative to the fabrication of SAS Superstructure project. While on site, the QA Inspector noted the following work.

Bay 4

The QA Inspector made a random observation to observe in-process sub-merged arc welding (SAW) for a 75mm tower diaphragm plate (see digital picture below). The QA Inspector reviewed the information on the daily welding report provided by ABF QC personnel Li Hanjie and noted the following information for the welding parameters, 640 amperes, 31 volts and a travel speed of 485 mm per minute. Mr. Li Hanjie informed the QA Inspector that ZPMC has completed approximately 70% of the weld at this time. The QA Inspector also noted welding procedure specification (WPS)-B-T-3221-B-U3C-S-1 as the WPS used for this application. The QA Inspector noted ZPMC welding personnel Jiang Jing Teng (weld identification # 046830) performing the welding at this location. Based on this observation, the work in progress appeared to comply with the contract specifications.

Also in bay 4, the QA Inspector performed 10% ultrasonic testing (UT) verification after UT acceptance by ZPMC QC personnel for a 75mm internal tower diaphragm plate. The piece mark designation for this material is NSD1-SA322-A/B-1A. The QA Inspector identified the weld joint type as a double bevel complete joint penetration (CJP) weld joint. The weld was inspected from side A only and the QA Inspector used a 45 degree shear wave transducer to inspect the top quarter of the weld, followed by a 70 degree shear wave examination for

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the middle half and bottom quarter of the weld. Approximately 485mm of weld length were tested to accommodate the 10% requirement. The UT inspection was performed to the requirements of AWS D1.5-2002, Section 6, Table 6.3 (Tensile Stress). Upon completion of testing no relevant indications were noted and a TL-6027 UT report was generated for this item. The UT performed by ZPMC QC personnel appeared to comply with the contract specifications.

Later in the shift in bay 4, the QA Inspector performed approximately 10% magnetic particle testing (MT) after MT acceptance by ZPMC QC personnel for side panel Tee rib stiffener designations, SP523-001-049 and SP523-001-036. The QA Inspector used a Parker contour probe with alternating current (A/C) to inspect approximately 400 mm of the partial joint penetration (PJP) within the middle portion of the weld length. No relevant indications were noted upon completion of the inspection and a TL-6028 MT report was generated for this item. This inspection was performed to the requirements of AWS D1.5-2002, Section 6.26.2.1 & 6.26.2.3. The MT performed by ZPMC QC personnel appeared to comply with the contract specifications.



Summary of Conversations:

As noted above in report.

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 Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Leach,Ed	Quality Assurance Inspector
Reviewed By:	Hager,Craig	QA Reviewer
