

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-002843**Date Inspected:** 05-Jun-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 2300**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Jiang Jian Fei**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, OBG**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Ken Jobes, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, to randomly monitor welding and Quality Control (QC) functions. While on site, the QA Inspector observed and/or discovered the following:

New Tower Bay 1

The Caltrans QA Inspector randomly observed the milling of weld bevels and the flame cutting of miscellaneous parts for the tower.

New Tower Bay 2

The Caltrans QA Inspector randomly observed the milling of weld bevels on miscellaneous parts for the tower.

The Caltrans QA Inspector randomly observed the Shielded Metal Arc Welding (SMAW) of lifting lugs on two assemblies, ESD1-SA107E/J and ESD1-SA107F/J. The welding was being done in the horizontal fillet (2F) and the overhead fillet (4F) welding positions. The welders were Zhai Qing shan (I. D. 202354), welding in the 4F position; and Liu Wei (I. D. 048532) welding in the 2F position. The QA Inspector verified the qualifications of the welders by looking at their qualification cards. The type electrode, E7018 (TL 508) was also verified and two portable electrode ovens were in use. One ZPMC QC Inspector was monitoring this work. Preheating was also observed.

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The Caltrans QA Inspector also randomly observed the Submerged Arc Welding (SAW) of fill passes on Weld Nos. ESD1-SA77 D/E-10B, 9, 21B and Weld Nos. ESD1-SA77 D/E-11B, 7, 20B in the flat groove (1G) welding position. Each of the three welds above are actually on one weld joint. The “A” welds are CJP and are at each end of the applicable joint and the remaining welds are PJP and are between the applicable CJP welds. The welding operator was Shen Mei (I. D. No. 041716) and the Welding Procedure Specification (WPS) No. was WPS-B-T-2221-B-U3c-S. Certified Welding Inspector (CWI), Jiang Jian Fei (CWI No. 07120691) was present during the welding of both welds, as was ABF QA Inspector, Yang Yi heng. The QA Inspector verified the qualifications of the welding operator, and that the electrode/flux classification, diameter of electrode, amperage, voltage, travel speed, and preheat/interpass temperatures were within the specified ranges on the WPS.

All above observations appeared to meet the requirements of the job specifications.

OBG Shop 1

The Caltrans QA Inspector also randomly observed the gas metal arc welding of tack welds joining U-ribs to deck plate for production monitoring tests (PMT's). Two assemblies of three ribs each were observed being welded in the horizontal groove (2G) position. No ZPMC QC or QA personnel were present during this welding. The tack welder was Liu Xiaomin and the WPS posted at the work location was WPS-B-T-2342-U2 (u-rib). The QA Inspector measured the voltage and amperage; and verified the gas flow rate, the electrode type (ER70S-6) and electrode diameter (1.2 mm). The measured amperage was 230-240. The specified range on the WPS was 320-350. This did not appear to meet the WPS requirements. An Incident Report was drafted and e-mailed to Jim Cochran, Caltrans Task Leader.



Summary of Conversations:

As identified within the contents of this 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.

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Inspected By: Jobes, Kenneth

Quality Assurance Inspector

Reviewed By: Cochran, Jim

QA Reviewer