

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-002490**Date Inspected:** 19-May-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Changxing Island**CWI Name:** See below**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:** Skin plates**Summary of Items Observed:**

The name of ABF Certified Welding Inspector (CWI) are Mr. Wang Cheng Jun, Mr. Yang Yi Heng, Mr. Kong Xian Hui and Mr. Dai Zing Wen.

"Push down" Heat straightening on skin plate (Tower bay#1 and bay #2) Caltrans Quality Assurance Inspector (QAI) observed few Zhenhua Port Machinery Co (ZPMC) heat straightening operators performed heat straightening with ZPMC Heat Straightening Report (HSR) on plate numbered P313, P89, SA33, SA178, P574, P352, P324B, P127, P56, P148 and P150. The heating temperature is maximum 650 C (1200 F) and cool in still air.

All the plates have been monitored and recorded and inspected by ZPMC QC required within from 0.5mm to 1mm off set (Caltrans requirement Max 3mm) after heat straightening to cooled to ambient temperature. Based on Caltrans QAI observation, no discrepancies were noted.

Magnetic particle testing (MT) on splice welds (Tower bay#1 and bay #2): Two ZPMC MT technicians performed QC 25% MT testing on three splice weld of skin plates. The test splice weld numbered # ESD1-SA296A/E-1A, ESD1-SA296A/E-1B and ESD1-SA227A/H-15A The grease, rust, scale and other moisture have been removed by ZPMC workers on both side 200mm of splice weld areas prior MT testing. The power source of MT testing is used electromagnetic yoke with Alternating Current (AC) made by Magnaflux. The detection media is used dry red ferromagnetic particles. The technique uses dry particles that are applied while the magnetizing force is on. A field indicator used to check the magnetic field direction and to ensure adequate field strength during MT testing. The 25% MT testing of three splice weld areas appeared to be in compliance with the requirements of AWS D1.5 (2002) and Caltrans contract documents.

Submerged Arc Welding (SAW) process on skin plate (Tower bay#1 and bay#2): Caltrans QAI observed four

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ZPMC welding operators performed semi-automatic SAW on the splice weld of ASTM 709 345 skin plate numbered P13 to P1866 with 70mm wall thickness, weld# WSD1-SA653A/F-2B, skin plate numbered SA653 to P1866 with 70mm wall thickness, weld# SSD1-SA653A/E-1B, skin plate numbered P69 to P84 with 90mm wall thickness, weld# SSD1-SA179B/E-3A, skin plate numbered P84 to SA68 with 90mm wall thickness, weld# SSD1-SA179B/E-2A, skin plate numbered P601 to P751 with 90mm wall thickness, weld# ESD1-SA77A/E-35B, and skin plate numbered P594 to P1751 with 90mm wall thickness, weld# SSD1-SA77A/E-37B. The weld designed is a double -V-groove with welding conducted in the in flat position (1G) with proper 4.8mm diameter wire feed electrode JW3 and flux/J1-B, made by China Company and completed with approximate five pass. The parameters used for SAW welding of splice weld was conducted in accordance with Caltrans approved WPS-B-T-2221-B-U3. The semi-automatic SAW was monitored and recorded by ABF Certified Welding Inspector (CWI) Mr. Wang Cheng Jun, Mr. Yang Yi Heng, Mr. Kong Xian Hui and Mr. Dai Zing Wen. Based on Caltrans QAI observations, no discrepancies were noted.

Summary of Conversations:

As Note within the report above.

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

Inspected By:	Pau,Wai	Quality Assurance Inspector
Reviewed By:	Cochran,Jim	QA Reviewer
