

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-001984**Date Inspected:** 09-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2130**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Huang Wen Pang**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:** Floor Beams / Diaphragm**Summary of Items Observed:**

On this date CALTRANS OSM Quality Assurance (QA) Inspector was present during the times noted above for observations relative to the work being performed.

Bay 8-Tower Diaphragm 47.6 Meter

The QA Inspector randomly observed ZPMC qualified welder Ms. Wang Lanying ID #452565 groove welding weld joint WSD1-SA372A/B-3A(3B) fill pass. Ms. Wang was observed welding in the 1G (flat) position utilizing a Submerged Arc Welding (SAW) process with a 4.8mm diameter electrode, filler metal brand LA-85, class MIL800-HPNI, machine. The QA Inspector observed the ZPMC Quality Control (QC) CWI Inspector Xu Bing verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). The QA Inspector observed preheat and welding parameters measured by the QC CWI Inspector Xu Bing and found them to be a preheat temperature of 180°C and welding parameters amps of 600, volts of 31.4, and a travel speed of 480. Welding parameters observed by the QA Inspector appeared to be in general compliance with the approved WPS-B-T-3221-B-U3c-S-1.

The QA Inspector randomly observed ZPMC qualified welder Ms. Xu Pei Pei ID #050323 groove welding weld joint WSD1-SA370-10A(10B) fill pass. Ms. Xu was observed welding in the 1G (flat) position utilizing a submerged arc welding SAW process with a 4.8mm diameter electrode, filler metal brand LA-85, class MIL800-HPNI, machine. The QA Inspector observed the ZPMC QC CWI Inspector Wei Sun verifying that the welding parameters and pre-heat were in accordance with the WPS. The QA Inspector observed preheat and welding parameters measured by the QC CWI Inspector Wei Sun and found them to be a preheat temperature of 180°C and welding parameters amps of 602, volts of 31.5, and a travel speed of 481. Welding parameters observed

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by the QA Inspector appeared to be in general compliance with the approved WPS-B-T-3221-B-U3c-S-1.

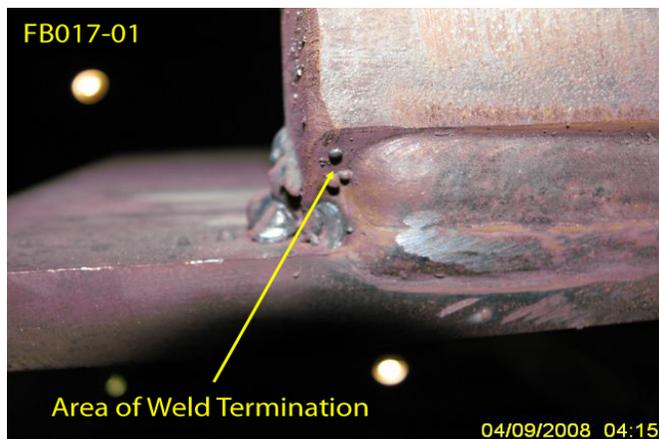
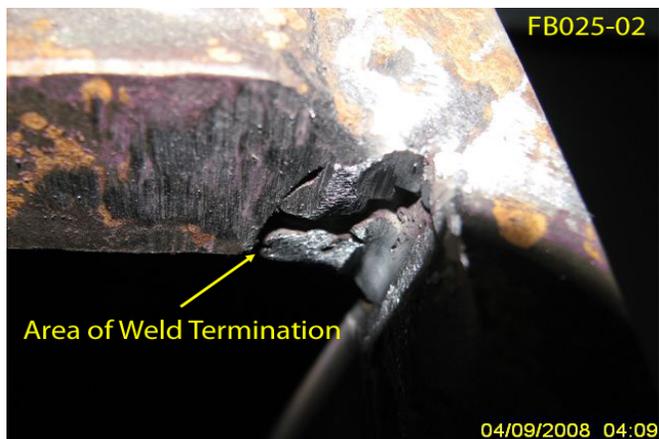
The QA Inspector randomly observed ZPMC qualified welder Ms. Ma Ying ID #045270 groove welding weld joint WSD1-SA316-6A(6B) fill pass. Ms. Ma was observed welding in the 1G (flat) position utilizing a submerged arc welding SAW process with a 4.8mm diameter electrode, filler metal brand LA-85, class MIL800-HPNI, machine. The QA Inspector observed the ZPMC QC CWI Inspector Wei Sun verifying that the welding parameters and pre-heat were in accordance with the WPS. The QA Inspector observed preheat and welding parameters measured by the QC CWI Inspector Wei Sun and found them to be a preheat temperature of 180°C and welding parameters amps of 599, volts of 31.3, and a travel speed of 479. Welding parameters observed by the QA Inspector appeared to be in general compliance with the approved WPS-B-T-3221-B-U3c-S-1.

The QA Inspector randomly observed ZPMC qualified welders, tack welding diaphragm plate splice connection designated NSD1-SA248-1A/1B(2A/2B) using a shield metal arc welding (SMAW) process.

Bay 7 – Orthotropic Box Girders

Ultrasonic Observation.

The QA Inspector periodically observed ZMPC Ultrasonic Testing (UT) technicians performing full volumetric Ultrasonic Testing of floor beam corner joints. The QA Inspector observed the technicians utilizing 70 shear wave transducer/plastic wedge combinations to examine the top quarter, middle half, and bottom quarter of the weld. Once the UT was completed, the technicians documented multiple rejectable indications. The components tested were designated as FB026-02-125~127, FB026-01-125~127, FB018-01-125~127, FB018-02-125~127, FB025-01-125~127.



Summary of Conversations:

While performing an observation of ZPMC ultrasonic testing of floor beam corner complete joint penetration welds the QA Inspector randomly observed that the completed welds did not terminate at the end of the joint in a manner that ensured sound welds. Upon further examination the QA Inspector discovered that the previously completed welds were fit up and welded without the use of weld tabs. The QA Inspector photographed several instances where this discrepancy could be observed and notified the proper quality control and quality assurance personnel. The QA Inspector issued an incident report to the date of this reporting.

Comments

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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:	Clifford,William	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer
