

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-001978**Date Inspected:** 17-Apr-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:** Shanghai, China**CWI Name:** Sun Wei**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 Skin Plates**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 2- New Tower Building

The QA Inspector randomly observed ZPMC qualified welder Ms. Shen Mei, ID #041716, performing groove welding of weld joint ZSD1-SA237A/F-1B filler passes. Ms. Shen 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) Inspector Yang Bai Qiong 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 Inspector Yang Bai Qiong and found them to be a preheat temperature of 110°C and welding parameters amps of 680, volts of 32.3, and a travel speed of 661. Welding parameters observed by the QA Inspector appeared to be in general compliance with the approved WPS-B-T-3221-B-U3c-S.

The QA Inspector randomly observed ZPMC qualified welder Ms. Xue Yian, ID #040634, performing groove welding of weld joint ZSD1-SA237A/F-1B filler passes. Ms. Xue 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 Inspector Zhu Zhanghai 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 Inspector Zhu Zhanghai and found them to be a preheat temperature of 110°C and welding parameters amps of 670, volts of 32.2, and a travel speed of 665. 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.

The QA Inspector randomly observed ZPMC qualified welder Ms. Cao Xiao Hua, ID #056975, performing groove welding of weld joint ESD1-SA216A/K-16A(16B) filler passes. Ms. Cao 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 Inspector Wang Lu 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 Inspector Wang Lu and found them to be a preheat temperature of 110°C and welding parameters amps of 676, volts of 32.4, and a travel speed of 667. Welding parameters observed by the QA Inspector appeared to be in general compliance with the approved WPS-B-T-3221-B-U3c-S.

Bay 1- New Tower Building

The QA Inspector randomly observed ZPMC qualified welder Ms. Xu Yan, ID #052917, performing groove welding of weld joint SSD1-SA173A/K-18A filler passes. 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 Quality Control (QC) Inspector Yang Qing Feng 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 Inspector Yang Qing Feng and found them to be a preheat temperature of 110°C and welding parameters amps of 678, volts of 32.3, and a travel speed of 662. Welding parameters observed by the QA Inspector appeared to be in general compliance with the approved WPS-B-T-3221-B-U3c-S.

The QA Inspector randomly observed ZPMC qualified welder Ms. Chen Hong Xia, ID #040460, performing groove welding of weld joint SSD1-SA16E/G-1B filler passes. Ms. Chen 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 Inspector Yang Qing Feng 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 Inspector Yang Qing Feng and found them to be a preheat temperature of 110°C and welding parameters amps of 673, volts of 31.9, and a travel speed of 664. Welding parameters observed by the QA Inspector appeared to be in general compliance with the approved WPS-B-T-3221-B-U3c-S.

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The QA Inspector randomly observed ZPMC qualified welder Ms. Yuan Teng Chuan, ID #059355, performing groove welding of weld joint DP111-001-153 & DP129-002-153 filler passes. Ms. Yuan 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) Inspector Lijie 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 Inspector Lijie and found them to be a preheat temperature of 110°C and welding parameters amps of 463, volts of 30., and a travel speed of 383. Welding parameters observed by the QA Inspector appeared to be in general compliance with the approved WPS-B-T-2221-B-L2a-S-1.

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The QA Inspector randomly observed ZPMC qualified welder Mr. Han Fengchuan, ID #059464, performing groove welding of weld joint DP84-001-117 & DP491-001-117 filler passes. Mr. Han 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 Inspector Lijie 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 Inspector Lijie and found them to be a preheat temperature of 110°C and welding parameters amps of 475, volts of 32.4, and a travel speed of 390. Welding parameters observed by the QA Inspector appeared to be in general compliance with the approved WPS-B-T-2221-B-L2a-S-1.

Carbon Arc Gouging of Reject.

The QA Inspector randomly observed ZPMC personnel utilizing the carbon arc gouging method to remove rejectable indications from welds previously discovered during full volumetric Ultrasonic Testing (UT) performed by ZPMC Quality Control (QC) personnel. The applicable weld designations are as follows: SSD1-SA159D/J-4B. The QA Inspector randomly observed ZPMC welding personnel utilizing the carbon arc gouging method to remove in process porosity on weld location designated ESD1-SA216A/K-16B(16A). The QA Inspector observed the removal of approximately 20mm in depth and 180mm in length of in process weld.

Summary of Conversations:

The QA Inspector spoke with ABF representative CK Chan about weld location designated SSD1-SA173A/K-13B. Mr. Chan informed the QA Inspector that this completed weld had received additional heat straightening after initial Ultrasonic Testing (UT) and required an additional full volumetric ultrasonic evaluation.

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