

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-005274**Date Inspected:** 17-Jan-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 645**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1745**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**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:** OBG Fabrication**Summary of Items Observed:**

CWI: Mr. Sun Wei

On this date CALTRANS OSM Quality Assurance (QA) Inspector Mr. Paul Dawson arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

This QA Inspector observed ZPMC welder Mr. Xing Jie, stencil 59378 is using flux cored welding procedure WPS B-T-2232-TC-U5F to make repairs to OBG deck plate DP580-001 weld #14R1. Prior to welding the QA Inspector observed the base material had been preheated using electrical heater elements. The QA Inspector observed Quality Control Inspectors measuring Mr. Jie's welding with a current of 290 amps and 30 volts. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Mr. Song Yun Shu, stencil 59421 is using flux cored welding procedure WPS B-T-2232-TC-U5F to make repairs to OBG deck plate DP565-001-017 R1. Prior to welding the QA Inspector observed the base material had been preheated using electrical heater elements. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Mr. Jiang Ting Quang, stencil 062265 is using the flux cored welding procedure WPS B-T-2232-TC-U5F to make repairs to OBG deck plate DP595-001 weld #15 R1. Prior to welding the QA Inspector observed the base material had previously been preheated using electrical heater elements. Items

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observed by this QA Inspector appear to be progressing in compliance with project specifications.

The QA Inspector monitored welding of closed rib of deck plate DP220-001 using gantry #1. The QA Inspector observed six ZPMC welders using welding procedure specification WPS-B-T-2342-U1(Urib)-4 using the gas metal arc welding process for the root pass and submerged arc welding process for the cover pass of partial penetration groove welds on six PMT closed rib welds at the same time. ZPMC has multiple flux cored welding manipulators attached to a movable gantry that runs on a track along the length of the stiffener plates. The QA Inspector observed a welding travel speed of approximately 536 mm per minute for the root passes and 520 mm per minute for the cover passes. As the welding commences, each of the welders is responsible for one of the welding heads. Welder Ms. Wang Xiao Rong, stencil 59445 completed the root pass of weld #1 with a welding current of approximately 360 amps and 30.5 volts and the cover pass welding current of approximately 685 amps and 25.2 volts. Welder Mr. Tiang Shuang Chen, stencil 201788 completed the root pass of weld #2 with a welding current of approximately 350 amps and 31.1 volts and the cover pass welding current of approximately 680 amps and 24.8 volts. Welder Mr. Xhang Shao Hui 59403 completed the root pass of weld #5 with a welding current of approximately 350 amps and 31.6 volts and the cover pass welding current of approximately 690 amps and 24.6 volts. Welder Mr. Chen Jie, stencil 59468 completed the root pass of weld #6 with a welding current of approximately 375 amps and 31.8 volts and the cover pass welding current of approximately 680 amps and 25.3 volts. Welder Ms. Zhang Li Ping, stencil 201840 completed the root pass of weld #9 with a welding current of approximately 380 amps and 30.8 volts and the cover pass welding current of approximately 685 amps and 25.0 volts. Welder Mr. Zhao Cheng Shuang, stencil 59400 completed the root pass of weld #10 with a welding current of approximately 360 amps and 31.5 volts and the cover pass welding current of approximately 690 amps and 25.1 volts. Items observed by this QA Inspector appear to comply with project specifications.

This QA Inspector performed random final visual and ultrasonic (UT) inspections of approximately 10% length of OBG welds SSD17A-PP063-131, FB003-097-036, SSD16A-PP068-131, FB003-078-036, FB011-027-021, FB011-027-062, FB011-025-021, FB011-025-062 and FB011-022-062. These welds have previously been tested and accepted by ZPMC Quality Control Inspectors. These welds are listed on ZPMC Notification of Witness Inspection document 001859. The QA Inspector observed the welds that were ultrasonically inspected by this QA Inspector appear to comply with AWS D1.5 UT requirements. For additional information on this inspection see the TL6027 Ultrasonic Test Report.

Summary of Conversations:

See 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 Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Clifford,William	QA Reviewer
