

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-007374**Date Inspected:** 12-Jun-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**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 and Tower Fabrication**Summary of Items Observed:**

CWI Inspectors: Mr. Lv Li Qing

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:

OBG Bay 13

The QA Inspector observed ZPMC welder Ms. Chen Feng Lian, stencil 206623 is using the flux cored process WPS-B-T-2232-TC-U4b-F to make fillet weld 8BE CSD4-PP068. The QA Inspector observed a welding current of approximately 305 amps and 33.2 volts. The QA Inspector informed ZPMC CWI Mr. Lv Li Qing that Ms. Lian appears to have a welding voltage of 33.2 volts which is approximately 1 volts above the maximum, and this is the third time this week that the QA Inspector has observed various welders to have a voltage that is exceeding the maximum listed in the welding procedure specification. Mr. Lv Li Qing said that he will adjust the voltage and the QA Inspector later measured a welding voltage of approximately 31.0 volts. Items observed by the QA Inspector do not appear to fully comply with project specifications.

The QA Inspector observed ZPMC welder Ms. Song Weirong, stencil 056205 is using flux cored welding procedure WPS-B-T-2231-B-U2-F to make root pass weld SEG-045*-008. The QA Inspector observed a welding current of approximately 260 amps and 31.0 volts. The QA Inspector observed Quality Control (QC) personnel

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monitoring this welding. Items observed on this date appeared to generally comply with applicable contract documents.

Tower Bay 10

The QA Inspector observed ZPMC welder Ms. Zhand Suqin, stencil 209051 using submerged arc welding procedure specification WPS-B-T-2221-BU3-C-S-3 to make groove weld NSD1-FCSA4-1A/C-83A. The QA Inspector observed Quality Control (QC) personnel monitoring the base material temperature with a 110 degree Celsius temperature indicating crayon and QC personnel was monitoring other welding attributes. This QA Inspector measured a welding current of 660 amps and 31.5 volts. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

OBG Segments

ZPMC QC Representative Mr. Shen Xuejun requested Caltrans Quality Assurance to select locations in butt weld OBE2A-004 between segment 2AE and segment 2BE where ZPMC is to perform radiographic inspections of this weld. Mr. Shen Xuejun informed this QA Inspector that the original weld had been rejected due to being radiographic rejected. Today this QA Inspector reviewed the project Special Provisions and determined that a 50 mm length of the weld on either side of the weld repair and a 10 percent of the entire weld length on either side of this weld will need to be radiographed in addition to the weld repair. The original repair area is approximately 200 mm from the end of the weld and it is not possible to obtain a 10 percent length of the weld on one side of the repair. This QA Inspector confirmed the areas to be marked for radiography via a phone call to Caltrop NDE Level III Mr. John Kinsey, who confirmed that the 10 percent length is of the entire weld length on one side of the weld repair and since the weld repair is close to the end that the radiography should include entire distance between the weld repair and the end of the weld on the side of the weld nearest to the end of the weld. Mr. Shen Xuejun disagreed at the need to perform radiography of a 10 percent length and he called Senior Task Leader Mr. Mahlon Lindenmuth who confirmed the requirement to perform radiography of a 10 percent length of the entire length of the weld. The QA Inspector marked the locations where radiography is to be performed. See the photograph of the weld repair below for additional information.

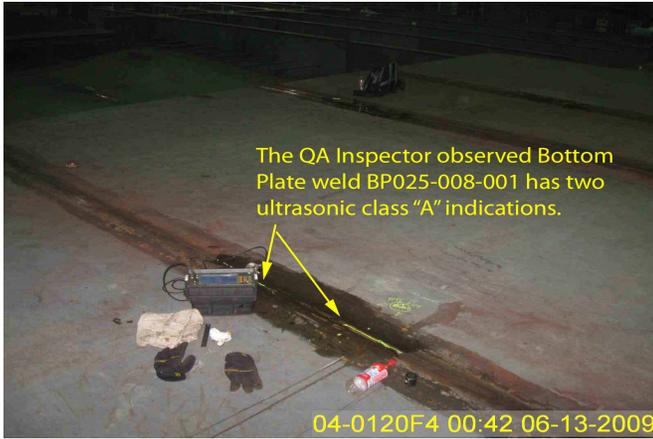
OBG Bay 19

ZPMC issued an "Inspection Notification Sheet" #03395 requesting QA to perform ultrasonic inspections of base plate welds BP025-008-001, BP025-008-002 and BP025-008-003. ZPMC ultrasonic Inspectors had previously accepted 100 percent length of all of these welds. This QA Inspector performed random ultrasonic inspections of welds BP025-008-002 and BP025-008-003 and items observed by this QA Inspector appear to comply with AWS D1.5 UT requirements. The QA Inspector observed weld BP025-008-001 has two class "A" rejections and the QA Inspector issued an incident report to document ZPMC not rejecting this weld.

For additional information on these inspections see the TL6027 Ultrasonic Test Report and the photographs below

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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: Carreon,Albert

QA Reviewer