

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-010523**Date Inspected:** 14-Nov-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 Fabrication**Summary of Items Observed:**

CWI Inspectors: Mr. Zhu Zhong Hai, Mr. Geng 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. This QA Inspector observed the following:

Assembly Yard

This Inspector Performed random conventional Ultrasonic inspections (UT) in conjunction with ABF UT Department for detection of planar transverse indications utilizing scanning pattern A, B, C and D (AWS D1.5 Fig 6.7) of OBG segment 1E top deck plate to edge plate EP-2 weld repair areas as referenced on NDE request 11142009-1. These five weld repair locations had initially been ultrasonically rejected by ZPMC/ABF reference UT report UT-1E-008 dated 11-02-2009, and have now been repaired. At around 1245 AM on 11-15-09 ABF ultrasonic inspectors performed ultrasonic inspections of all five repair areas and they accepted weld repairs #1 (10,665 mm), #2 (13,580 mm), #3 (13,600 mm), and ABF rejected weld repairs #4 (13,620 mm) and #5 (14,475 mm) due to transverse indications in the welds. This QA Inspector also performed UT inspections of these locations and determined that repairs #1 through #4 appear to comply with project specifications and that weld repairs #4 and #5 have transverse UT rejects. This QA Inspector also observed an additional transverse indication near repair location 13,700 mm which had not been previously identified by ABF. After ABF UT Inspectors reinspected this location, they stated that this indication is acceptable due to its ultrasonic indication rating of a plus 21 and that it

WELDING INSPECTION REPORT

(Continued Page 2 of 2)

would be rejectable if it was a plus 20 or smaller. This QA Inspector stated that this indication appears to be rejectable due to its transverse orientation and that it has the appearance of moving a minimum of one screen division (travel) as shown on the UT instrument as the transducer is moved toward and away from the transverse indication. ABF personnel stated they will discuss this indication with their supervisor. For additional information on these inspections see the ultrasonic transverse indication evaluation form dated November 14, 2009.

OBG Bay 13

This QA Inspector observed ZPMC welder Mr. Wu Wanyong, stencil 050242 is using welding procedure WPS-B-345-FCCA-W-2G(2F)-Repair to make corner assembly flux cored repair weld CA079-003. This QA Inspector observed that Mr. Wu Wanyong appears to be certified to make this weld. This QA Inspector measured a welding current of approximately 250 amps and 31.1 volts. This welding procedure specifies that the minimum welding current is 280 amps and that the welding current being used to make this weld is below this minimum level. This QA Inspector asked ZPMC QC Inspector Mr. Zhong Guo Hui to confirm the low welding current and after he went to OBG Bay 14 to retrieve his welding amperage meter he confirmed the welding current averages below 280 amps. ZPMC CWI Mr. Geng Wei also observed the low welding current and he informed this QA Inspector that the weld material that had been deposited with low current is going to be removed and rewelded with a higher welding current. Items observed on this date appeared to do not appear to fully comply with applicable contract documents.

OBG BAY 14

This QA Inspector observed ZPMC welder stencil 215997 is using welding procedure specification WPS-B-T-2221-B-U2c-S-2 to make submerged arc groove weld SEG072A-012. This QA Inspector observed ZPMC Quality Control inspector Mr. Zhong Guo Hui monitoring this welding and this QA Inspector measured a welding current of approximately 600 amps and 31.0 volts. Items observed on this date appeared to generally comply with applicable contract documents.

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
