

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-011742**Date Inspected:** 20-Jan-2010**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**Summary of Items Observed:**

CWI Inspector: Mr. Zhu Zhong Hai

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:

OBG Trial Assembly

This QA Inspector observed ZPMC welder Mr. Hu Yacheng, stencil 049339 is using shielded metal welding process WPS-345-SMAW-2G(2F)-FCM-Repair-1 to make OBG repair weld CA026-004 between the deck and side plate on segment 6E. This QA Inspector measured a welding current of approximately 160 amps and Mr. Hu Yacheng appears to be certified to make this weld. This QA Inspector observed ZPMC QC personnel using a 140C degree and a 230C degree temperature indicating device to verify the base material has been preheated with an electrical heater prior to welding. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container that feels hot. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Sun Lingling, stencil 048047 is using shielded metal welding process WPS-345-SMAW-2G(2F)-FCM-Repair-1 to make OBG repair weld CA026-004 between the deck and side plate on segment 6E. This QA Inspector measured a welding current of approximately 160 amps and Mr. Sun

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Lingling appears to be certified to make this weld. This QA Inspector observed ZPMC QC personnel using a 140C degree and a 230C degree temperature indicating device to verify the base material has been preheated with an electrical heater prior to welding. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container that feels hot. Items observed on this date appeared to generally comply with applicable contract documents.

ABF issued "Inspection Notification Sheet" number 01192010-2 informing QA that at 17:00 hours ABF Inspectors will be performing magnetic particle (MT) and ultrasonic (UT) inspections of OBG segment 6B deck plate to edge plate welds CA027-002,004,006. At around 1930 hours this QA Inspector observed ABF personnel performing ultrasonic inspections of 6B deck plate to edge plate welds CA027-002,004,006. This QA Inspector observed ABF performing UT inspections and this QA Inspector visually confirmed ABF has rejected the following locations are UT rejects: Y=65, 245, 690, 710, 4275, 4500, 4830 and 4850mm. This QA Inspector observed there is not secure fall protection tie off anchor point available and this QA Inspector did not perform ultrasonic inspections of these weld rejections. At around 19:30 hours this QA Inspector observed no MT inspections could be performed due to the weld surfaces having couplant on them.

ABF issued "Inspection Notification Sheet" number 01202010-1 informing QA that at 1900 hours ABF Inspectors will be performing magnetic particle (MT) and ultrasonic (UT) inspections of OBG segment 5W bottom to side plate weld SEG023A-005 and weld SEG025A-008. At around 2100 hours this QA Inspector observed ABF personnel performing ultrasonic inspections of this weld repair and at around 03:00 hours it appears that ABF did not complete ultrasonic inspections of this weld, apparently due to ZPMC personnel performing radiography of near by welds commencing at around 21:30 hours.

ABF issued "Inspection Notification Sheet" number 01192010-3 informing QA that at 1930 hours ABF Inspectors will be performing magnetic particle (MT) and ultrasonic (UT) inspections of OBG cross beam CB5 east side bottom to side plate weld CB202A-005-004, 005, 006. At around 2030 hours this QA Inspector observed ABF personnel performing ultrasonic inspections of the weld repair area and this QA Inspector observed ABF has identified a ultrasonic rejection and the following location was identified as a UT reject: Y=4020 mm. This QA Inspector performed ultrasonic inspections of the weld repair location for detection of longitudinal and planar transverse indications utilizing scanning pattern A, B, C and D (AWS D1.5 Fig 6.7) and no additional UT rejections were observed. Items observed on this date appeared to generally comply with applicable contract documents.

ABF had informed QA personnel that ABF Inspectors had completed ultrasonic inspections of OBG bottom plate butt weld OB5A-008-001 at location Y=2580 between OBG segment 5BW and 5CW. This QA Inspector performed ultrasonic inspections of the weld repair location for detection of longitudinal and planar transverse indications utilizing scanning pattern A, B, C and D (AWS D1.5 Fig 6.7) and 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

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Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
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Reviewed By:	Carreon,Albert	QA Reviewer
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