

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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-024747**Date Inspected:** 08-Jun-2011**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. Wang Jun

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. Han Yiaofeng, stencil 054467 using shielded the metal arc welding process in the 4F position to tack weld temporary plates to cross beam CB19 in order to secure a splice plate into position prior to drilling holes. This QA Inspector observed the base materials do not appear to have been preheated. This QA Inspector informed ZPMC QC Inspector Mr. Zhang Lin the base materials do not appear to have been preheated and Mr. Zhang Lin informed this QA Inspector the area where the tack weld had been made will be MT Inspected at a later time. ZPMC workers obtained a torch and used it to preheat the base materials prior to installing additional temporary plates. This QA Inspector measured a welding current of approximately 155 amperes (amps). Items observed on this date do not fully appear to comply with applicable contract documents.

Blast shop #4, Segments 13AW, 13BW and 13CW

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

This QA Inspector observed ZPMC welder Mr. Xu Kesong, stencil 070009 used shielded metal arc welding procedure WPS-B-P-2214-TC-U4B-FCM-1 to make segment 13BW weld SEG3014S-053. This QA Inspector observed a welding current of approximately 160 amps the base material had been preheated with a torch and Mr. Xu Kesong appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Jiang Zhen, stencil 068917 used shielded metal arc welding procedure WPS-B-P-2214-FCM-1 to make segment 13BW welds SEG3015K-206 and 227. This QA Inspector observed a welding current of approximately 150 amps the base material had been preheated with a torch and Mr. Jiang Zhen appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Guijun, stencil 067275 used shielded metal arc welding procedure WPS-B-P-2214-TC-U4B-FCM-1 to make segment 13BW weld SEG3015U-002. This QA Inspector observed a welding current of approximately 210 amps. This QA Inspector observed the maximum welding current listed in the welding procedure specification is 160 amps and Mr. Wang Guijun had a welding current that was approximately 50 amps above this maximum limit. This QA Inspector informed ZPMC QC Inspector Mr. Li Ping the welding current and he adjusted the welding machine to have a current of approximately 160 amps. Following adjustment of the welding machine, items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Rucheng, stencil 066881 used shielded metal arc welding procedure WPS-B-P-2214-TC-U4B-FCM-1 to make segment 13BW weld SEG3015U-002. This QA Inspector observed a welding current of approximately 220 amps. This QA Inspector observed the maximum welding current listed in the welding procedure specification is 160 amps and Mr. Wang Rucheng had a welding current that was approximately 60 amps above this maximum limit. This QA Inspector informed ZPMC QC Inspector Mr. Li Ping the welding current and he adjusted the welding machine to have a current of approximately 160 amps. Following adjustment of the welding machine, items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Li Shoufu, stencil 066674 used flux cored welding procedure specification WPS-B-T-2232-ESAB to perform OBG segment 13BW welds SA3135-001-001 and 002. This QA Inspector observed a welding current of approximately 300 amps 26.5 volts, the base material had been preheated with electrical heaters and Mr. Li Shoufu appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

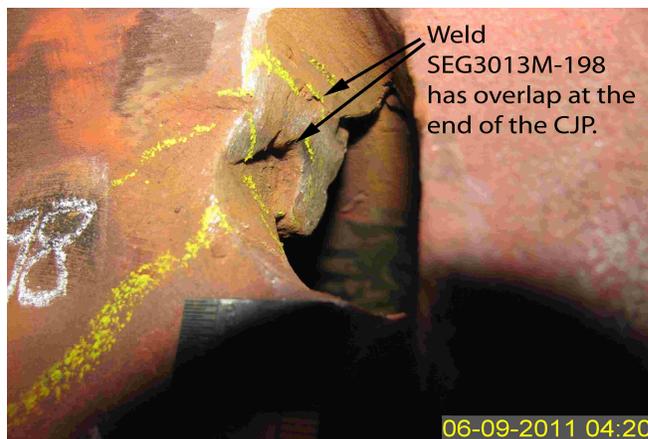
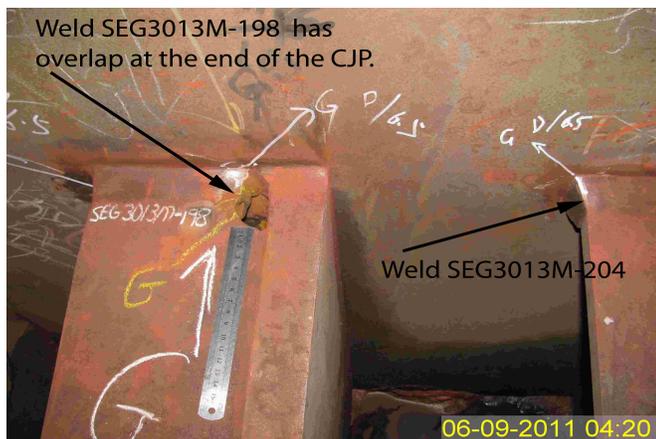
This QA Inspector observed ZPMC welder Mr. Pan Ming, stencil 066673 used flux cored welding procedure specification WPS-B-T-2233-ESAB to perform OBG segment 13BW welds SA3145-002-001 and 002. This QA Inspector observed a welding current of approximately 260 amps 25.5 volts, the base material had been preheated with electrical heaters and Mr. Pan Ming appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

ABF presented QA personnel with copies of various segment 13W weld maps that indicate ABF magnetic particle inspection personnel have completed inspections of welds as part of a special "48 hour" reinspection program,

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

reference NWIT 9431. This QA Inspector performed random visual and magnetic particle (MT) inspections of the following welds: SEG3013M-089, 095, 101, 107, 113, 119, 125, 131, 137, 143, 149, 155, 161 and 167. Items observed by this QA Inspector appeared to comply with AWS D1.5 MT requirements. The weld map also indicates Weld SEG3013M-198 has been MT inspected and accepted and this QA Inspector observed the termination of the weld appears to be visually unacceptable due to having weld overlap. This QA Inspector provided photographs to dayshift personnel in order for them to followup on the visual rejection. For additional information on these inspections see this QA Inspector's TL6028 Magnetic Particle 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 James Devey +8615000026784, who represents the Office of Structural Materials for your project.

Inspected By: Dawson,Paul

Quality Assurance Inspector

Reviewed By: Riley,Ken

QA Reviewer