DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-023868
Date Inspected: 20-May-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 1900
OSM Departure Time: 700
Location: Shanghai, China

CWI Name: See below

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ 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. Sun Tian Liang

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

ABF issued ultrasonic inspection report number UT-13W-012R3 stating that OBG segment 13AW welds SEG3013AA-102 and SEG3013AA-104, joining the cross beam side plate to edge plate weld #16 had been ultrasonically (UT) inspected and accepted using scanning patterns A, B, C, D and E. This QA Inspector performed random visual and ultrasonic inspections of weld SEG3013AA-102 from “Y” location from 0 mm to 2200 mm using scanning patterns A, B, C, D and E and items observed by this QA Inspector appear to comply with AWS D1.5 UT and visual requirements. ZPMC does not have a scaffold or other means of safe access to the right end of the weld from approximate location Y=2200 to Y=3300. ABF representative Mr. C. K. Chen informed this QA Inspector that access to this portion of the weld will be available tomorrow following installation of additional scaffolding. This QA Inspector performed random visual and ultrasonic inspections of weld SEG3013AA-104 using scanning patterns A, B, C, D and E and items observed by this QA Inspector appear to comply with AWS D1.5 UT requirements. This QA Inspector visually observed an underfill area in the face of the

weld at approximately 550 mm from the end of the weld nearest to segment 13BW. This QA Inspector informed ABF representative Mr. Ji Cai Fang and ZPMC CWI Mr. Sun Tian Liang that this weld is visually unacceptable due to the underfill condition. For additional information on these inspections see this QA Inspector's TL6027 Ultrasonic Test Report and the photographs below.

This QA Inspector observed ZPMC welder Mr. Wang Rucheng, stencil 066881 used flux cored welding procedure WPS-B-T-2112-ESAB to make OBG segment 14W stiffener plate weld BP3065-049. This QA Inspector observed a welding current of approximately 320 amps, 26.5 volts, the base material had been preheated with electrical heaters and Mr. Wang Rucheng 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 flux cored welding procedure WPS-B-T-2212-ESAB to make OBG Segment 13CW weld BP3091-008. This QA Inspector observed a welding current of approximately 300 amps, 26.5 volts, the base material had been preheated with electric heaters and Mr. Wang Guijun 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. Liu Ya, stencil 067520 used shielded metal arc welding procedure specification WPS-B-P-2214-TC-U4B-FCM-1 to make segment 13AW weld DP3120-001-244 and segment 13BW weld DP3133-001-018. This QA Inspector observed a welding current of approximately 180 amps, the base materials appear to have been preheated with an electrical heater and Mr. Liu Ya 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. Li Jian stencil 067829 used shielded metal arc welding procedure specification WPS-345-SMAW-2G(2F)-FCM-Repair-1 to make weld repairs of stiffener plates on cross beam side of the bottom plates on either side of the weld joint between segments 13CW and 14W. ZPMC QC said these weld repairs were required to fix visual rejections and QC was not able to provide the weld numbers for these welds. This QA Inspector observed a welding current of approximately 185 amps, the base material had been preheated with a torch and Mr. Li Jian 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. Huang Hongpei, stencil 037705 used flux cored welding procedure WPS-B-T-2213-ESAB to make OBG segment 14W side plate stiffener plate welds SEG3020AL-095, 095 and segment 13CW welds SEG3015C-098, 113. This QA Inspector observed a welding current of approximately 230 amps, 25.5 volts, the base material had been preheated with electrical heaters and Mr. Huang Hongpei appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents. See the photograph below for additional information.

This QA Inspector observed ZPMC welder Mr. Wu Cunnang, stencil 070101 used flux cored welding procedure WPS-B-T-2212-ESAB to make OBG Segment 14W welds SEG3020AL-030, 032, 034, 036. This QA Inspector observed a welding current of approximately of approximately 250 amps, 25.0 volts, the base material had been preheated with electric heaters and Mr. Wu Cunnang appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

WELDING INSPECTION REPORT

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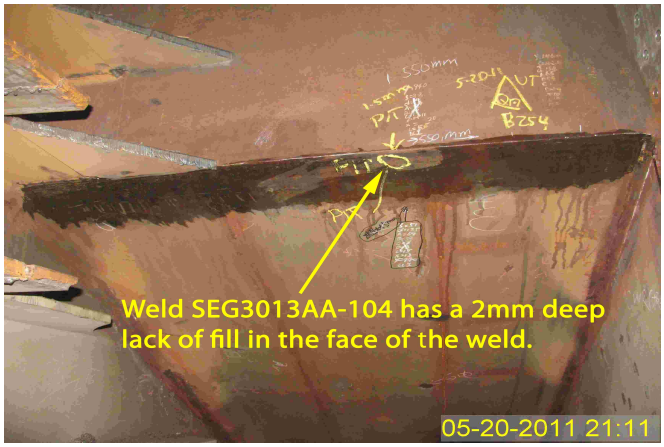

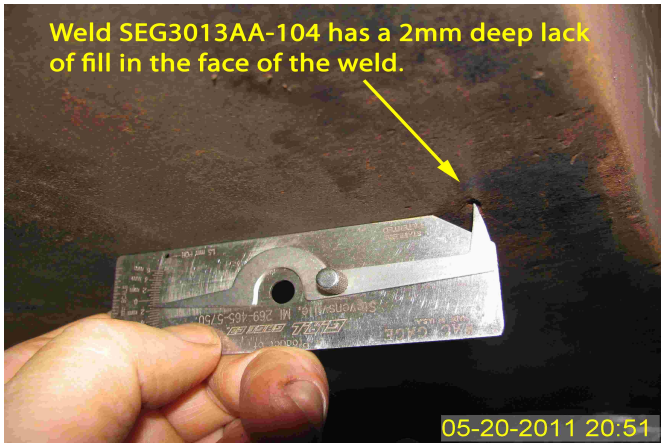

Summary of Conversations:

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 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