

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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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-021672
Date Inspected: 05-Mar-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. Bao Qian

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 Bay 14

Segments 13East and 14East

This QA Inspector observed ZPMC welder Mr. Chen Chuanzong, stencil 044824 used flux cored welding procedure WPS-B-T-2232-ESAB to make OBG segment 13AE weld SA7005-001-002. This QA Inspector observed a welding current of approximately 305 amps, and 29.0 volts. This QA Inspector observed the maximum welding voltage listed in the welding procedure specification is 26.6 volts and Mr. Kuai Wenshan had a welding current that was approximately 2.4 volts above this maximum limit. This QA Inspector showed ZPMC QC Inspector Mr. Lv Li Qing the welding meter and he had Mr. Kuai Wenshan adjusted the welding machine to have a voltage of approximately 26.0 volts. 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. Tu Zhi Wu, stencil 214945 used flux cored welding procedure

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WPS-B-T-2232-ESAB to make weld SA7005-001-002. This QA Inspector observed a welding current of approximately 300 amps and 26.5 volts, the base materials were preheated with electrical heaters and Mr. Tu Zhi Wu 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. Yuan Wensong, stencil 055491 used flux cored welding procedure WPS-B-T-2232-ESAB to make OBG segment 13AE weld SEG3007C-326. This QA Inspector measured a welding current of approximately 300 amps and 34.4 volts. This QA Inspector observed Mr. Yuan Wensong appeared to be certified to make this weld. This QA Inspector observed the maximum welding voltage listed in the welding procedure specification is 26.6 volts and Mr. Yuan Wensong had a welding current that was approximately 7.8 volts above this maximum limit. This QA Inspector showed ABF CWI Mr. Bao Qian the welding meter and he adjusted the welding machine to have a voltage of approximately 26.0 volts. Following adjustment of the welding machine, 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. Wang Zhengbin, stencil 216086 used shielded metal arc welding procedure WPS-345-SMAW-2G(2F)-FCM-Repair-1 to make repairs of OBG segment 13AE weld SA3066-001-018. ZPMC QC informed this QA Inspector that weld repair document B-WR-20346 documents this weld repair. This QA Inspector observed a welding current of approximately 190 amps and electrical heating elements were used to preheat the base materials prior to welding. This QA Inspector observed Mr. Wang Zhengbin 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. Fang Xinyou, stencil 037748 used shielded metal arc welding procedure WPS-B-P-2214-TC-U4B-FCM to make OBG segment 14E weld SA3225-001-078. This QA Inspector measured a welding current of approximately 185 amps and Mr. Fang Xinyou appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

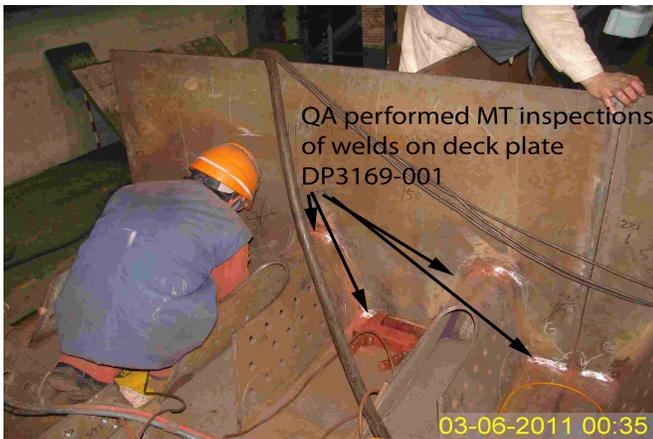
This QA Inspector observed ZPMC welder Mr. Wang Linjiang stencil 051356 used flux cored welding procedure WPS-B-T-2233-ESAB to make OBG segment 14E weld SEG3019B-022. This QA Inspector observed a welding current of approximately 280 amps and 26.0 volts. Mr. Wang Linjiang appeared to be certified to make his weld. Items observed on this date appeared to generally comply with applicable contract documents.

Segment 14 West

QA performed magnetic particle (MT) inspections of segment 14W deck plate welds DP3169-001-133, 138~141, 146~149, 122~129, 164, 169~172, 177~180, 013, 266, 185, 268, NWIT (NDT Inspection Notification Sheet) 8466 item #2. The NWIT listed above indicates welds DP3169-001-131, 132, 162 and 163 are also presented for MT inspections. This QA Inspector observed these welds have not been completed and it appears that ZPMC will complete these welds once the adjacent deck plate is welded to DP3169-001. This QA Inspector observed weld DP3169-001-164 was visually unacceptable due to weld overlap at the toe of the weld. This QA Inspector showed this weld overlap to ZPMC QA Inspectors and one of the ZPMC workers used an electric rotary file to remove the weld overlap. For additional information on these inspections see this QA Inspector's TL6028 magnetic particle 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 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
