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

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-001066
Date Inspected: 10-Dec-2007

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

OSM Arrival Time: 730
OSM Departure Time: 1500
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:

The Caltrans Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Orthotropic Box Girders (OBG).

Bay 7 OBG:

The QA Inspector randomly observed ZPMC welder Chen Chuanzong ID Number 044824, utilizing the Flux Cored Arc Welding (FCAW) Process with approved ZPMC Weld Procedure Specification (WPS) WPS-B-T-2231-B-U2-F-1, to fill small excavations in the root passes in Floor Beam Sections at Weld Joint (WJ) Numbers FB008-06-023, FB015-04-023 and FB001-04-021 prior to the Submerged Arc Welding (SAW) of the fill and cover passes. The attached photograph provides additional detail.

The QA Inspector randomly observed a ZPMC helper utilizing a grinder to blend FCAW repairs to root passes in WJ's FB008-06-023, FB015-04-023 and FB001-04-021. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welder Huang Xin Lan ID Number 044780, utilizing the SAW Process with approved ZPMC WPS WPS-B-P-2221-B-L2c-S-1 in the 1G position to weld the fill and cover passes on Floor Beam Sections at WJ FB008-06-023. The QA Inspector observed ZPMC CWI Cui Yi Ru monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: welding amperage 510 amps, welding voltage 30.6 volts with a travel speed of 420 millimeters (mm) per minute. Weld parameters appeared to comply with the above approved ZPMC WPS.

The QA Inspector randomly observed that run on/run off tabs were being bent over almost at right angles to the Floor Beam Section WJ's that they were attached to during the handling of the Floor Beam Sections. The attached photographs provide additional detail.

The QA Inspector randomly observed ZPMC welder Wang Min ID Number 048296, utilizing the SAW Process with approved ZPMC WPS WPS-B-P-2221-B-L2c-S-1 in the 1G position to weld the fill and cover passes on Floor Beam Sections at WJ FB008-04-023. The QA Inspector observed ZPMC CWI Zhang Zhong monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: welding amperage 524 amps, welding voltage 31.4 volts with a travel speed of 386mm per minute. Weld parameters appeared to comply with the above approved ZPMC WPS. The attached photograph provides additional detail.

The QA Inspector observed ZPMC personnel performing heat straightening operations with a rose bud per ZPMC Heat Straightening Request (HSR) HSR1(B)-070, on Floor Beam Sections X94-X94A (T=30mm SPCM)/X47-X47A-2 (T=12mm) to X15-X15A (T=12mm) at WJ FB008-02-023. The QA Inspector observed that a 4.5 metric ton block had been placed along the entire length of the WJ on plate X15-X15A (T=12mm) 20mm from the edge of the WJ. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welder Huang Xin Lan ID Number 044780, utilizing the SAW Process with approved ZPMC WPS WPS-B-P-2221-B-L2c-S-1 in the 1G position to weld the fill and cover passes on Floor Beam Sections at WJ FB015-04-023. The QA Inspector observed ZPMC CWI Cui Yi Ru monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: 532 amps, 30.8 volts with a travel speed of 400 mm per minute. Weld parameters appeared to comply with the above approved ZPMC WPS.

The QA Inspector randomly observed ZPMC welder Wang Min ID Number 048296, preparing to weld the fill and cover passes on Floor Beam Sections at WJ FB008-02-023, but there was a malfunction with the control box. The QA Inspector and ZPMC welding personnel left for lunch before the control box was replaced. There was no welding observed on WJ FB008-02-023.

The QA Inspector randomly observed ZPMC welder Wang Min ID Number 048296, utilizing the SAW Process with approved ZPMC WPS WPS-B-P-2221-B-L2c-S-1 in the 1G position to weld the fill and cover passes on Floor Beam Sections at WJ FB008-05-023. The QA Inspector observed ZPMC CWI Cui Yi Ru monitoring weld parameters. Weld parameters appeared to comply with the above approved ZPMC WPS.

The QA Inspector observed ZPMC personnel performing heat straightening operations with a rose bud per ZPMC Heat Straightening Request (HSR) HSR1(B)-067, on Floor Beam Sections X94-X94E (T=30mm)/X49-X49A-2 (T=12mm) to X45-X45A (T=12mm) at WJ FB016-01-021 The QA Inspector observed that a 4.5 metric ton block had been placed along the entire length of the WJ on plate X45-X45A (T=12mm) 20mm from the edge of the WJ.

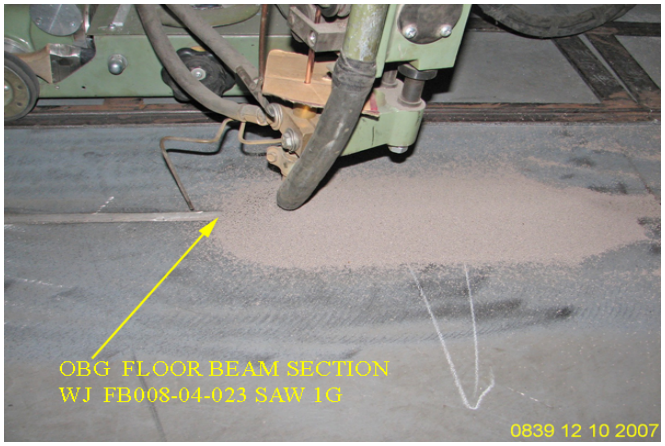
The QA Inspector randomly observed ZPMC welder Huang Xin Lan ID Number 044780, utilizing the SAW Process with approved ZPMC WPS WPS-B-P-2221-B-L2c-S-1 in the 1G position to weld the fill and cover passes on Floor Beam Sections at WJ FB016-04-021. The QA Inspector observed ZPMC CWI Cui Yi Ru monitoring

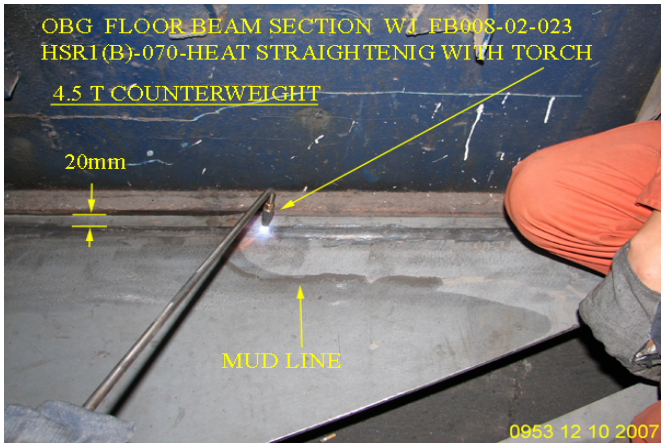
weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: 508 amps, 31.7 volts with a travel speed of 405mm per minute. Weld parameters appeared to comply with the above approved ZPMC WPS.

The QA Inspector randomly observed ZPMC welder Huang Xin Lan ID Number 044780, utilizing the SAW Process with approved ZPMC WPS WPS-B-P-2221-B-L2c-S-1 in the 1G position to weld the fill and cover passes on Floor Beam Sections at WJ FB022-01-108. Huang Xin Lan was just completing the cover pass as the QA Inspector arrived. There were no parameters observed.

The QA Inspector randomly observed ZPMC welder Wang Min ID Number 048296, utilizing the SAW Process with approved ZPMC WPS WPS-B-P-2221-B-L2c-S-1 in the 1G position to weld the fill and cover passes on Floor Beam Sections at WJ FB017-01-108. The QA Inspector observed ZPMC CWI Zhang Zhong monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: 530 amps, 31.6 volts with a travel speed of 430mm per minute. Weld parameters appeared to comply with the above approved ZPMC WPS.

The QA Inspector randomly observed ZPMC welder Huang Xin Lan ID Number 044780, utilizing the SAW Process with approved ZPMC WPS WPS-B-P-2221-B-L2c-S-1 in the 1G position to weld the fill and cover passes on Floor Beam Sections at WJ FB026-01-108. The QA Inspector observed ZPMC CWI Cui Yi Ru monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: 506 amps, 31.2 volts with a travel speed of 450 millimeters (mm) per minute. Weld parameters appeared to comply with the above approved ZPMC WPS.





Summary of Conversations:

There were no relevant conversations.

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 Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

WELDING INSPECTION REPORT

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Inspected By:	Franco,Charlie	Quality Assurance Inspector
Reviewed By:	Cochran,Jim	QA Reviewer