

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:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001669**Date Inspected:** 29-Feb-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 800**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

CWI Name:	Cui Yi Ru	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 Hong Yongli ID Number 044801 utilizing the Flux Cored Arc Welding (FCAW) Process with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2132-3 in the 2F (Horizontal Fillet) position with a Hitronic HIT-18-1D Automatic Welding Carriage, to weld stiffener piece mark X2M to Floor Beam Sub-Assembly FB026-01. The QA Inspector randomly observed ZPMC CWI Cui Yi Ru monitoring weld parameters. The QA Inspector also randomly observed welding parameters and they are as follows: 311 amps, 29.8 volts with a travel speed of 425 millimeters (mm). Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC Welder Chen Chuan Zong ID Number 044824, utilizing the FCAW Process with ZPMC WPS WPS-B-T-2132-3 in the 2F (Horizontal Fillet) position with a Hitronic HIT-18-1D Automatic Welding Carriage, to weld flange piece mark X7M, to Floor Beam Sub-Assembly FB026-01. The QA Inspector randomly observed ZPMC CWI Zhang Zhong monitoring weld parameters. The QA Inspector also randomly observed welding parameters and they are as follows: 292 amps, 29.2 volts with a travel speed of 417 mm. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC Welder Hong Yongli ID Number 044801 utilizing the FCAW

WELDING INSPECTION REPORT

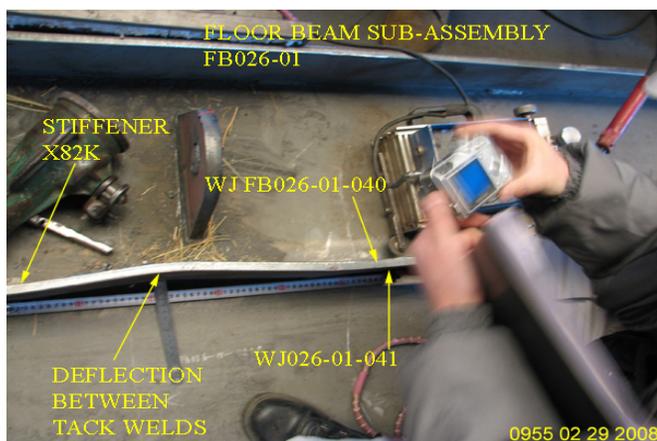
(Continued Page 2 of 3)

Process with ZPMC WPS WPS-B-T-2132-3 in the 2F (Horizontal Fillet) position with a Hitronic HIT-18-1D Automatic Welding Carriage, to weld stiffener piece mark X82K to Floor Beam Sub-Assembly FB026-01. The QA Inspector randomly observed ZPMC CWI Cui Yi Ru monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed 3 stiffeners for Floor Beam Sub-Assemblies, with the tapered ends bent during handling. These tapered ends are beveled on 1 side and will be welded to Floor Beam Sub-Assemblies with Complete Joint Penetration(CJP) welds. Stiffener piece mark X82V-4 was bent approximately 30 to 35 degrees from plumb, stiffener piece mark X82K-1 was bent approximately 15 to 20 degrees from plumb and a third stiffener which could not be identified, was bent approximately 5 degrees from plumb. The QA Inspector informed American Bridge/Fluor Enterprises (ABF) Representative Dave LaRue. Mr. LaRue informed the QA Inspector that he would generate an Incident Report for these items. The attached photograph provides additional detail.

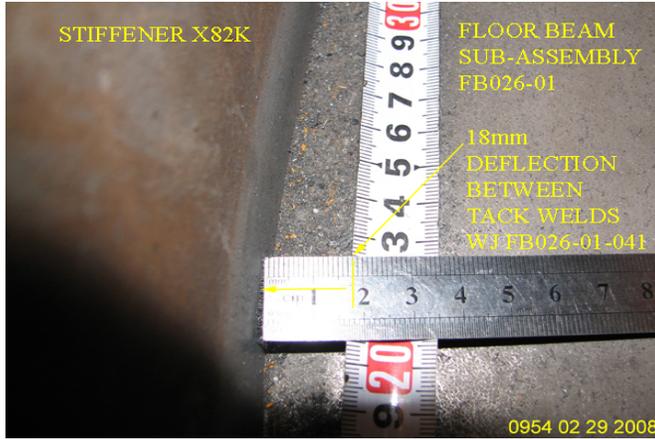
The QA Inspector observed that flange piece mark X82K on Floor Beam Sub-Assembly FB026-01 at WJ's FB026-01-040/041, was bent inward toward WJ FB026-01-040, approximately 18 mm from plumb. This area is approximately 290 mm between tack welds on either side of the stiffener and adjacent to a lifting lug. Flange X82K is fully welded on both sides for approximately three quarters of it's length. The QA Inspector also observed several areas with undercut that had been ground to remove wormhole porosity along with 1 area with a large surface slag inclusion, 1 area of undercut, 1 area of overlap and one area with surface porosity. These visual indications were in WJ FB026-01-041 on flange X82K in 1200 mm of linear weld. None of these indications had been marked up by ZPMC QC. The attached photographs provide additional detail.

The QA Inspector randomly observed that a ZPMC Helper had ground approximately 3 mm into the base metal of stiffener piece mark X82K, trying to remove surface porosity in the area that the QA Inspector had previously observed. The QA Inspector informed Mr. Dave LaRue of ABF, and Mr. LaRue informed the QA Inspector that he would generate an Incident Report.



WELDING INSPECTION REPORT

(Continued Page 3 of 3)



Summary of Conversations:

As noted in the above body of this report.

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.

Inspected By: Franco,Charlie

Quality Assurance Inspector

Reviewed By: Hager,Craig

QA Reviewer