

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-002074**Date Inspected:** 05-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 600**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:	Hu Wei Qing			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/Tower		

Summary of Items Observed:

This Quality Assurance (QA) inspector arrived at ZPMC for observation of the SAS super structure fabrication for bays 7 and 8 which ZPMC is in production for floor beams and diaphragm plate splices. During his observations it was noted that the floor beams were in multiple stages of fabrication in bay 7 under ZPMC's Certified Welding Inspector (CWI) Hu Wei Qing. Who had 5 ZPMC Quality Control personnel performing various functions that included but not limited to, monitoring of welding parameters, preheat and interpass temperatures, and general progression of the welding process. Multiple Floor beams were being welded for flange plates under WPS-B-T-2231-TC-U4b-F. Also noted was the SAW process for the splicing of the web plate for different thicknesses of 30mm to 10mm with a 2.5 to 1 transitioned ratio under WPS-B-T-2221-B-L2c-S-1. Welding operator Sun Qu Zuo was observed as performing this process with parameter tolerances within the requirements of the noted WPS for this location. ZPMC Ultrasonic Testing (UT) technician Ma Ji Long was observed performing a re-examination of weld FB018-001-148 (R1) using a 70° transducer and tested from face A & B to achieve complete sound coverage. It was relayed to this QA inspector that the weldment was acceptable with no rejectable indications.

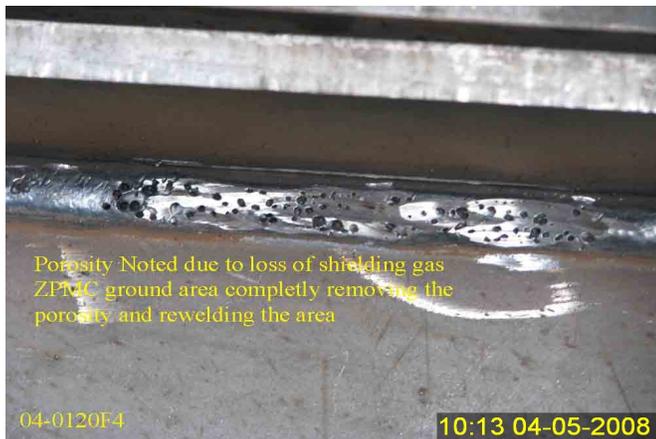
During the welding of floor beam number FB021-02-128 ZPMC welder Zhang Qing Quan's lost his gas shielding for the dual shielding which produced area porosity approximately 300 mm in length (see digital photo below). This QA inspector observed ZPMC personnel grind the area until no visible porosity was noted and then re weld the area with no more porosity present. This QA inspector witnessed ZPMC start a Critical Weld Repair (CWR) number B-CWR 40 for floor beam FB008-05 which had 6 crack locations. ZPMC preheated the areas to the required temperatures as according to the CWR of 65°C prior to the Carbon arc gouging process. Once completed ZPMC then ground the areas to a bright finish in the excavated areas and it was observed by this QA inspector that it appeared that the cracks were removed. ZPMC informed this QA inspector that they would be performing

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Magnetic Particle inspection later to ensure complete removals of the cracks were performed.

This QA inspector performed visual and magnetic particle verification for the following floor beam; FB025-02 (near side). It was noted by this QA inspector of several visual discrepancies that did not meet the required AWS D1.5 bridge code. These areas were welds that had been ground by ZPMC that did not conform to the proper fillet weld profile due to not having a smooth transition from the toe of the weld into the base material. What was observed was a sharp almost square profile at the bottom toe due to grinding and workmanship. These areas were marked and relayed to ZPMC's CWI Hu Wei Qing. Magnetic Particle (MT) inspection was performed at each weldment for a length of 10% for verification by this QA inspector it was noted that no rejectable indications were found in these areas. A MT report will be generated by this QA inspector for more specific locations.



Summary of Conversations:

As noted in contents 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 Pat Lowry , (858) 344-2712, who represents the Office of Structural Materials for your project.

Inspected By:	Riley, Ken	Quality Assurance Inspector
Reviewed By:	Hager, Craig	QA Reviewer
