

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-006360**Date Inspected:** 23-Mar-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1845**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 645**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

CWI Name:	Ye Yong Jun, Wu Ming Kai, Guo			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:	Tower and OBG Components		

Summary of Items Observed:

On this date Caltrans OSM Quality Assurance (QA) Inspector George Goulet was present during the times noted above for observations relative to the work being performed.

Bay 11

This QA Inspector randomly observed the following work in progress in Bay 11:

SAW welding of weld joints ESD1-FCSA3-2B/C-24, 28B-1, 28B-2 located on PCMK east tower, lift 3, skin C. Welder was identified as 040772. ZPMC QC was identified as Ye Yong Jun (QC1). The welding variables recorded by QC1 appeared to comply with WPS-B-T-2221-B-U3c-S-2 for the CJP welds and WPS-B-T-2321-B-P-S-2 for the PJP weld. Assisting QC1 at this location and appearing to be monitoring the welding was a ZPMC QC inspector who was not a CWI.

SAW welding of weld joints ESD1-FCSA3-2B/C-38B-1, 41 located on PCMK east tower, lift 3, skin C. Welder was identified as 044550. ZPMC QC was identified as Ye Yong Jun (QC1). The welding variables recorded by QC1 appeared to comply with WPS-B-T-2221-B-U3c-S-2 for the CJP weld and WPS-B-T-2321-B-P-S-2 for the PJP weld. Assisting QC1 at this location and appearing to be monitoring the welding was a ZPMC QC inspector who was not a CWI.

Bay 10

This QA Inspector randomly observed the following work in progress in Bay 10:

FCAW welding of weld joints WD1-A28A/B-77,78 located on PCMK west tower, shear plate 28. Welders were

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identified respectively as 057244 and 050241. ZPMC QC was identified as Wu Ming Kai (QC2). The welding variables recorded by QC2 appeared to comply with WPS-B-T-2332-Tc-P5-F. Also observed at this location and appearing to be monitoring the welding was ABF Representative Li Shi You (ABF1). Assisting QC at this location and appearing to be monitoring the welding was a ZPMC QC inspector Li Peng Fei who was not a CWI.

Bay 9 - PMT

This QA inspector monitored OBG Production Monitoring Test (PMT) #1 for deck panels DP212-001 and DP241-001 at Gantry #2. Prior to PMT #1, the magnetic particle test (MT) of the tack welds was noted on the test panel as having been performed by ZPMC MT Inspector Zho Dong Yun. The visual inspection of tack welds and root gap was performed by ABF Representative Cao Hai Zhou (ABF2), ZPMC CWI Guo Yan Fei (QC3), and this QA inspector. The start time for welding of PMT #1 was approximately 0033 hours on Tuesday, 3/24/09 and the finish time was approximately 0102 hours. This QA inspector randomly verified and documented the welding amperage, voltage and travel speed during the gas metal arc welding (GMAW) and submerged arc welding (SAW) processes, welds 1 thru 6 at the completion of both the GMAW root pass and SAW cover pass. The welds were visually inspected by ABF2, QC3 and this QA inspector. QC3 and ABF2 informed QA Inspector that all six welds were acceptable and QA inspector concurred. This QA inspector randomly witnessed ZPMC ultrasonic testing (UT) inspector, identified as Xue Hai Rong, perform UT on each of the 500 mm test welds for depth of penetration and conformance. This QA inspector selected fifteen designated locations for macroetch sampling per contract requirements. Each macroetch location was stamped by ZPMC personnel with the number 212, the letter W, and an individual macroetch identifying number for each macroetch. After removal from each of the weld test specimens and polishing of the selected end, the macroetches were evaluated with a 7X optical comparator and a 10X optical comparator and accepted by QC3, ABF2, and this QA inspector.

All fifteen sample macros appeared to meet requirements and were noted to appear acceptable. See Caltrans U-ribs PMT Inspection Sheet, ZPMC production monitoring test plate inspection report, and Caltrans Macro Etch Log - all dated 3/24/2008 for additional information.

Summary of Conversations:

As noted above, and this QA inspector asked each QC noted above if all the welding variables observed by him appeared to comply with the appropriate WPS, including preheat and interpass temperature requirements according to thickness of the thickest member being welded. Each QC showed this QA Inspector that he was carrying the appropriate temperature sticks to monitor the minimum and maximum preheat and interpass temperatures and replied that all he observed did appear to comply.

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 Eric Tsang, 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By:	Goulet, George	Quality Assurance Inspector
Reviewed By:	Carreon, Albert	QA Reviewer
