

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-002258**Date Inspected:** 27-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 2300**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Li Yan hue**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 & OBG**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Mike Hasler was present to observe the fitup, welding and related activities associated with the fabricating of Caltrans Mock-up, 77M, 89M, 114M, Orthotropic Box Girders (OBG) and Tower, for the San Francisco Oakland Bay Self Anchored Suspension Bridge, at Zhenhua Port Machinery Company (ZPMC) facility on Changxing Island.

Item	Description	WBS	Dwg No.	Status
1	Tower Skin Plate	NA	NA	Welding

New Tower Shop Bay 2: Caltrans QA Inspector observed ZPMC performing submerged arc welding (SAW), tower skin plate B, SA49 (E) joining P1276 (E), fill pass weld. The weld is identified as ESD1-SA49 C/D- 4, partial joint penetration (PJP) & ESD1-SA233 E/F- 25A, complete joint penetration (CJP). The welder operator is identified as Ms. Shen Mei, welder stamp 041716, utilizing welding procedures WPS-B-T-2221-B-U3c-S (CJP) and WPS-B-T-2321-B-P3-S (PJP). Caltrans QA measured current welding parameters at approximately 660 amps, 33.0 volts and 620mm/min (millimeters per minute) travel speed. Caltrans QA verified preheat and interpass temperatures during the welding of ASTM 709M, Grade 345F2 type materials, 45mm joining 65mm thicknesses. The preheat temperature prior to the start of welding measures more than 110 degrees Celsius but less than 230 degrees Celsius during maximum interpass temperature verification. Caltrans QA observed ZPMC QC/CWI inspector, Mr. Xu Le Feng monitoring the activities at the work station. The following digital picture illustrates welding in progress.

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- 2 Tower Skin Plate NA NA Welding
- New Tower Shop Bay 2: Caltrans QA Inspector observed ZPMC performing submerged arc welding (SAW), tower skin plate B, P1280 (E) joining P1277 (E), fill pass weld. The weld is identified as ESD1-SA233 A/F- 22A, complete joint penetration (CJP). The welder operator is identified as Mr. Sun Bing Fa, welder stamp 062046, utilizing welding procedures WPS-B-T-2221-B-U3c-S (CJP). Caltrans QA measured current welding parameters at approximately 655 amps, 33.0 volts and 625mm/min (millimeters per minute) travel speed. Caltrans QA verified preheat and interpass temperatures during the welding of ASTM 709M, Grade 345F2 type materials, 65mm joining 65mm thicknesses. The preheat temperature prior to the start of welding measures more than 110 degrees Celsius but less than 230 degrees Celsius during maximum interpass temperature verification. Caltrans QA observed ZPMC QC/CWI inspector, Mr. Xu Le Feng monitoring the activities at the work station. The following digital picture illustrates welding in progress.



- 3 Deck Panel NA NA Welding
- OBG Bay 1: Caltrans QA observed ZPMC shop workers performing fitup and tack welding, closed u-ribs to deck plate, assembly identified as DP111-002. The tack welders were identified as Mr. Shen Qizhen, welder stamp #059401 and Mr. Hao Long, welder stamp #059446, utilizing welding procedure WPS-B-T-2342-U2 (rib), revision 0. Caltrans QA also observed the welding the of closed u-rib complete joint penetration (CJP) splice weld, subassembly u-rib identified as DP464-001-190. The welder is identified as Mr. Song Yin Shu, welder stamp #059421, utilizing welding procedure WPS-B-T-2233-B-U2-F, revision 1. Caltrans QA observed ZPMC QC/CWI inspector, Mr. Li Yan hua monitoring the welding activities at the workstations. The following digital picture illustrates the welding closed rib complete joint penetration splice weld.

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Summary of Conversations:

As identified within the contents 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:	Hasler, Mike	Quality Assurance Inspector
Reviewed By:	Cuellar, Robert	QA Reviewer
