

**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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-022052**Date Inspected:** 20-Mar-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** An Qing Xiang**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:**

On this day CALTRANS OSM Quality Assurance (QA) Inspector Umesh Gaikwad was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island in Shanghai, China. QA observed and/or found the following:

BAY 14, OBG 13CE (NWIT # 08585)

This QA inspector performed Ultrasonic Testing (UT) of approximately 10% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA inspector generated UT report for this date. The members are identified as OBG Components. The weld designations reviewed are as follows.

SA3013-001-241, 243, 265, 442, 443, 445, 446, 004, 263, 436

SA3013A-001-081, 083, 084, 085, 086

This Quality Assurance (QA) Inspector observed the following work in progress:

Bay 14

OBG Seg 14W:

The Flux Cored Arc Welding (FCAW) process on weld joint no: SEG3020B-054 [Floor Beam (FB) 3445A to Side

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Plate (SP) 3139A, complete joint penetration (CJP) weld at PP128.7]. The welder is identified as 067949 and was observed welding in 3G position. AB/F QA was identified as Mr. Wang Wen Bin. The welding variables recorded by this QA appeared to comply with welding procedure specification (WPS): B-T-2233-ESAB.

The Flux Cored Arc Welding (FCAW) process on weld joint no: Seg3020AQ-004 [Stiffener Plate (X4960D) to Floor Beam (FB) 3327A, complete joint penetration (CJP) weld, at panel point (PP) 127]. The welder is identified as 045175 and was observed welding in 3G position. ZPMC Quality Control (QC) was identified as An Qing Xiang. The welding variables recorded by this QC appeared to comply with welding procedure specification (WPS): B-T-2233-ESAB.

The FCAW process on weld joint no: Seg3020AQ-005 [Stiffener Plate (X4960D) to Top Anchorage Plate (AP3017A), CJP weld, at PP127]. The welder is identified as 045175 and was observed welding in 2G position. ZPMC QC was identified as An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-T-2232-ESAB.

The Shielded Metal Arc Welding (SMAW) process on weld joint no: Seg3020BD-002 [East Cable Horizontal stiffener plate (X5079B) on Vertical Shear Plate sub-assembly (SA3444A) to Anchor Plate (AP3032A), CJP weld at PP126]. The welder is identified as 045246 and was observed welding in 4G position. ZPMC QC was identified as An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-P-2214-Tc-U4b-FCM-1. See attached photograph for more detail.

The SMAW process on weld joint no: SA3448-021 [Brace Plate (X5073B) to stiffener X5078E on SA3448A, CJP weld]. The welder is identified as 051348 and was observed welding in 4G position. ZPMC QC was identified as An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-P-2214-B-U2-FCM-1.

The FCAW process on weld joint no: Seg3020AP-027 [Stiffener Plate (X4960D) to AP3019A, CJP weld, at PP127]. The welder is identified as 045175 and was observed welding in 2G position. ZPMC QC was identified as An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-T-2232-ESAB.

The FCAW process on weld joint no: Seg3020AP-029 [Stiffener Plate (X4960D) to FB3327A, CJP weld, at PP127]. The welder is identified as 045175 and was observed welding in 3G position. ZPMC QC was identified as An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-T-2233-ESAB.

The SMAW process on weld joint no: SA3449-021 [Brace Plate (X5071D) to stiffener X5078F on SA3449A, CJP weld]. The welder is identified as 069683 and was observed welding in 4G position. ZPMC QC was identified as An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-P-2214-B-U2-FCM-1.

The SMAW process on weld joint no: SEG3020AJ-286 [I-rib stiffener (RS3517N) to Bottom Plate (BP) 3088A, CJP weld in between PP127 to PP127.5]. The welders are identified as 037779 and 067707 and were observed welding in 2G position. ZPMC QC was identified as An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-P-2212-Tc-U4b-FCM-1.

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The SMAW process on weld joint no: SEG3020AJ-290 [I-rib stiffener (RS3517P) to BP3089A/3090A, CJP weld in between PP127.5 to PP128]. The welder is identified as 066398 and was observed welding in 2G position. ZPMC QC was identified as An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-P-2212-Tc-U4b-FCM-1.

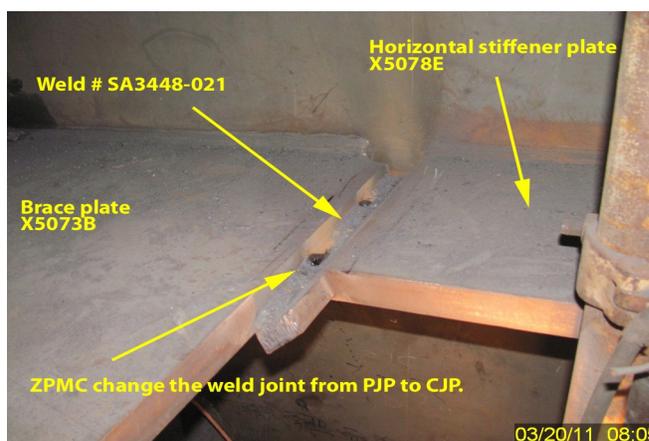
The SMAW process on weld joint no: SA3450-021 [Brace Plate (X5071E) to stiffener X5078G on SA3449A, CJP weld]. The welder is identified as 069683 and was observed welding in 4G position. ZPMC QC was identified as An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-P-2214-B-U2-FCM-1.

The SMAW process on weld joint no: SA3442-012 [Brace Plate (X5056A) to stiffener X5074A on SA3442A, CJP weld]. The welder is identified as 045246 and was observed welding in 4G position. ZPMC QC was identified as An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-P-2214-B-U2-FCM-1.

The Shielded Metal Arc Welding (SMAW) process on weld joint no: Seg3020BD-007 [East Cable Horizontal stiffener plate (X5080B) on Vertical Shear Plate sub-assembly (SA3449A) to Anchor Plate (AP3032A), CJP weld at PP126]. The welder is identified as 051348 and was observed welding in 4G position. ZPMC QC was identified as An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-P-2214-Tc-U4b-FCM-1. See attached photograph for more detail.

During random in process inspection this QA inspector observed that ZPMC has change the weld joint SA3442-012, SA3450-021, SA3449-021 and SA3448-021 from Partial Joint Penetration (PJP) to CJP. This issue has been discussed with ZPMC CWI Mr. An Qing Xiang and CT Lead QA. Mr. An Qing Xiang informed this QA that ZPMC will follow the requirements for those weld joints as per CJP weld joints requirements. See attached photograph for more details.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.



## Summary of Conversations:

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Only general conversation was held between QA and QC concerning this project.

## **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 : 15000422372, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Gaikwad,Umesh	Quality Assurance Inspector
<b>Reviewed By:</b>	Peterson,Art	QA Reviewer

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