

**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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-022259**Date Inspected:** 29-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:** Mr. Shi zhi**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:** Orthotropic Box Girder (OBG)**Summary of Items Observed:**

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

OBG Trial Assembly open yard.

Segment: 13AW

During random in process visual inspection, this QA Inspector observed that the root gap between the Longitudinal Diaphragm (LD) Sub-Assembly and some of the I-ribs on Floor Beams; at Panel Point (PP) 119, PP119-1500 and PP119+1500, are in excess of 5mm. As per drawing, I-ribs of these Floor Beams are to be fillet welded with LD Sub-Assembly. However, for some of the welds, root gap was observed to be in excess of 5mm and needs to be welded as CJP welds as per Submittal ABF-SUB-00200R02 "Methods to Repair Elements that Exceed Specified Tolerance" Repair method as outlined in 6.2. This Repair method was approved as outlined in State Letter 05.03.01-003474 dated July 01 2009. This QA Inspector along with shop Lead QA Inspector Mr. Shailesh Wadkar measured the root gap and recorded on the drawing and submitted to Lead QA Inspector. The root gap as measured by this QA are as follows.

Serial No. Weld No. max. root gap

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- 1) Seg3013X-023/024 – 9mm
- 2) Seg3013X-035/036 – 9mm
- 3) Seg3013X-041/042 – 7mm
- 4) Seg3013X-087/088 – 7mm
- 5) Seg3013X-073/074 – 5mm
- 6) Seg3013X-067/068 – 11mm
- 7) Seg3013X-061/062 – 6mm
- 8) Seg3013X-053/054 – 8mm
- 9) Seg3013X-107/108 – 8mm
- 10) Seg3013X-113/114 – 9mm
- 11) Seg3013X-119/120 – 7mm
- 12) Seg3013X-125/126 – 9mm
- 13) Seg3013X-131/132 – 8mm
- 14) Seg3013X-137/138 – 6mm
- 15) Seg3013X-143/144 – 11mm
- 16) Seg3013X-167/168 – 6mm
- 17) Seg3013X-179/180 – 9mm
- 18) Seg3013X-185/186 – 7mm
- 19) Seg3013X-197/198 – 7mm
- 20) Seg3013X-203/204 – 8mm
- 21) Seg3013X-214/215 – 22mm
- 22) Seg3013X-286/287 – 11mm
- 23) Seg3013X-292/293 – 7mm
- 24) Seg3013X-298/299 – 7mm
- 25) Seg3013X-304/305 – 9mm
- 26) Seg3013X-310/311 – 10mm
- 27) Seg3013X-316/317 – 9mm
- 28) Seg3013X-322/323 – 5mm
- 29) Seg3013X-328/329 – 6mm
- 30) Seg3013Y-285/286 – 15mm
- 31) Seg3013Y-289/290 – 15mm
- 32) Seg3013Y-293/294 – 17mm
- 33) Seg3013Y-297/298 – 19mm
- 34) Seg3013Y-301/302 – 18mm
- 35) Seg3013Y-305/306 – 18mm
- 36) Seg3013Y-309/310 – 12mm
- 37) Seg3013Y-313/314 – 14mm
- 38) Seg3013Y-227/228 – 17mm
- 39) Seg3013Y-231/232 – 12mm
- 40) Seg3013Y-235/236 – 10mm
- 41) Seg3013Y-239/240 – 6mm
- 42) Seg3013Y-243/244 – 5mm
- 43) Seg3013Y-247/248 – 7mm
- 44) Seg3013Y-251/252 – 9mm

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- 45) Seg3013Y-149/150 – 6mm
- 46) Seg3013Y-153/154 – 8mm
- 47) Seg3013Y-161/162 – 6mm
- 48) Seg3013Y-169/170 – 7mm
- 49) Seg3013Y-322/323 – 7mm
- 50) Seg3013V-049/050 – 13mm
- 51) Seg3013V-051/052 – 7mm
- 52) Seg3013V-061/062 – 12mm
- 53) Seg3013V-063/064 – 9mm
- 54) Seg3013V-073/074 – 12mm
- 55) Seg3013V-075/076 – 12mm
- 56) Seg3013V-085/086 – 10mm
- 57) Seg3013V-087/088 – 10mm
- 58) Seg3013V-031/032 – 8mm
- 59) Seg3013V-055/056 – 6mm
- 60) Seg3013V-065/066 – 8mm
- 61) Seg3013V-079/080 – 6mm
- 62) Seg3013V-089/090 – 6mm
- 63) Seg3013V-047/048 – 22mm
- 64) Seg3013V-059/060 – 17mm
- 65) Seg3013V-071/072 – 20mm
- 66) Seg3013V-083/084 – 26mm
- 67) Seg3013V-095/096 – 20mm.

This QA Inspector randomly observed the following work in progress:

Shielded Metal Arc Welding (SMAW) welding of weld joint identified as SEG3013G-019,020. Welder is identified as 070432. ZPMC QC is identified as Mr. Shen jian bo. The welding variables recorded by QC personnel observed appeared to comply with Welding Procedure Specification (WPS):  
WPS-B-P-2213-B-U2-FCM-1.

SMAW welding of weld joint identified as SEG3013AD-065. Welder is identified as 037779. ZPMC QC is identified as Mr. Shen jian bo. The welding variables recorded by QC personnel observed appeared to comply with WPS: WPS-B-P-2211-TC-U4b-FCM-1.

Flux Cored Arc Welding (FCAW) welding of weld joint identified as SEG3013C-204,209. Welder is identified as 048433. ZPMC QC is identified as Mr. Zhang Qiang. The welding variables recorded by QC personnel observed appeared to comply with WPS: WPS-B-T-2231-ESAB.

ZPMC QC UT Technician performing Ultrasonic Testing for the weld joint identified as SEG3013AD-035 at Panel point 120 FL3 area. See attached photos for further information.

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

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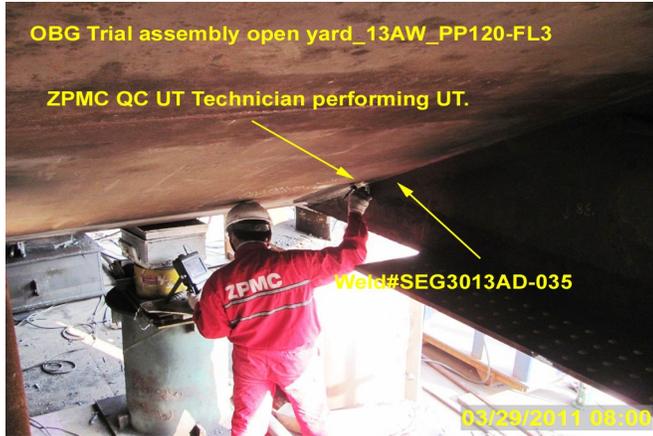
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## Summary of Conversations:

No significant conversations were reported on this date.

## 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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**Inspected By:** Prabhu,Surendra

Quality Assurance Inspector

**Reviewed By:** Peterson,Art

QA Reviewer