

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-018827**Date Inspected:** 22-Dec-2010**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. Tian lei**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:

BAY- 1

The following Non Destructive Testing (NDT) Inspection carried out as per the ZPMC submitted Notification No. 07878.

Visual Testing (VT)

This QA performed along with Caltrans QA Mr. Rene Hernandez random VT of the area previously tested and accepted by ZPMC Quality Control (QC) personnel. The members are identified as OBG Cable tray support (miscellaneous) plate weld Components. The component designations are review as follows:

1. SA3335-A,B,C,D,F,G,H(2),J,SA3094-H(7),C,D,G,J(2),K(7),F,E,B, SA3334-A,D,H(3),F,G(2),C(2),B SA3346-A,B,C,D,F,H,N,J,K,G,M, SA3345-C,D, SA3352-E,F,,SA309-B,C, SA3119-A(2),SA3045-C,D, SA-3113B,C,K,A,N,M, SA7003C(2),D,M,N(2),P,A,B,G,K,H,F(2), X3067-H(2),F(6), X3069-A, C(71).

2. SA3098-C(2), D(2), B(4), A(5), F(5), G(3), SA3343-A(5), B(6), C, D, SA3050-C, D, B(2), A(2), F, E,

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SA3044-A, B.

3. SA3098-B AND SA3343B.

During the QA VT examination this QA Inspector observed multiple cracks were discovered in fillet welds. These components are vertical corner fillet welds identified as follows:

- 1) SA3098B that joins stiffeners X3365C to X3365A.
- 2) SA3343B that joins stiffeners X4726A to X4726D.

These cracks are located within the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC QC personnel are required to perform 100% VT inspection of these welds.

This QA Inspector along with Caltrans QA Inspector Mr. Rene Hernandez generated an incident report for the above issue, for further information see the incident report and attached photos.

ZPMC Certified Welding Inspector (CWI) identified as Mr. Tian lei informed this QA that the cracked components would be corrected in a manner compliant with the contract documents and this whole lot (item#2) will be re tested by VT and Magnetic Particle Testing. After completion of all repair work ZPMC will be re notified for the inspection.

This QA Inspector Randomly observed the following work in progress:

BAY- 2

ZPMC personnel heat straightening OBG member identified as SA3415B. Distortion appeared to be caused by welding of the material. ZPMC Quality Control (QC) inspector identified as Mr. Zhu jun was present to monitor the heat straightening process. The heat straightening appeared to comply with the Heat Straightening Report (HSR) HSR1 (B)-9974.

Shielded Metal Arc Welding (SMAW) Tack welding of weld joint SA7512-021. Welder is identified as 200569. ZPMC Quality Control (QC) is identified as Mr. Zhu jun. The welding variables appeared to comply with the Applicable WPS: WPS-B-P-2211-TC-U5b.

BAY- 3

SMAW welding of weld joint SP3071-001-103,105. Welder is identified as 058102. ZPMC Quality Control (QC) is identified as Mr. Wang liyang. The welding variables appeared to comply with the Applicable WPS: WPS-B-P-2213-TC-U4b.

Flux Cored Arc Welding (FCAW) Welding of weld joint identified as SP3071-001-179,180. Welder is identified as 208035. ZPMC Quality Control (QC) is identified as Mr. Wang liyang. The welding variables appeared to comply with Applicable the WPS: WPS-B-T-2133-ESAB.

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FCAW Welding of weld joint identified as AH3150-004,005. Welder is identified as 037996. ZPMC Quality Control (QC) is identified as Mr. Wang liyang. The welding variables appeared to comply with Applicable the WPS: WPS-B- P-2213-TC-U4b.

FCAW Welding of weld joint identified as SP3071-001-077,078. Welder is identified as 050977. ZPMC Quality Control (QC) is identified as Mr. Wang liyang. The welding variables appeared to comply with Applicable the WPS: WPS-B-T-2133-ESAB.

BAY- 4

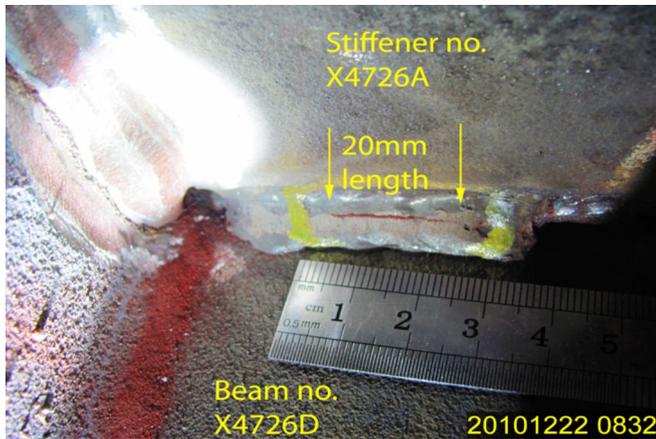
This QA observed that no significant work was being performed in this bay during the time QA was present.

BAY- 8

SMAW welding of weld joint BK004A1-060-044. Welder is identified as 067904. ZPMC Quality Control (QC) is identified as Mr. Liu fa wen. The welding variables appeared to comply with the Applicable WPS: WPS-B-P-2211-B-U2.

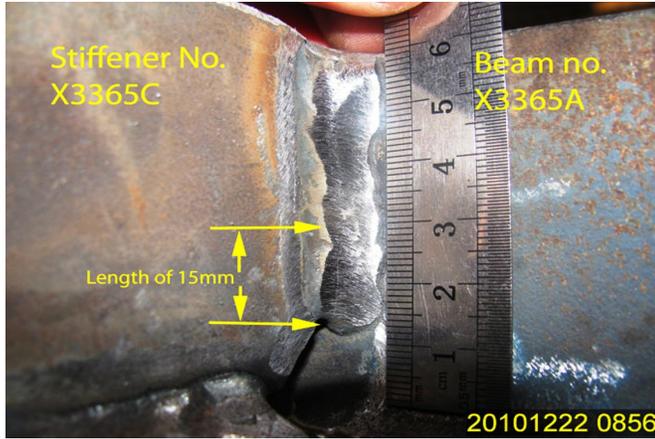
FCAW Welding of weld joint identified as BK004A5-057-009. Welder is identified as 500405. ZPMC Quality Control (QC) is identified as Mr. Liu fa wen. The welding variables appeared to comply with Applicable the WPS: WPS-B-T-2233-ESAB.

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



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Summary of Conversations:

Only general conversation was held between QA and Quality Control (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.

Inspected By: Prabhu,Surendra

Quality Assurance Inspector

Reviewed By: Hall,Steven

QA Reviewer