

**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-017267**Date Inspected:** 06-Oct-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. Xu xian ping**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- 2

This QA Inspector Randomly observed the following work in progress:

Flux Cored Arc Welding (FCAW) of weld joint E5-SB4-001-081. Welder is identified as 068445. ZPMC Quality Control (QC) is identified as Mr. Zhu Jun. The welding variables appeared to comply with the Applicable WPS: WPS-B- T-2231-TC-U4b-F.

FCAW of weld joint E5-SB1-004-019,050,081. Welder is identified as 066398. ZPMC Quality Control (QC) is identified as Mr. Zhu Jun. The welding variables appeared to comply with the Applicable WPS: WPS-B- T-2231-TC-U4b-F.

FCAW of weld joint E5-SB10-004-126~131. Welder is identified as 045203. ZPMC Quality Control (QC) is identified as Mr. Zhu Jun. The welding variables appeared to comply with the Applicable WPS: WPS-B- T-2132-3.

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## WELDING INSPECTION REPORT

( Continued Page 2 of 4 )

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FCAW of weld joint FB3321-001-011,012. Welder is identified as 045209. ZPMC Quality Control (QC) is identified as Mr. Zhan hai feng. The welding variables appeared to comply with the Applicable WPS: WPS-B-T-2232-TC-U4b-F.

BAY- 6

The following Non Destructive Testing (NDT) Inspection carried out as per the ZPMC submitted Notification No. 06868.

Ultrasonic Testing (UT)

This QA performed UT of approximately 10% of the area previously tested and accepted by ZPMC Quality Control (QC) personnel. This QA generated UT report for this date. The members are identified as OBG Side plate weld Components. Total number of welds UT Tested: 08 No's. The weld designations are review as follows:

1. SP3151-001-050~055
2. SP3150-001-039,040

Submerged Arc Welding (SAW) of weld joint CB3002B-018-003. Welder is identified as 215959. ZPMC Quality Control (QC) is identified as Mr. Shu yang hua. The welding variables appeared to comply with the Applicable WPS: WPS-B- T-2221-B-L2c-S-2.

BAY- 7

The following Non Destructive Testing (NDT) Inspection carried out as per the ZPMC submitted Notification No. 06868.

UT

This QA performed UT of approximately 10% of the area previously tested and accepted by ZPMC Quality Control (QC) personnel. This QA generated UT report for this date. The members are identified as OBG Steel barrier weld Components. Total number of welds UT Tested: 12 No's. The weld designations are review as follows:

1. W2-SB1G-016-019
2. W2-SB1G-015-019
3. W2-SB1G-014-019
4. W2-SB1G-013-019
5. W2-SB1-026-081
6. W2-SB1-028-081
7. W2-SB1-029-050
8. W2-SB1-030-050
9. W2-SB1-031-081
10. W2-SB1-032-081

# WELDING INSPECTION REPORT

( Continued Page 3 of 4 )

11. W2-SB1-024-081

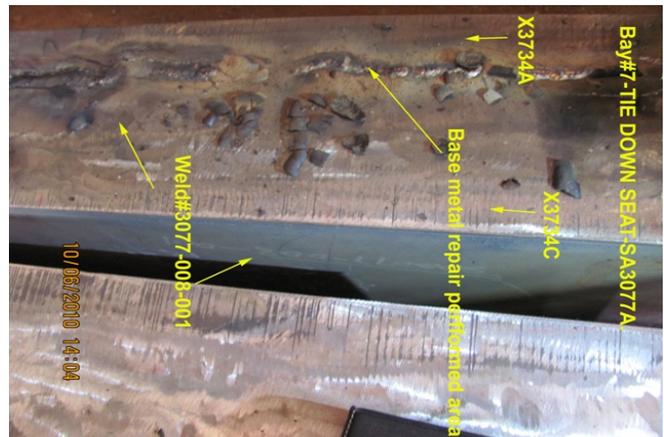
12. W2-SB4-001-019

FCAW of weld joint FB3244-002-087. Welder is identified as 204342. ZPMC Quality Control (QC) is identified as Mr. Xu hai feng. The welding variables appeared to comply with the Applicable WPS: WPS-B-T-2233-TC-U4b-F.

During QA random in-process observations of the fabrication of OBG Cross Beam(CB) CB18 Tie Down Seat SA3077A, this QA observed ZPMC Welding personnel performing base metal repair (BMR) on the top bearing plate without the Engineers approval. Base metal depth of excavation, as measured by this QA is approximately 10 mm. Additionally, welding was being performed without sufficient preheat. This QA Inspector observed a 100 degree Celsius Tempilstik temperature indicator mark applied to the adjacent base material within approximately 30mm from the point of welding did not melt. As per the applicable WPS No: 345-SMAW-1G (1F) Repair, required min temperature is 200 degree Celsius. The welding was being performed using Shielded Metal Arc Welding (SMAW) in the flat (1G) position. The Top Bearing plate is identified as X3734A. The nearest weld is identified as SA3077-008-001. The Y location is approximately 25 mm from the above mentioned weld toe. The Tie Down Seat Bearing plate's material thickness is 100 mm.

This QA generated an incident report on this date for the above issue, for further information see the incident report and attached photos.

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



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# WELDING INSPECTION REPORT

( Continued Page 4 of 4 )

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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.

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**Inspected By:** Prabhu,Surendra

Quality Assurance Inspector

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**Reviewed By:** Hall,Steven

QA Reviewer