

**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:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-015687**Date Inspected:** 13-Jul-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. Huang min**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- 5

The following Non Destructive Testing (NDT) Inspection carried out as per the ZPMC submitted Notification No. 06189.

**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 Traveler Rail weld Components. Total number of welds UT Tested: 28 No's. The weld designations are review as follows:

1. 11TR2-010-006,010,013,014.
2. 10TR2-012-006,010,013,014.
3. 10TR2-018-006,010,013,014.
4. 10TR1-013-006,010,013,014.
5. 10TR2-011-006,010,013,014.

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6. 11TR3-016-006,010,013,014.

7. 10TR2-010-006,010,013,014.

The following Non Destructive Testing (NDT) Inspection carried out as per the ZPMC submitted Notification No. 06185.

### Magnetic Particle Testing (MT)

This QA performed MT of approximately 15% of the area previously tested and accepted by ZPMC Quality Control (QC) personnel. MT performed on Heat Straightening performed area. This QA generated MT report for this date. The members are identified as OBG Traveler Rail weld Components. Total number of welds MT Tested: 03 No's. The weld designations are review as follows:

1. 10TR1-030-008.

2. 11TR3-004-011.

3. 11TR1-016-008.

### BAY- 6

The following Non Destructive Testing (NDT) Inspection carried out as per the ZPMC submitted Notification No. 06187.

### MT

This QA performed MT of approximately 15% of the area previously tested and accepted by ZPMC Quality Control (QC) personnel. MT performed on weld repaired area. This QA generated MT report for this date. The members are identified as OBG Side Panel and Bottom Panel weld Components. Total number of welds MT Tested: 34 No's. The weld designations are review as follows:

1. SP3064-001-011~020.

2. BP3059-001-037~048.

3. BP3058-001-037~048.

Signed off the following green tags:

1. 13334~13336.

This QA Inspector Randomly observed the following work in progress:

During a random in process inspection of OBG Deck Panel (DP) DP3126A, this Caltrans Quality Assurance (QA) Inspector observed ZPMC welding personnel performing Flux Cored Arc Welding (FCAW) using a WPS that is not approved for the joint being welded. The welding was being performed to WPS-B-T-2133 which specifies A709-345 to A709-345 material using filler metal brand Supercored 71H Class E71T1. The material being welded was A709-345 to A709-HPS-485. The welds are fillet weld T-joints, joining Seismic Performance Critical Material

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(SPCM) diaphragms identified as X4095N and X4095J to Rib Stiffeners identified as RS7501A/B and RS3387N/M. Other joints not specified as SPCM include diaphragms identified as X4095D and X4083L welded to the same rib stiffeners. The weld joints are identified as DP3126-001-139~142,149,150,153,154,220,222,224 and 227.

This QA Inspector generated an incident report for the above issue, for further information please see the incident report and attached photos.

BAY- 7

Flux Cored Arc Welding (FCAW) of weld joint EP3022-001-003,004. Welder is identified as 062447. ZPMC Quality Control (QC) is identified as Mr. Guopan. The welding variables appeared to comply with the Applicable WPS: WPS-B- T-2132-3.

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



## Summary of Conversations:

Only general conversation was held between QA and Quality Control (QC) concerning this project.

## Comments

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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>	Prabhu,Surendra	Quality Assurance Inspector
<b>Reviewed By:</b>	Hall,Steven	QA Reviewer

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