

**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-016554**Date Inspected:** 02-Sep-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Li Yang**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 Segment**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector, Dan Hernandez was present during the times noted above to observe the fit up, welding and related activities associated with the fabrication of the San Francisco Oakland Bay Self Anchored Suspension Bridge at Zhenhua Port Machinery Company (ZPMC) facility on Changxing Island.

OBG Trial Assembly Yard

Segment 10BW/10CW

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated as OBW10C-004, Side Plate splice. The welder is identified as #053316 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-T-2233T.

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated as BP157-001-022, Bottom Plate WT stiffener web splice. The welder is identified as #041713 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-P-2213-B-U2-FCM-1.

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated as SP138-001-052, Side Plate WT stiffener web splice. The welder

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is identified as #202384 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-P-2213-B-U2-FCM-1.

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated as OBW10C-005, Side Plate splice. The welder is identified as #040609 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-T-2233T.

### Segment 9CW/9DW

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated as OBW9K-017, top Counter Weight Connection Plate splice. The welder is identified as #045196 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-B-P-2214-B-U2-FCM-1.

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated as OBW9K-020, top Counter Weight Connection Plate to Edge Plate. The welder is identified as #045196 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-B-P-2214-TC-U4b-FCM-1.

### Segment 10AW/10BW

This QA Inspector observed Base Metal Repair using the Shielded Metal Arc Welding (SMAW) process at locations of removed fit up plates along the exterior of the Side Plate transverse CJP splice. The welder is identified as #202316 and was observed welding in the 1G (flat) position using approved Welding Procedure Specification WPS-345-SMAW-1G (1F)-FCM-repair-1 for CWR1835.

For the above mentioned welding activities ZPMC Quality Control (QC) Inspectors are identified as Wang Zhu and Zhong Guo Hui. The welding variables recorded by QC appeared to comply with the Applicable WPS.

### Segment 9DW

This QA Inspector observed ZPMC personnel performing Magnetic Particle Testing on the Pad Eyes attached to the FL3 at panel point 80.

### Segment 10AW

This QA Inspector observed ABF personnel performing Magnetic Particle Testing on the Side Plate WT stiffener hold back fillet welds, cross beam side at 9EW/10AW field splice location.

### Segment 10AE

This QA Inspector observed ABF personnel performing Magnetic Particle Testing on the Longitudinal Diaphragm hold back fillet welds, cross beam side at 9EE/10AE field splice location.

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## QA Verification

This QA Inspector performed Magnetic Particle Testing (MT) of approximately 15% of the area previously tested and accepted by ZPMC MT personnel. The following items were tested:

9BW:

SEG051B-044

SEG051C-044

9CW:

SEG053B-007

SEG053C-029

9DW:

SSD12A-PP82-261

SSD10A-PP80-264

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



## Summary of Conversations:

No relevant conversations.

## 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, 150-0042-2372 , who represents the Office of Structural Materials for your project.

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**Inspected By:** Hernandez, Dan

Quality Assurance Inspector

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**Reviewed By:** Peterson, Art

QA Reviewer