

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
 690 Walnut Ave. St. 150  
 Vallejo, CA 94592-1133  
 (707) 649-5453  
 (707) 649-5493

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-017496**Date Inspected:** 21-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:** 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 Segments**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.

**Mechanical Test Weld Lab**

This QA Inspector observed the following mechanical tests for Procedure Qualification Records (PQR) using the Flux Cored Arc Welding (FCAW) process. The PQRs were performed using ESAB E71T-1M Dual Shield 70 Ultra Plus electrode:

PQR HP2010122 (4F)

Macro etch (2 samples)

PQR HP2010118-1 (3G)

PQR HP2010119 (4G)

Macro etch (3 samples)

Reduced Section Tension Test (2 samples)

All Weld Metal Tension Test (1 sample)

Side Bend Test (4 samples)

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Charpy V-Notch (CVN) Impact Test (5 samples)

ABF Quality Control Manager (QCM) Steve Lawton was present during mechanical testing

OBG Trial Assembly Yard

Segment 10BW

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a fillet weld joint. The Weld joint is designated as OBWE-040, 041, Drip Plate. The welder is identified as #040611 and was observed welding in the 4F (overhead) position using approved Welding Procedure Specification WPS-B-P-2114-FCM-1.

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a fillet weld joint. The Weld joint is designated as OBWD-046, 047, Drip Plate. The welder is identified as #040611 and was observed welding in the 4F (overhead) position using approved Welding Procedure Specification WPS-B-P-2114-FCM-1.

Cross Beam 14

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 CB202A-014-006, Bottom Panel to Side Panel hold back weld. The welder is identified as #046709 and was observed welding in the 2G (horizontal) position using approved Welding Procedure Specification WPS-345-SMAW-2G (2F)-FCM-repair-1 for WR16102, UT repair.

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 CB202A-014-003, Bottom Panel to Side Panel hold back weld. The welder is identified as #046709 and was observed welding in the 2G (horizontal) position using approved Welding Procedure Specification WPS-345-SMAW-2G (2F)-FCM-repair-1 for WR16104, UT repair.

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

Cross Beam 13

This QA Inspector observed ABF personnel performing Magnetic Particle Testing on the Deck Panel to Side Panel and Bottom Panel to Side Panel hold back Weld at panel point 88, south end.

Segment 10AE

This QA Inspector observed ZPMC personnel performing Magnetic Particle Testing on the Deck Plate I-rib stiffener hold back fillet welds at the exterior FL3 location at panel points 86-87.

Segment 10AW

This QA Inspector observed ABF personnel performing Magnetic Particle Testing on the Bottom Panel I-rib

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stiffener hold back fillet welds at the exterior FL3 location at panel points 86-87.

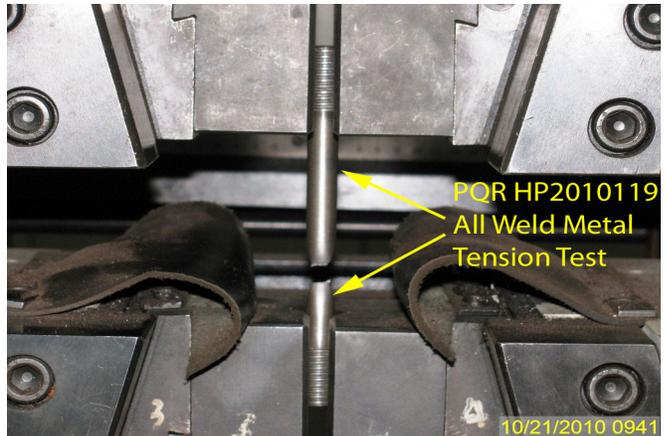
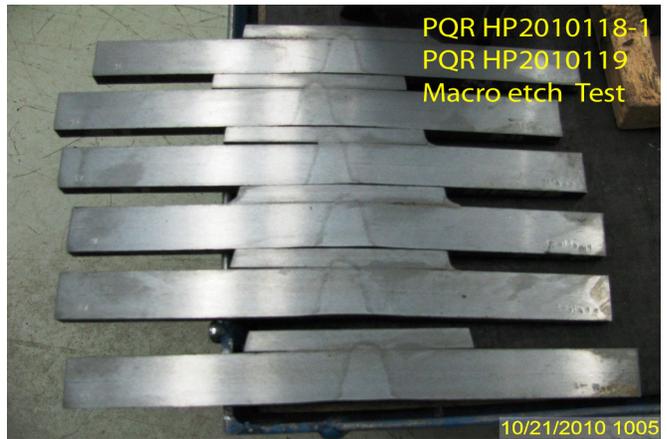
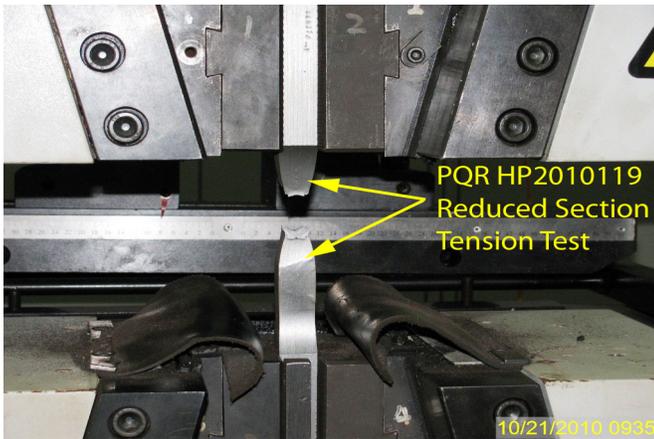
CB14

This QA Inspector observed ABF personnel performing Magnetic Particle Testing on the Bottom Panel I-rib stiffener hold back fillet welds at the exterior FL3 location at panel points 93-94.

Segment 11DW

This QA Inspector observed the 11DW was placed in the trial assembly West line up.

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



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PQR HP2010118-1  
Charpy V-Notch (CVN) Impact Test



PQR HP2010118-1  
Side Bend Test



## 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