

**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-015696**Date Inspected:** 20-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:** 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 9BW/9CW

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 DP672-001-021, Edge Plate I-rib splice. The welder is identified as #037932 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-T-3213-B-U3b.

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 DP685-001-019, Edge Plate I-rib splice. The welder is identified as #037932 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-T-3213-B-U3b.

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 BP098-001-020, Bottom Plate WT stiffener web splice. The welder is

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## WELDING INSPECTION REPORT

( Continued Page 2 of 4 )

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identified as #045143 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-T-2233-B-U2-F.

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 OBW9B-006, Side Plate splice. The welder is identified as #069683 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 OBW9B-007, Side 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.

### Segment 9DE/9EE

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 OBE9C-006, Side Plate splice. The welder is identified as #053609 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-T-2233T.

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 OBE9C-007, Side Plate splice. The welder is identified as #051246 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-T-2233T.

### Segment 9DE

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 SEG056A-021, Side Plate to Bottom Plate Hold back weld. The welder is identified as #067942 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-B-P-2214-TC-U4b-FCM-1.

### Segment 9CE/9DE

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 Bottom Plate transverse CJP splice. The welder is identified as #062092 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-345-SMAW-4G (4F)-FCM-repair-1 for CWR1679-R1.

### Segment 9BW/9CW

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 Deck Plate transverse CJP splice. The welder is identified as #037743 and was observed welding in the 1G (flat) position using approved Welding Procedure

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## WELDING INSPECTION REPORT

( Continued Page 3 of 4 )

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Specification WPS-345-SMAW-1G (1F)-FCM-repair-1 for CWR1679-R1.

### Segment 9BW

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 CA059-005, Side Plate to Edge Plate Hold back weld. The welder is identified as #068097 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-B-P-2214-TC-U4b-FCM-1.

### Segment 9CW

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 CA061-001, Side Plate to Edge Plate Hold back weld. The welder is identified as #068097 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-B-P-2214-TC-U4b-FCM-1.

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

### Segment 9BE

This QA Inspector observed ZPMC personnel performing Magnetic Particle Testing on the Longitudinal Diaphragm flange and web to floor beam web at panel point 76 east, cross beam and bike path side.

### Segment 9EE

This QA Inspector observed fit up of the Suspender Bracket connection plate at the Deck Plate connection, panel point 84.

### Segment 9CE/9DE

This QA Inspector observed ABF personnel performing Ultrasonic Testing on the Side Plate transverse CJP splice, bike path side. D scan was performed.

### Segment 9AW/9BW

This QA Inspector observed ABF personnel performing Ultrasonic Testing on the Side Plate transverse CJP splice, cross beam side. D scan was performed.

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:

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