

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-018586**Date Inspected:** 12-Dec-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.

OBG Trial Assembly Yard

Segment 12AE

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a fillet weld joint. The Weld joint is designated BP3002-001-063, 064, Bottom Plate WT stiffener hold back weld. The welder is identified as #047353 and was observed welding in the 2F (horizontal) position using approved Welding Procedure Specification WPS-B-T-2132-ESAB.

Segment 12BE

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a fillet weld joint. The Weld joint is designated BP3005-001-021, 022, Bottom Plate WT stiffener hold back weld. The welder is identified as #047353 and was observed welding in the 2F (horizontal) position using approved Welding Procedure Specification WPS-B-T-2132-ESAB.

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Segment 12AE/12BE

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated BP3002-001-042, Bottom Plate WT stiffener web splice. The welder is identified as #040367 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-T-2233-ESAB.

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated BP3003-001-034, Bottom Plate WT stiffener web splice. The welder is identified as #044473 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-T-2233-ESAB.

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated OBE12B-001, Bottom Plate transverse splice. The welders are identified as #047353, #040458 and were observed welding in the 1G (flat) position using Welding Procedure Specification WPS-B-T-2231T-ESAB.

This QA Inspector discovered the following issue:

- Welding was performed using a Welding Procedure Specification (WPS-B-T-2231T-ESAB) that has not been approved.
- The WPS specifies a minimum preheat value of 110 degrees Celsius for material up to 40mm in thickness, however, the minimum preheat temperature was not met within 75mm adjacent from the point of welding.

Location: Segment 12AE/12BE

- Bottom Plate transverse Complete Joint Penetration (CJP) splice (Weld ID# OBE12B-001).
- Bottom Plates splice is identified as BP3003A (PL3042C) in 12AE; BP3006A (PL3045A) in 12BE.
- The material of the Bottom Plates is 30mm in thickness.
- Members are Non-Seismic Performance Critical Members (non-SPCM).
- Welding was being performed using the Flux Cored Arc Welding (FCAW) process in the 1G (flat) position. An Incident Report was written for this issue.

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

Segment 11EW/12AW

This QA Inspector observed ABF personnel performing Ultrasonic Testing on the Side Plate to Bottom Plate CJP hold back weld, cross beam side.

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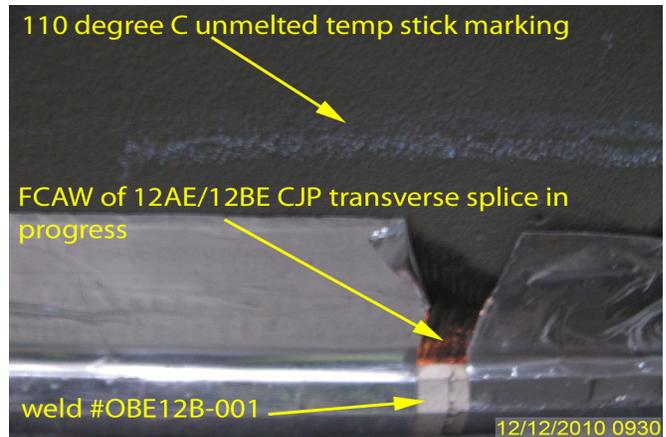
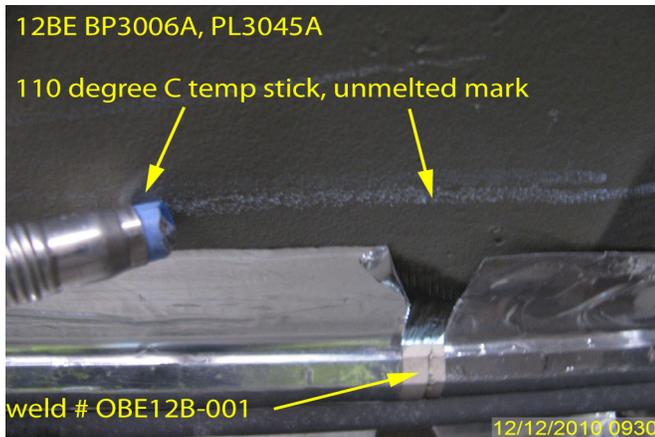
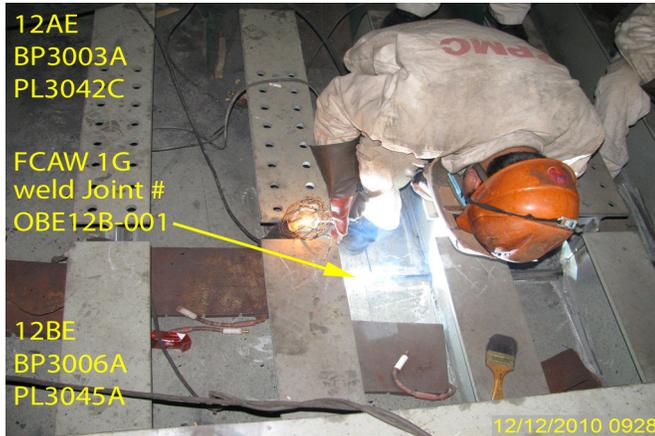
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Segment 11EE/12AE

This QA Inspector observed ABF personnel performing Ultrasonic Testing on the Side Plate to Bottom Plate CJP hold back weld, cross beam side.

Due to inclement Weather work in the OBG Trial Assembly was limited.

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.

Inspected By: Hernandez, Dan

Quality Assurance Inspector

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Reviewed By: Dsouza,Christopher

QA Reviewer