

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:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001139**Date Inspected:** 20-Nov-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Wei**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:** Tower Mock-up and OBG**Summary of Items Observed:**

CALTRANS Quality Assurance (QA) Inspector, Alfredo Acuna was present for the fabrication scheduled for this project at the ZPMC facility in Shanghai, China for the San Francisco Oakland Bay Self Anchored Suspension Bridge.

Item Description	WBS	Dwg No.	Status
1 Tower 89 Meters Mock-up Shear links Mechanical straightening			
<p>The QA inspector had a conversation with the ZPMC representative Li Xiu Yang. The QA inspector asked where and why 9 sections (3 webs and 6 flanges) from the shear links were moved outside of the shop before fitting-up the subassembling MUSB-MA25 and MA26. Mr. Li Xiu Yang said to the QA inspector that all the parts were taken to be mechanical straightened because they were distorted from the welding process. The QA inspector asked if ZPMC confirmed that the shear link were Seismic Performance Critical members (SPCM). Mr. Li Xiu Yang said that in previous conversation with the QA inspector, he informed to the QA inspector that ZPMC representative Mr. Hu Gang said to him that the Shear links were not SPMC material. The QA inspector had a conversation with ABF representative Mr. Kevin Carpenter. The QA inspector informed to Mr. Kevin Carpenter and Kevin Dye that ZPMC said to him that ZPMC performed mechanical straightening when the shear link material was SPMC member and section 12 prohibits cold bending. Mr. Kevin Carpenter informed that ABF would confirm that ZPMC did perform cold bending to the 3 webs and 6 flanges from the shear links subassembling MA-25 and MA-26. Later, ABF representative Kevin Dye relayed to the QA inspector that ZPMC straightened mechanically all the above parts mentioned and asked to the QA inspector if Caltrans was going to write a non conformance report regarding this issue. The QA inspector had a conversation with Caltrans Task Leader Robert Cuellar. The QA inspector brought to the attention that according with ZPMC and ABF 3 webs and 6 flanges components from the SPMC shear links were not fabricated as per section 12.12</p>			

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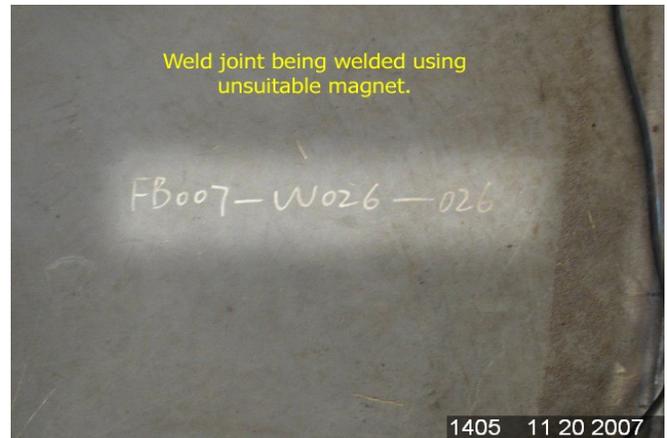
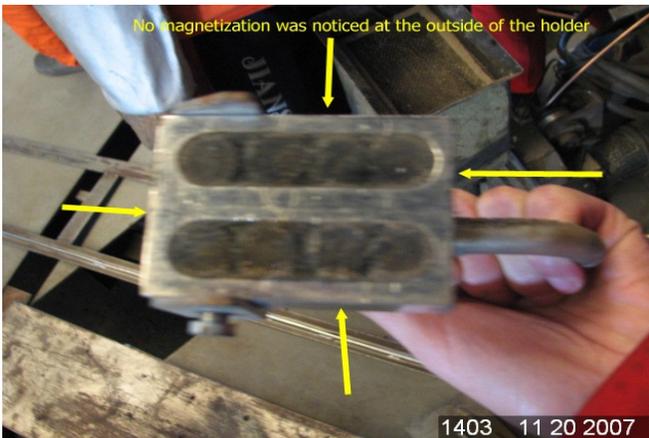
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AWS D1.5(2002).



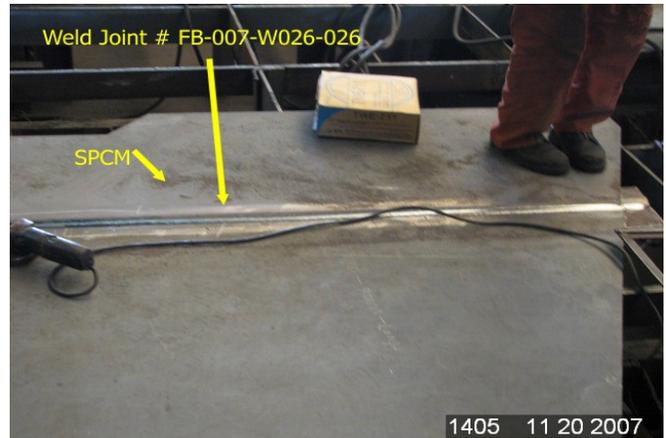
2 Welding SPCM floor beam splices with unsuitable magnet

The QA inspector observed that welder Ms. Wu Zhibin was welding SPMC member for the floor beam splices 66A to 66B weld joint FB-007-W026-026 with a holder magnet inside the Hopper. The QA inspector verified the magnetization at the outside of the holder. The QA did not notice any relevant magnetization at the outside of the holder when the QA inspector located the magnetic holder against the steel. The QA inspector had a conversation with the ZPMC representative Shen Xue Jun. The QA brought to Mr. Shen Xue Jun that the magnet that ZPMC was using appeared not to be suitable to remove the unwanted particles before returning the flux to the system. Mr. Shen Xue Jun agreed and directed QC inspector and production supervisor to remove and change the magnetic holder. The photographs below show the magnetic holder and the SPCM floor beam being welded.



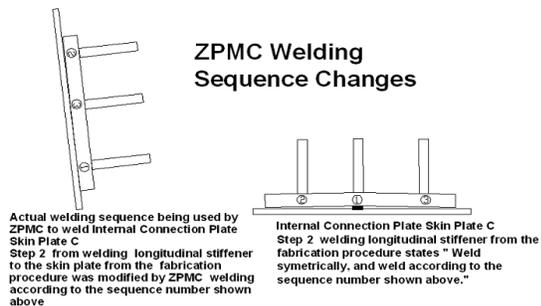
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3 Tower Mock-up Welding Sequence

The QA inspector observed that ZPMC changed the welding sequence when welding longitudinal stiffeners to the skin plates. The QA inspector observed that fabrication procedure were not follow. The sketch below shows the changes in the welding sequence on ZPMC fabrication procedures for the interior connection plate for the Skin C from Tower Mock-up 114 Meters to improved the welding quality. Changes were observed also on the welding sequence on Skin plate A from Tower Mock-up 89 M.



4 OBG Mock-up Deck plate

The QA inspector observed ZPMC performing fit up operations at the junction of the 13 meters to the 1.8 meters deck panels for the OBG Mock-up deck panel.



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Summary of Conversations:

As noted above.

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 Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Acuna,Alfredo	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer
