

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 #: 50.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-000237**Date Inspected:** 22-Jun-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 800**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Jiangyin**Location:** Shanghai, China**CWI Name:****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:** Mechanical Testing of PQR's**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector Robert Cuellar is present at the fabrication facility of Zhenhua Port Machinery Company (ZPMC), LTD for the purpose of monitoring activities relative to the subsequent fabrication of the SFOBB Self Anchored Suspension Bridge. The following items have been observed,

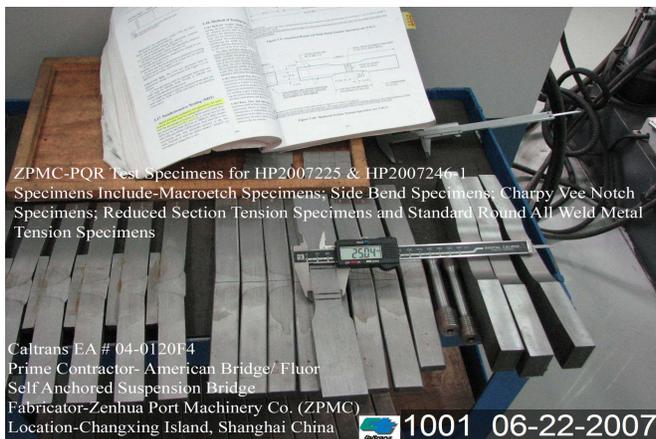
Item	Description	WBS	Dwg No.	Status
1	ZPMC PQR's HP2007225 & HP2007246-1	N/A	N/A	N/A

Mechanical Testing of ZPMC PQRs HP2007225 & HP2007246-1

The Caltrans QA Inspector is present at the ZPMC testing center as requested by ZPMC for the purpose of observing scheduled mechanical testing of specimens for PQRs identified as HP2007225 & HP2007246-1. The Caltrans QA Inspector is accompanied by Caltrans Structures Construction representative Mr. Stan Ku, ABF representative Mr. Warren Buehler and Lu Jian Hua. The Caltrans QA Inspector observed that ZPMC has prepared reduced section specimens, standard all weld metal tension specimens, side bend specimens, charpy vee notch specimens and also macroetch specimens. Included is a digital picture of these prepared specimens.

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|---|---|-----|-----|-----|
| 2 | PQR-HP2007225 | N/A | N/A | N/A |
| | PQR HP2007225-Two Reduced Section Tension Specimens-
Specimen number BBW7225-1 was tested and recorded to have an ultimate tensile strength of 553MPa.
Specimen number BBW7225-2 was tested and recorded to have an ultimate tensile strength of 588MPa. | | | |
| 3 | PQR HP2007246-1 | N/A | N/A | N/A |
| | PQR HP2007246-1-Two Reduced Section Tension Specimens-
Specimen number BBW7246-1-1 was tested and recorded to have an ultimate tensile strength of 581MPa.
Specimen number BBW7246-1-2 was tested and recorded to have an ultimate tensile strength of 549MPa | | | |

Included below is a digital picture of an observed reduced section tension test in progress.



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|---|--|-----|-----|-----|
| 4 | PQR HP2007225 | N/A | N/A | N/A |
| | HP2007225-One Round All Weld Metal Tension Specimen
BBW7225-3 was tested and recorded to have an ultimate tensile strength of 678MPa and yield strength of 639MPa.
The elongation was measured at 23.6%. | | | |
| 5 | PQR HP2007246-1 | N/A | N/A | N/A |
| | HP2007246-1-One Round All Weld Metal Tension Specimen
BBW7246-1-3 was tested and recorded to have an ultimate tensile strength of 601MPa and yield strength of 535MPa.
The elongation was measured at 27%. | | | |
| 6 | PQR HP2007246-1 | N/A | N/A | N/A |

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HP2007246-1-Three Groove Weld Macroetch Specimens

Specimen numbers BBW7246-1-13, BBW7246-1-14 and BBW7246-1-15 have been observed and recorded as having no defects and thorough fusion to the steel backing bar and between adjacent layers of weld metal and base metal.

Included below is a digital picture of the observed macroetch specimens.



7	PQR HP2007225	N/A	N/A	N/A
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HP2007225-Five Charpy Vee Notch Test Specimens

Specimen numbers BBW7225-4, BBW7225-5 and BBW7225-6, BBW7225-7 and BBW7225-8 have been tested at -30 degrees Celsius and were observed and recorded as having impact energy values of 138 Joules, 132 Joules, 114 Joules, 136 Joules and 142 Joules.

8	PQR HP2007246-1	N/A	N/A	N/A
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HP2007246-1-Five Charpy Vee Notch Test Specimens

Specimen numbers BBW7246-1-4, BBW7246-1-5 and BBW7246-1-6, BBW7246-1-7 and BBW7246-1-8 have been tested at -30 degrees Celsius and were observed and recorded as having impact energy values of 106 Joules, 119 Joules, 125 Joules, 135 Joules and 104 Joules.

Included below is a digital picture of the observed charpy vee notch mechanical testing.



9	PQR HP2007225	N/A	N/A	N/A
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HP2007225-Side Bend Test Specimens

Specimen numbers BBW7225-9, BBW7225-10, BBW7225-11 and BBW7225-12 have been observed and recorded as having no convex surface defects.

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|----|---|-----|-----|-----|
| 10 | PQR HP2007246-1
HP2007246-1-Side Bend Test Specimens
Specimen numbers BBW7246-1-9, BBW7246-1-10, BBW7246-1-11 and BBW7246-1-12 have been observed and recorded as having no convex surface defects. | N/A | N/A | N/A |
|----|---|-----|-----|-----|

Included below is a digital picture of the observed side bend specimens after bending.



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|----|---|-----|-----|-----|
| 11 | PQR HP2007225 & HP2007246-1
The tests identified within this report have been observed and recorded as being compliant with the test requirements as listed within AWS D1.5 (2002)table 4.1 for A709 Grade 345 material with a E71T-1 electrode. | N/A | N/A | N/A |
|----|---|-----|-----|-----|

Summary of Conversations:

The Caltrans QA Inspector was present for the daily morning meeting between ZPMC, ABF and Caltrans on-site representatives. This meeting serves for the purpose of addressing scheduled activities for each date. ZPMC Mr. Lu Jian Hua advised the group of on-going PQR tests and also radiographic testing. During the course of this meeting there was an adversarial exchange of words between Mr. Lu Jian Hua and Mr. Nate Lindell of ABF. Mr. Lu Jian Hua was requesting immediate ABF presence for PQR testing and also the review of radiographs for PQR tests. Mr. Nate Lindell voiced to Mr. Lu Jian Hua that he needed to prioritize his requests in an effort to have ABF present for such items. Caltrans Representative Mr. Stan Ku attempted to diffuse the conversation between Mr. Nate Lindell and Mr. Lu Jian Hua. Specific items recorded during the course of this meeting is being manually recorded by the Caltrans QA Inspector and is being maintained on-site by Caltrans OSM.

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:	Cuellar,Robert	Quality Assurance Inspector
Reviewed By:	McClary,David	QA Reviewer
