

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-001436**Date Inspected:** 04-Jan-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Huong 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:** Check Test Samples & PQR #HP200801**Summary of Items Observed:**

Caltrans Quality Assurance Inspector Gabriel Quintana (QA Inspector) arrived at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China to observe fabrication and Quality Control Inspectors (QC Inspectors) perform their duties and responsibilities as specified in the contract documents, approved plans, fabrications documents and Special Provisions for this project. While on site the QA Inspector observed the following:

PQR ID #HP200801 QA Inspector observed ZPMC welder Zhu Haiping ID #066424 perform welding for Procedure Qualification Record Test (PQR) #HP200801. Base material specification is ASTM Grade 345, Heat #7300320N and is 26mm thick. Welder is observed welding in the 3G position utilizing the SMAW process. Electrodes used for the PQR is described as the following: diameter 3.2mm and 4.0mm diameter, Classification E7018, Brand TL-508, Specification AWS A5.1. QA observed that a template is used to during fit up to verify that the plates are in position at an angle of 31.07 Degrees per as per the preliminary WPS. QA Inspector observed ZPMC QC Inspector Huong Wei monitor welding parameters per the preliminary WPS. QA Inspector observed interpass cleaning methods by using manual steel wire brush and manual hammer with a chisel. QA Inspector performed random verifications of the welding and parameters for two layers then a back gouge from the second side was performed using a Carbon Arc Air Gouging process and an electric grinder. QA Inspector then continued to observe the welding of weld layers three, four, five and six on the second side of the weld. QA Inspector observed that the welding parameters taken by QC Inspector appear to be accurate and in accordance with the contract documents and AWS D1.5 (2002), Qualification Section 5.13. Craig Knops of ABF is present to observe the PQR. QA Inspector did not observe the final weld layers of the PQR. QA Inspector assigned Caltrans Lot #L17-023-08 to the PQR test plate. See photographs on the following page which show the PQR described above.

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See the summary of conversations below for more information.

Check Test Samples - QA Inspector observed the lay out and marked Caltrans Check Test Samples that will be removed for testing as specified in the Contract Special Provisions. QA Inspector verified that the heat numbers, batch numbers, grade, thickness and identification number for batch number nine (9), fourteen (14) and eighteen (18) matched the list of material for the Caltrans Check Test Samples provided. QA Inspector observed that all samples are properly marked for removal with the long dimension transverse to the direction of rolling and 355mm wide by 460 mm long. QA Inspector identified each plate and with an arrow indicating the direction of roll and assigned a Caltrans Lot Number for each plate marked for sampling. The following list shows the Caltrans Lot Numbers assigned, heat numbers thickness and grades of the materials sampled. See the photographs on the following page which shows an example of the material identification and marking applied by the QA Inspector.

List of Material for Check Test Samples (ninth batch)

Lot Number	Heat No.	Grade	Thickness
L17-003-08	7200667N	A709M-345F2-X	14mm
L17-024-08	07302299N0	A709M-345F2-X	35mm
L17-026-08	07302647N0	A709M-345F2-X	22mm
L17-027-08	07303019N0	A709M-345F2-X	35mm
L17-028-08	7204088N	A709M-345F2-Z	35mm
L17-029-08	07304528N0	A709M-345F2-X	14mm
L17-030-08	07302177N0	A709M-345F2-X	16mm
L17-031-08	7301484N	A709M-345F2-X	16mm
L17-032-08	07302674N0	A709M-345F2-X	12mm

List of Material for Check Test Samples (fourteenth batch)

Lot Number	Heat No.	Grade	Thickness
L17-033-08	710176N	A709M-345F2-Z	35mm
L17-034-08	07303703N0	A709M-345F2-X	18mm
L17-035-08	07303604N0	A709M-345F2-X	16mm
L17-036-08	07303928N0	A709M-345F2-X	14mm
L17-037-08	7301552N	A709M-345F2-X	18mm

List of Material for Check Test Samples (eighteenth batch)

Lot Number	Heat No.	Grade	Thickness
L17-038-08	7200276N	A709M-345T2-Z	65mm

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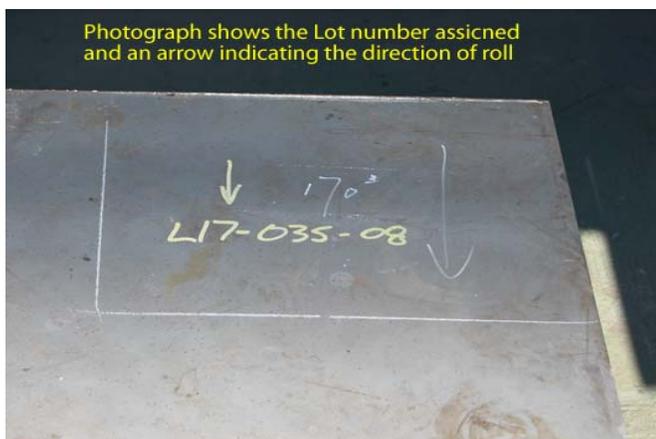
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Photograph shows template used during fitup to align the plates at the required angle

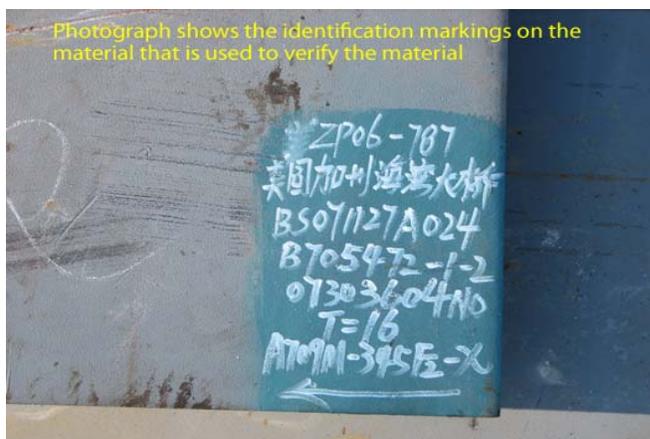


Photograph of PQR HP #200801 showing first side of weld

Photograph shows the Lot number assigned and an arrow indicating the direction of roll



Photograph shows the identification markings on the material that is used to verify the material



Summary of Conversations:

QA Inspector was assigned to witness test samples prior to completing the final layers of the PQR. QA Inspector was informed by QA Task Leader Jim Cochran that welding may continue with out observation by the QA Inspector on conditions that no discrepancies were noted during prior observation. QA Inspector informed Craig Knops of ABF that QA Inspector will not be present during the welding of final layers and directed him to continue his observations during any welding.

QA Inspector informed the QC Inspector Fu Yu Hong that any markings on the edges of the samples will be required to be removed prior to shipping the samples to the testing facility.

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: Quintana, Gabriel

Quality Assurance Inspector

Reviewed By: Cochran, Jim

QA Reviewer