

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-000402**Date Inspected:** 27-Aug-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1400**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Ye Yongjun**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:** Side Bend Testing / CVN**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector Sherri Brannon arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China to periodically monitor welding and Quality Control (QC) functions. While on site the QA Inspector observed and/or discovered the following.

Side Bend Testing

QA Inspector Brannon randomly observed mechanical testing of side bend test specimens for welder qualification in the am. QA Inspector Brannon randomly observed Moody International Mr. Jiang Weifeng and ABF representative Mr. Danny McDonald visually inspect side bend specimens after testing. Results are as follows:

One hundred nine (109) Side Bend Test Specimens

Specimen #1002-1&2, Specimen #1004-1&2, Specimen #1007-1&2, Specimen #1009-1&2, Specimen #1010-1&2, Specimen #1011-1&2, Specimen #1013-1&2, Specimen #1014-1&2, Specimen #1019-1&2, Specimen #1020-1&2, Specimen #1022-1&2, Specimen #1024-1&2, Specimen #1025-1&2, Specimen #1101-1&2, Specimen #1102-1&2, Specimen #1105-1&2, Specimen #1107-1&2, Specimen #1110-1&2, Specimen #1112-1&2, Specimen #1113-1&2, Specimen #1114-1&2, Specimen #1115-1&2, Specimen #1116-1&2, Specimen #1120-1&2, Specimen #1123-1&2, Specimen #1124-1&2, Specimen #1125-1&2, Specimen #1129-1&2, Specimen #1131-1&2, Specimen #1134-1&2, Specimen #1136-1&2, Specimen #1137-1&2, Specimen #1138-1&2, Specimen #1139-1&2, Specimen #1140-1&2, Specimen #1141-1&2, Specimen #1143-1&2, Specimen #1144-1&2, Specimen #1146-1&2, Specimen #1148-1&2, Specimen #1152-1&2, Specimen #1153-1&2, Specimen #1157-1&2, Specimen #1158-1&2, Specimen #1161-1&2, Specimen #1164-1&2, Specimen #1165-1&2, Specimen #1201-1&2, Specimen #1202-1&2, Specimen #1203-1&2, Specimen #1204-1&2, Specimen

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#1207-1&2, Specimen #1208-1&2, Specimen #1209-1&2, Specimen #1210-1&2, Specimen #1211-1&2, Specimen #1214-1&2, Specimen #1216-1&2, Specimen #1217-1&2, Specimen #1219-1&2, Specimen #1220-1&2, Specimen #1222-1&2, Specimen #1223-1&2, Specimen #1224-1&2, Specimen #1228-1&2, Specimen #1229-1&2, Specimen #1231-1&2, Specimen #1232-1&2, Specimen #1233-1&2, Specimen #1235-1&2, Specimen #1237-1&2, Specimen #1239-1&2, Specimen #1240-1&2, Specimen #1244-1&2, Specimen #1247-1&2, Specimen #1249-1&2, Specimen #1251-1&2, Specimen #1253-1&2, Specimen #1255-1&2, Specimen #1257-1&2, Specimen #1258-1&2, Specimen #1259-1&2, Specimen #1260-1&2, Specimen #1262-1&2, Specimen #1263-1&2, Specimen #1266-1&2, Specimen #1267-1&2, Specimen #1268-1&2, Specimen #1269-1&2, Specimen #1271-1&2, Specimen #1282-1&2, Specimen #1284-1&2, Specimen #1286-1&2, Specimen #1287-1&2, Specimen #1288-1&2, Specimen #1298-1&2, Specimen #1299-1&2, Specimen #1304-1&2, Specimen #1305-1&2, Specimen #1310-1&2, Specimen #1313-1&2, Specimen #1318-1&2, Specimen #1304-1&2, Specimen #1305-1&2, Specimen #1310-1&2, Specimen #1313-1&2, Specimen #1318-1&2, Specimen #1319-1&2, Specimen #1320-1&2, Specimen #1321-1&2, Specimen #1322-1&2, Specimen #1324-1&2, Specimen #1335-1&2, Specimen #1336-1&2.

The tests results identified above have been observed and recorded as being compliant with the test requirements as listed within AWS D1.5 (2002). The following test results specimens failed radiographic testing Specimen#1142-1&2, Specimen #1236-1&2, Specimen #1289-1&2. Total bend test one hundred twelve (112). Also, See ZPMC Bending Test Record of Welder Qualification for more detail information report # WT-LX-20070827-1.

Charpy Vee Notch Testing

QA Inspector Brannon randomly observed ZPMC impact testing of Charpy Vee Notch Test (CVN) specimens for rolled wide flange beams. Also, observing (CVN) ZPMC Mr. Ye Yongjun and ABF representative Mr. Jeff Evans. Results of testing are as follows:

Twenty Five (25) Charpy Vee Notch (CVN) Test Specimens

Specimen numbers H1-1(105 Joules), *H1-2(16J), *H1-3(17J), heat number 106844 - W-18x46, ASTM A709 G50/A6.

Specimen numbers *H2-1(19J), H2-2(20J), *H2-3(16J), heat number 106845 - W-18x46, ASTM A709 G50/A6.

Specimen numbers *H3 (24J), heat number 106847 - W-18x46, ASTM A709 G50/A6.

Specimen numbers H4 (56J), heat number 106863 - W-21x57, ASTM A709 G50/A6.

Specimen numbers H5-1(34J), H5-2(51J), H5-3(43 J), heat number 106872 - W-21x57, ASTM A709 G50/A6

Specimen numbers H6-1(43J), H6-2(47J), heat number 106873 - W-21x57, ASTM A709 G50/A6

Specimen numbers H7-1(62J), H7-2(100J), H7-3(81J), heat number 106874 - W-21x57, ASTM A709 G50/A6

Specimen numbers H8-1(40J), H8-2(25J), heat number 106875 - W-21x57, ASTM A709 G50/A6

Specimen numbers H9-1(19J), H9-2(76J), H9-3(65J), heat number 106876 - W-21x57, ASTM A709 G50/A6

Specimen number H10 (70J), heat number 106877 - W-21x57, ASTM A709 G50/A6

Specimen number H11 (36J), heat number 106908 - W-21x57, ASTM A709 G50/A6

Specimen number H12 (69J), heat number 40272 - W920x310X201, ASTM A709 G50

Specimen number H13 (150J), heat number 27437 - W690x250X125, ASTM A709 G50

The tests results identified above have been tested at 4 degrees Celsius and were observed and recorded as having impact energy values stated above. Note: 1- Failing test identified above have an * symbol and will be retested.

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Note: 2- ABF Mr. Jeff Evans stated that rolled wide flange beams have not been released to Caltrans and that the impact testing is extra testing that American Bridge/Fluor Enterprises, a JV (ABF) wanted to administer. Also, See ZPMC Additional CVN Test Report for Shapes for more detail information Report #G-J-CL(H)-787-20070827-4-1, #G-J-CL(H)-787-20070827-4-2-1, #G-J-CL(H)-787-20070827-4-2-2, #G-J-CL(H)-787-20070827-4-3 & #G-J-CL(H)-787-20070827-4-4.

Material Test Reports

Quality Assurance (QA) Inspector Brannon reviewed Material Test Reports (MTR's) for material received in the ZPMC yard. QA Inspector Brannon checked MTR's for material designation, heat numbers, weights, carbon equivalent, sulfur content, fine grain particles, through-thickness, ultrasonic testing and reduction of area.

The following digital photograph illustrates ZPMC lab personnel in the process of performing Charpy Vee Notch Testing of rolled wide flange beams.



Summary of Conversations:

As stated within the report.

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:	Brannon, Sherri	Quality Assurance Inspector
Reviewed By:	Cuellar, Robert	QA Reviewer
