

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-001681**Date Inspected:** 29-Feb-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 800**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

CWI Name:	Chen Zhiming, Hu Weiqing	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 Panels	

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.

Bay 2-OBG Deck Panels:

ZPMC Mr. Fu Jun requested QA Inspector Brannon to mark locations for Radiographic Testing (RT) for the deck panels. QA Inspector Brannon mark (RT) locations for 5% of the transverse butt splice for the following deck panels welds: DP056-001-009, pl113A to pl113c, 150mm marked, DP006-001-009, pl4c to pl4d, 150mm marked and DP052-001-001, pl112A to pl112c, 87.5mm marked in random locations.

Bay 3-OBG Side Plates:

QA Inspector Brannon randomly observed ZPMC Mr. Zhou Dong Yun performing Magnetic Particle Testing (MT) on side plates SP045A welds 002~014, SP045A welds 030~043, SP058 welds 001~012 and SP010A welds 001~012 and accepted the above welds.

Bay 3-OBG wide beams (splice):

QA Inspector Brannon randomly observed ZPMC qualified welder Mr. Li Zhaoqian ID#048810 splice welding at weld wide beam for SP521-001-008. Mr. Li was observed welding in the 3G (vertical) position utilizing flux cored arc welding (FCAW) process with a 1.4mm diameter electrode, filler metal brand Supercored 71H, class E71T-1 semi automatic. QA Inspector Brannon observed the ZPMC QC Inspector Mr. Hu Weiqing verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA

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Inspector Brannon also verified the preheat temperature to be a minimum of 54°C and measured the welding parameters to be 194 amps, 25.4 volts, a travel speed of 116 mm/min and a shielding gas flow of 23L/min. Welding parameters measured by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-T-2233-B-U2-F, Revision 1.

Bay 3-OBG side plate:

QA Inspector Brannon randomly observed ZPMC personnel performing heat straightening side plate SP001. ZPMC report #HSR1(B)-194, grid 3AW SP1, weld #001~016, weld map SP001-01. Note: QA Inspector Brannon observed on the opposite end where ZPMC is performing heat straightening 2 dents in the side plate. QA Inspector Brannon was informed by ZPMC Fu Jun that they were aware of the dents in the panel and that ZPMC has submitted a heat straightening request for the 2 area's in question. QA Inspector Brannon questioned ABF Kevin Dye about the 2 dents in the panel, Mr. Dye was unaware of the dents. QA Inspector Brannon and ABF Kevin Dye measured the depths of the areas. Area #1 was approximately 29mm and area #2 approximately 12mm in depth.

Bay 3-OBG side & bottom plate:

QA Inspector Brannon randomly observed ZPMC personnel preheating prior to excavating tack welds for CWR023 Side panel 14, 4 area's and CWR bottom plate 20, 5 areas for repair by method of carbon air arc gouging.

Bay 3-OBG side plate:

QA Inspector Brannon randomly observed ZPMC qualified welders, ID#048801 (welds 1 & 2), ID#054459 (welds 3 & 4), ID#062447 (welds 5 & 6) fillet welding stiffener plates to side plate for SP472-001. The above welders was observed welding in the 2F (horizontal), position utilizing a flux corded arc welding (FCAW) process with a 1.4mm diameter electrode, filler metal brand Supercored 71H, class E71T-1 machine. QA Inspector Brannon randomly observed the ZPMC QC CWI Inspector's Mr. Chen Chihming verifying preheat and welding parameters were in accordance with the Welding Procedure Specification (WPS). QA Inspector Brannon randomly verified the welding parameters, preheat and interpass temperatures and found them to be in accordance with the appropriate WPS. Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-T-3132-5 revision 0.

Bay 3-OBG side plate CWR030:

QA Inspector Brannon randomly observed ZPMC qualified welder Mr. Han Xiaofeng ID#054467 tack welding weld joints FB023. Mr. Han was observed welding in the 2F (horizontal) position utilizing a shielded metal arc welding (SMAW) process with a 4.0mm diameter electrode, filler metal brand THJ508Fe-1, class E7018-1 manual. QA Inspector Brannon observed the ZPMC QC CWI Inspector Mr. Hu Weiqing verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector Brannon also verified the preheat temperature to be a minimum of 186°C and measured the welding parameters to be 176 amps. Welding parameters measured by QA Inspector Brannon appear to be in general compliance with the approved WPS-345-SMAW-1G(1F)-Repair, Revision 1.

The following digital photograph below illustrates observation of the activities being performed.

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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