

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-016129**Date Inspected:** 01-Aug-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**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:** OBG**Summary of Items Observed:**

CWI Inspector: Mr. Liu Hua Jie

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG Segment Trial Assembly

This QA Inspector observed ZPMC welder Mr. Hao Jian Xiang stencil 067665 and stencil 67829 were using shielded metal arc welding procedure specification WPS-B-P-2214-FCM-1 to perform weld SEG051D-113 and 114. This weld is located inside OBG cross beam CB11. The welding parameters recorded by ZPMC QC Inspector Mr. Zhu Yuan Yuan appear to comply with the WPS. As this QA Inspector approached the area where the welding was being performed the "Industrial Scientific Model M40" air monitor, which this QA Inspector was carrying, alarmed and the display indicated a carbon monoxide (CO) value of approximately 35. This QA Inspector immediately informed ZPMC QC Inspector Mr. Zhu Yuan Yuan and other workers that the meter had indicated the air appeared to have a high level of CO gas and both welders, QC and this QA Inspector exited Cross Beam 11. Items observed on this date do not fully appear to generally comply with applicable contract documents.

This QA Inspector then exited OBG segments 9BW and proceeded toward OBG segment 10AW. As this QA

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Inspector arrived in OBG segment 10AW the “Industrial Scientific Model M40” air monitor CO gas (Carbon monoxide) alarm sounded and the digital meter indicated a CO value of approximately 60. This QA Inspector informed ABF representative Mr. Kelvin Cheung of the potential health hazard due to high levels of carbon monoxide. Approximately 20 minutes later this QA Inspector entered OBG segment 10AW and observed the breathing air monitor was not alarming and it displayed an approximate CO reading of 2. See the photograph below for additional information.

This QA Inspector observed ZPMC welder Mr. Chen Rui stencil 041713 used shielded metal arc welding procedure specification WPS-B-P-2213-B-U2-FCM-1 to complete butt welds SP771-001-044 through SP771-001-054. These welds join OBG segment 9CW to 9DW side plate “T” stiffeners near panel point PP079. This QA Inspector observed a welding current of 148 amps and the base material had been preheated with a torch. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Wen Bin, stencil 218711 used shielded metal arc process to make temporary tack welds at the weld joint between OBG segment 9DW and 9EW on the cross beam side. This QA Inspector observed ZPMC personnel appear to have used a cutting torch to preheat the base material. As Mr. Wang Wen Bin was welding, sparks fell from where the weld was being made and the sparks ignited leaking acetylene gas near the area where the flexible acetylene gas hose connects with the torch. This QA Inspector observed ZPMC workers rapidly extinguished the fire. This QA Inspector informed ZPMC QC Inspector, Mr. Xu Jin Long, who also observed the flames, that his hose is dangerous and that the hose should be taken out of service. Items observed on this date do not appear to comply with applicable contract documents.

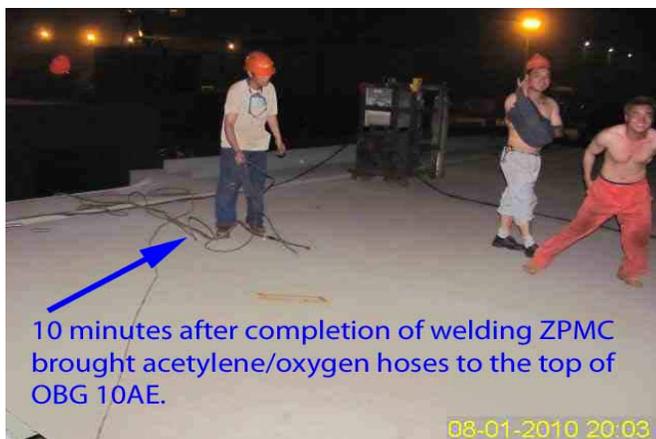
This QA Inspector observed ZPMC welder Mr. Xin Ming, stencil 053742 used flux cored welding process to perform tack welding of temporary plates to aid in the alignment of OBG deck plate weld joints between segments 9EE and 10AE. This QA Inspector observed Mr. Xin Ming appeared to be certified to make these welds. As this QA Inspector walked toward the OBG this QA Inspector observed Mr. Xin Ming performing welding of a temporary plate to the top deck. When this QA Inspector arrived the welding appears to have been completed and no acetylene/oxygen hoses or torches were observed anywhere on the OBG segments 9EE and 10AE. A few minutes later this QA Inspector observed ZPMC workers pulling an acetylene/oxygen hose to the top of OBG segment 10AE and several minutes later Mr. Xin Ming arrived, and he was carrying a torch, which he then connected to the hoses. This QA Inspector asked Mr. Xin Ming if and how he had preheated the base material for the completed weld and all the workers did not appear to speak any English. This QA Inspector later informed ZPMC CWI Mr. Liu Hua Jie that Mr. Xin Ming did not appear to have any method of preheating the area that he had welded and Mr. Liu Hua Jie informed this QA Inspector that Mr. Xin Ming had called him and he had stated that he had used a cutting torch to preheat the top deck plate prior to welding. Items observed on this date do not appear to fully comply with applicable contract documents. See the photographs below for additional information.

This QA Inspector observed ZPMC welder stencil 053486 Mr. Wu Jun used flux cored arc process to perform tack welding of temporary plates to maintain alignment of OBG side plate butt weld joint between segments 9EW and 10A on the counterweight edge plate. This QA Inspector observed a welding current of approximately 300 amps and 29.5 volts, Mr. Wu Jun appeared to be certified to make these welds and a torch was used to preheat the base material prior to welding. Items observed on this date appeared to comply with applicable contract documents.

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This QA Inspector observed ZPMC welder Mr. Li Guimin stencil 220069 used flux cored welding procedure WPS-345-FCAW-4G(4F)-repair to make welds SP692-001-052 through -054. This welding was authorized by weld repair document B-WR14009. These welds were located at OBG segment 9DE near panel point PP82. This QA Inspector observed ZPMC QC Inspector Mr. Xu Jin Long had recorded a welding current of 235 amps and 27.0 volts. Items observed on this date appeared to generally comply with applicable contract documents.



Summary of Conversations:

See 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 Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

Inspected By: Dawson,Paul

Quality Assurance Inspector

Reviewed By: Carreon,Albert

QA Reviewer