

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 #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-021815**Date Inspected:** 15-Mar-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Pat Swain and John Pagliero**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:** Orthotropic Box Girder**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 2E-PP13.5-E5-N LSE longitudinal stiffener inside, QA randomly observed ABF welder Hua Qiang Hwang continuing to perform 3G (vertical) Shielded Metal Arc Welding (SMAW) welding fill pass to cover pass on the Complete Joint Penetration (CJP) stiffener splice butt joint. The stiffener plates being welded are made of high strength plate material HPS 485W and has a thickness of 30mm. The joint has a double V joint preparation that was welded from one side and after the completion from one side to be back gouged, Non Destructive Testing (NDT) tested using Magnetic Particle Testing (MT) and back welded to the other side. The welder was noted using E9018H4R with 1/8" diameter electrode implementing Caltrans approved welding procedure specification (WPS) ABF-WPS-D1.5-1012-3. The joint being welded was root welded using a ceramic backing. The splice joint was preheated to greater than 200 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blanket located at the opposite side of the plate prior/during welding. The QA Inspector noted the ABF QC Pat Swain was on site monitoring the in process preheats and welding parameters. During the shift, QA noted ABF QC Pat Swain was closely monitoring the issuance of E9018H4R electrodes due to its limited exposure time allowed. At the end of the shift, cover pass welding on both sides of the joint was completed and the welder was instructed by QC to hold the preheat for three more hours after welding as required.

At OBG 6E-PP37.5-E5-NW deck access hole to top deck plate inside, ABF welder Jorge Lopez was noted flush grinding the weld cover reinforcement of the welded butt joint. After its completion, the welder started welding the

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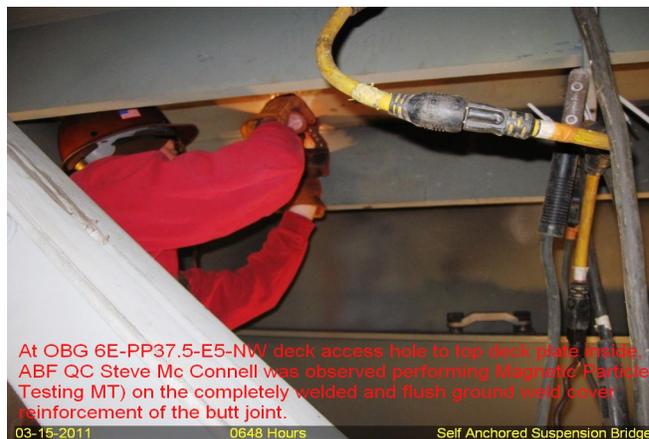
transverse stiffener of the same access hole. QA randomly observed the welder Jorge Lopez manually welding on the CJP transverse stiffener splice butt joint in the 3G (vertical) position utilizing a SMAW with 1/8" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1010 Revision 1. The joint being welded has a double V-groove butt joint. During welding, ABF Quality Control (QC) Steve Mc Connell was also noted monitoring the welding parameters of the welder. During the shift, SMAW cover pass welding on both sides of the splice butt joint was completed and the welder has started flush grinding the weld covers. Flush grinding of the weld cover reinforcement was also completed during the shift.

After the welding completion of the transverse stiffener and the flush grinding of the welded deck access hole, ABF QC Steve Mc Connell was observed performing Ultrasonic Testing (UT) on the welded deck access hole butt joint. QC was using General Electric USM35 ultrasonic machine. QC was also observed scanning from both sides of face 'A' of the joint. During the shift, UT on the butt joint was completed and found only one UT reject.

At OBG 10E/11E edge plate 'F' inside, QA randomly observed ABF/JV qualified welder Fred Kaddu continuing to perform back welding fill pass to cover pass on the CJP splice butt joint. The welder was observed manually welding in the 3G (vertical) position utilizing a SMAW with 1/8" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040B. The joint being welded has a single V-groove butt joint with steel backing bar that has been back gouged. ABF Quality Control (QC) John Pagliero was noted monitoring the welding parameters of the welder. QA randomly monitored the welding parameter with reading of 130 amperes which appears in conformance to the contract requirements. At the end of the shift, SMAW cover pass welding was completed.

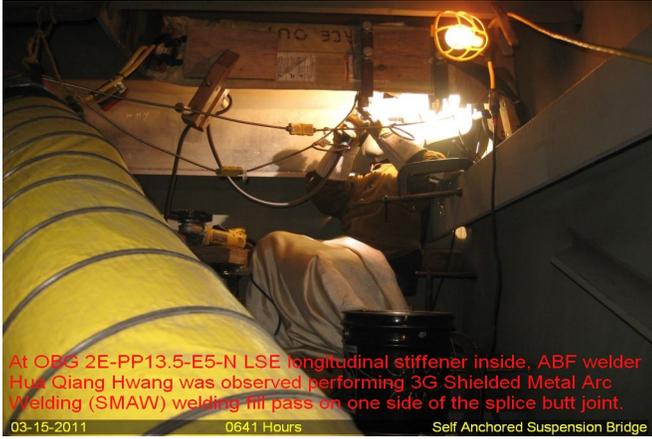
At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT of the CJP welding of one lifting lug access hole to top deck plate butt joint. The QA verification was performed to verify that the welding and the VT inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification it appeared that the weld and the QC inspection complied with the contract documents.

1. 7W-PP55-W3-#1 & 3 lifting lug access hole to (top) deck plate bottom flush grinding – QA VT verified



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Summary of Conversations:

Today's weather at the job site was still rainy. The welders were still confined inside the OBG to perform welding and other related activities.

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 SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo, Joselito	Quality Assurance Inspector
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Reviewed By:	Levell, Bill	QA Reviewer
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