

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-028407**Date Inspected:** 13-Sep-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1930**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Salvador Merino**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:** SAS OBG**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 12E/13E-LS3 deck stiffener flange inside, QA randomly observed ABF/JV qualified welders Wai Kit Lai and Jose Torres continuing to perform production PJP groove welding fill pass to cover pass on the 485W deck stiffener flange T-joint. The welders were observed perform manual welding in the 4G (overhead) position utilizing a Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E9018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1162-4 rev. 0. The stiffener flange plate has a 45 degree bevel groove that is being welded PJP T-joint to the 485W longitudinal stiffener. The plates were preheated to more than 200 degree Fahrenheit using Miller Proheat 35 Induction Heating System. During welding, ABF Quality Control (QC) Salvador Merino was noted monitoring the welding parameters of the welder with measured working current of 128 and 134 amperes respectively on the welders mentioned. At the end of the shift, cover pass welding was completed on the two wing plates and the welders held the same preheat of >200 degree Fahrenheit for three hours after welding as required.

At OBG 12E-PP116.5-E2.1-BW1 corner drop-in floor beam, QA randomly observed ABF certified welder Gue Wu Chen continuing to perform 3G (vertical position) Shielded Metal Arc Welding (SMAW) welding fill pass on the CJP web splice butt joint. The welder was utilizing 3.2mm diameter E7018H4R on the root pass implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040A-CU Rev. 0. The joint being welded has a single V-groove butt joint with ceramic backing that will be removed and back gouged then back

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welded. Prior welding, ABF QC Salvador Merino was noted checking the fit up alignment and found it acceptable. This QA performed the fit up verification and noted same result. The plates were preheated to more than 150 degree Fahrenheit using propylene gas torch prior welding. Welding parameters were monitored by ABF/QC Salvador Merino. QA noted the welding working parameter of 124 amperes on the 3.2 diameter E7018H4R electrode. The workmanship and appearance of the completed root pass deemed satisfactory. At the end of the shift, fill pass welding on web splice butt joint mentioned above was still continuing and should remain tomorrow.

At OBG 12W-PP112-W2.1-BW1 corner drop-in floor beam, QA randomly observed ABF certified welder Jin Quan Huang continuing to perform 3G (vertical position) Shielded Metal Arc Welding (SMAW) welding fill pass on the CJP web splice butt joint. The welder was utilizing 3.2mm diameter E7018H4R on the fill pass implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040A-CU Rev. 0. The joint being welded has a single V-groove butt joint with ceramic backing that will be removed and back gouged then back welded. The plates were preheated to more than 150 degree Fahrenheit using propylene gas torch prior welding. Welding parameters were monitored by ABF/QC Barry Drake. QA noted the welding working parameter of 128 amperes on the 3.2 diameter E7018H4R electrode. The workmanship and appearance of the completed fill pass deemed satisfactory. At the end of the shift, fill pass welding on web splice butt joint mentioned above was still continuing and should remain tomorrow.



## Summary of Conversations:

ABF is still using ceramic backing instead of copper backing that is specified in their working WPS. This issue has been brought to ABF and Caltrans attention thru an Incident Report that has been generated by other QA Inspector.

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ABF is awaiting approval for the use of ceramic backing.

## **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 Gary Thomas (916) 764-6027, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Lizardo,Josecito	Quality Assurance Inspector
<b>Reviewed By:</b>	Levell,Bill	QA Reviewer

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