

**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:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-015029**Date Inspected:** 21-Jun-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1000**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

<b>CWI Name:</b>	Jim Cunningham and Bernie Docena			<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>	
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
				<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Bridge No:</b>	34-0006			<b>Component:</b>	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 L4E/L5E side plate 'C' (4770mm to 7400mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 continue perform CJP groove (splice) welding cover pass. The welder was observed perform automatic welding in the 3G (vertical) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3042A-1. The joint being welded has a single V-groove butt joint with backing bar. The splice joint was preheated and maintained to greater than 200 degree Fahrenheit using Miller Proheat 35 Induction Heating System located at the opposite side of the plate prior/during welding. During welding, ABF Quality Control (QC) Bernie Docena was noted monitoring the welding parameters of the welder. At noon time during the shift, the welder has completed the area he was welding and moved to higher elevation area to perform more welding. The welder was seen waiting for the ABF personnel to remove the connection plates that were temporarily installed to hold the OBG boxes together. After the connection plate's removal, the welder prepared their welding machine and the Bug-o track mounted nozzle holder. But before they could finish their preparation, ABF Superintendent informed them that they are working eight hours today due to the generator's breakdown.

QA randomly observed ABF/JV qualified welder Mitch Sittinger perform CJP groove (splice) back welding fill pass on Orthotropic Box Girder (OBG) L3E/L4E plate 'D' outside. The welder was observed welding in the 4G

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# WELDING INSPECTION REPORT

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(overhead) position utilizing a Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode. The welder was noted using the SMAW on an excavated area that was having weld defect instead of the previous FCAW-G process. The joint being welded has the backing bar gouged using the Esab Plasma Arc machine and was ground smooth. The splice joint was preheated to greater than 150 degree Fahrenheit prior welding and the vicinity was properly protected from wind and other weather conditions. During welding, ABF Quality Control (QC) Jim Cunningham was noted monitoring the welder and his welding parameters.

At OBG L4E/L5E bottom plate 'D' outside, ABF welder Howell Bryce was observed perform alternately back gouging and grinding on the splice butt joint backing bar removal of 'D' plate. The welder was using Esab plasma arc gouging machine mounted to a track. During the shift, gouging and grinding of the backing bar and some of the base metal were not completed and should continue tomorrow.



## Summary of Conversations:

At OBG L3W/L4W edge plate 'B' outside, ABF welder asked QA to check the fit up of the joint before welding. QA told the welder that QC should check first before QA. This QA informed ABF QC Bonifacio Daquinag that the welder has been asking for fit up inspection prior welding. QC made an inspection on the joint fit up and informed QA that the root opening was tight and the misalignment between the plates was more than 3.0mm. QC also mentioned to QA that he will ask the welder to open up the root gap by grinding and then fix the misalignment to acceptable level. Fixing of the root opening and misalignment was not done today due to other location the welder was asked by the Superintendent to weld.

## 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 Mohammad Fatemi (916) 227-5298, who represents the Office of Structural Materials for your project.

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

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