

**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 #: 1x.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-012806**Date Inspected:** 27-Mar-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

<b>CWI Name:</b>	Bernie Docena, Bonifacio Daquino	<b>CWI Present:</b>	Yes	No			
<b>Inspected CWI report:</b>	Yes	No	N/A	<b>Rod Oven in Use:</b>	Yes	No	N/A
<b>Electrode to specification:</b>	Yes	No	N/A	<b>Weld Procedures Followed:</b>	Yes	No	N/A
<b>Qualified Welders:</b>	Yes	No	N/A	<b>Verified Joint Fit-up:</b>	Yes	No	N/A
<b>Approved Drawings:</b>	Yes	No	N/A	<b>Approved WPS:</b>	Yes	No	N/A
				<b>Delayed / Cancelled:</b>	Yes	No	N/A
<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.

QA randomly observed ABF/JV qualified welders Rory Hogan (ID #3186) and Jeremy Dolman (ID #5042) continue perform CJP groove (splice) back welding fill pass on Orthotropic Box Girder (OBG) L1E/L2E plate 'D2' (4250mm to 8500mm). The welders were observed welding in the 4G (overhead) 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-D15-3040A-4. The welder was using a track mounted welder holder assembly that is remotely controlled. 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 200 degree Fahrenheit prior welding and the vicinity was properly protected from wind. During welding, ABF Quality Control (QC) Bernie Docena was noted monitoring the welding parameters of the welder. QA performed parameter check readings during welding and noted the following: 236 amperes, 23.3 volts with travel speed of 195 mm per minute travel speed which are deemed acceptable to contract specifications. During random observation, QA noted 3 fill passes were welded into the joint without any major issues. Completed fill passes noted at the time deemed acceptable to contract specifications.

At OBG L3E/L4E plate A1 to A5, two certified ABF welders Dan Ieraci (ID #3232) and Jordan Hazelaar (ID #2135) were noted performing flat (1G) Submerged Arc Welding (SAW). The welders were utilizing F7A6-EM12K-H8, 3.2mm electrode with corresponding Esab OK Flux 10.62 flux and implementing Caltrans

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approved Welding Procedure Specification (WPS) ABF-WPS-D15-4042B-1. The two welders were welding simultaneously in two separate locations (A1 to A2 and A3 to A5) with two separate welding machines. The plates were preheated to >150 degree F where the thickness is 14mm and >200 degree F where the thickness is 20mm. Welding parameters were monitored by two separate ABF/QC named Bonifacio Daquinag (for Dan Ieraci) and Jim Cunningham (for Jordan Hazelaar). Parameters measured by the ABF QC during welding were 582 amperes, 32.5 volts and 400mm per minute travel speed and 556 amperes, 32.6 volts and 378mm per minute travel speed respectively for the two welders. QA noted the welding parameters, the workmanship and appearance of the completed fill and cover passes satisfactory and were deemed acceptable to contract requirements.

QAI also observed ABF welder Mitch Sittinger perform Shielded Metal Arc Welding (SMAW) welding repair in the flat (1G) position. The welder was using E7018H4R, 3.2mm electrode with sufficient preheat prior welding. ABF QC Tom Pasqualone was noted monitoring the welding parameters and enforcing Caltrans approved Welding Procedure Specification ABF-WPS-D15-1000Repair Rev. 2. Parameter reading of 130 amperes taken during welding deemed acceptable to contract requirements.



## Summary of Conversations:

As stated 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

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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
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<b>Reviewed By:</b>	Levell, Bill	QA Reviewer
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