

**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-013991**Date Inspected:** 15-May-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

<b>CWI Name:</b>	Jesse Cayabyab 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 L5E/L6E top deck plate 'A' outside, QA observed ABF welder James Zhen (ID # 6001) continued seal/tack welding the backing bar to the deck plate. The welder was welding at horizontal (2F) position using a Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing procedure ABF-WPS-D15-F1200. After completed tack welding the backing bar, the welder was seen groove welding approximately 6" long at the south end of the splice butt joint using the same process but in flat position. Welding at this location was also completed and ABF personnel were seen grinding/cleaning the backing bar tack welds and preparing their SAW welding equipment for the next process.

At OBG L4E/L5E top deck plate 'A' outside, flush grinding using a flapper disc on the cover weld reinforcement still continued. ABF QC Steven Mc Connell and Tom Pasqualone were noted performing Magnetic Particle Testing (MT) on area A5 where it is already been ground. After completing their MT on this area, the two QC started performing Ultrasonic Testing (UT).

At OBG L1W/L2W plate 'D' inside stiffener S18, ABF welder James Zhen (ID # 6001) was noted welding manually at the splice butt joint of the stiffener (320mm long X 35mm thickness). QA randomly observed the welder perform Complete Joint Penetration (CJP) welding fill pass. The welder was noted welding in the vertical (3G) position utilizing an semi-automatic dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16"

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diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3110-3. The joint being welded has a double V-groove butt joint and was battered (with temporary backing bar in place) due to excessive gap. The backing bar has been removed and the surfaced was ground smooth prior welding. The splice joint was preheated and maintained to greater than 200 degree Fahrenheit using propane gas torch prior welding. During welding, ABF Quality Control (QC) Jesse Cayabyab was noted monitoring the welder and parameters of the welder. QA performed parameter readings during welding with the following results; 240 amperes, 22.0 volts. Welding parameters noted are deemed acceptable to contract specifications.

At OBG L2W/L3W plate 'C2' (7875mm to 10475mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 perform CJP groove (splice) welding fill 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 150 degree Miller Proheat 35 Induction Heating System located at the opposite side of the plate. During welding, ABF Quality Control (QC) Bernie Docena was noted monitoring the welding parameters of the welder. QA performed parameter readings during welding with the following results; 250 amperes, 22.6 volts and 220mm per minute travel speed which are deemed acceptable to contract specifications.



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**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 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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