

**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-026540**Date Inspected:** 18-Oct-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**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>	Pat Swain and William Sherwood			<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>	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 12W/13W edge plate 'F' outside, QA randomly observed ABF/JV qualified welder Fred Kaddu continuing to perform root pass to fill pass welding on the Complete Joint Penetration (CJP) splice butt joint. The welder was observed manually welding in the 3G (vertical) position utilizing a Shielded Metal Arc Welding (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 was fitted and aligned and previously verified by fellow QA Doug Frey. ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder. QA randomly monitored the welding parameter with reading of 132 amperes which appears in conformance to the contract requirements. During the shift, SMAW fill pass welding on a partial length of the joint was continuing when the welder was pulled out and assigned to another job. ABF welder Jorge Lopez took over from Fred Kaddu and continued where he left off.

QA randomly observed ABF/JV qualified welder Jorge Lopez continuing to perform fill pass welding on the Complete Joint Penetration (CJP) splice butt joint. The welder was observed manually welding in the 3G (vertical) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3040B-3. The joint being welded has a single V-groove butt joint with steel backing bar. ABF Quality Control (QC) William

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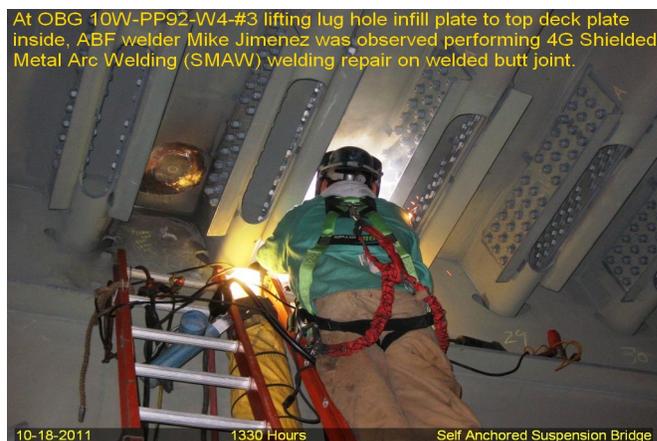
Sherwood was noted monitoring the welding parameters of the welder. QA randomly monitored the welding parameter with readings of 240 amperes, 22.5 volts and 200mm per minute with calculated heat input of 1.62 Kjoules per mm. travel speed which appears in conformance to the contract requirements. At the end of the shift, fill pass to cover pass welding on the partial length of the joint was still continuing and should remain tomorrow.

At OBG 10W-PP92-W4-#1 lifting lug hole to top deck plate inside – ABF welder Mike Jimenez was noted back gouging the bottom of the welded lifting lug hole using carbon air arc gouging. After the completion of the arc gouging, the welder has smoothly ground the groove of the gouged butt joint then called ABF QC Pat Swain to perform Magnetic Particle Testing (MT) on the completely gouged and ground butt joint. QC has found no relevant indications during the test.

After the VT/MT acceptance of the gouged lifting lug hole mentioned above, the welder has performed the 4G Shielded Metal Arc Welding (SMAW) back welding the excavation at Y=130mm which has a dimensions of 60mm long x 20mm wide x 6mm deep from the inside. The welder has welded the first time repair at 4G (overhead) position using 1/8” diameter E7018H4R electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1000 Repair. During the shift, welding repair at location just mentioned was completed and the welder has moved to another location and started excavating more lifting lug hole repairs.

At OBG 10W-PP92-W4-# 3 and 10W-PP88-W4-# 3 & #4 lifting lug hole infill plate to top deck plate inside and outside, ABF welder Mike Jimenez was noted excavating more UT detected defects on welded butt hole. The welder was noted excavating the UT repairs at the following Y locations then welded them using the same process and procedure mentioned above;

Location	Dimensions (L x W x D)	Remarks
1. OBG 10W-PP92-W4-# 3	Y=380mm 65mm x 20mm x 8mm	Repair welding completed.
2. OBG 10W-PP92-W4-# 3	Y=550mm 45mm x 20mm x 5mm	Repair welding completed.
3. OBG 10W-PP92-W4-# 3	Y=610mm 50mm x 14mm x 5mm	Repair welding completed.
4. OBG 10W-PP88-W4-# 3	Y=354mm 40mm x 20mm x 5mm	Repair welding in progress.
5. OBG 10W-PP88-W4-# 4	Y=284mm 30mm x 20mm x 10mm	Repair welding in progress.



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## Summary of Conversations:

No significant conversation occurred today.

## 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.

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**Inspected By:** Lizardo, Joselito

Quality Assurance Inspector

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**Reviewed By:** Levell, Bill

QA Reviewer