

**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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-019237**Date Inspected:** 12-Jan-2011**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>	Gary Ershan and Fred Vonn Hoff			<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 9W/10W bottom plate 'D1' and 'D2' inside, QA randomly observed ABF/JV qualified welders Xiao Jian Wan and Hua Qiang Huang seal welding bottom plates 'D' to the backing bar. The welders were separately utilizing 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-1. The joint had a single V-groove butt joint design with the bottom plate being seal welded with backing bar. The plate with the backing bar was preheated to greater than 150 degrees Fahrenheit using propane gas torch prior welding. Noted welding parameters during welding were 270 amperes and 25 volts for welder Xiao Jian Wan and 275 amperes and 25.2 volts for Hua Qiang Huang which appear in compliance to the WPS. During the shift, ABF QC Fred Vonn Hoff was noted monitoring the welder. The welders have started seal welding on both sides of the plates almost already the end of the shift. Seal welding of the bottom plate to the backing bar was not completed and should continue tomorrow.

At OBG 8W/9W edge plate 'F' outside, QA randomly observed ABF/JV qualified welder Mick Chan has completed welding the cover pass. After its completion, the welder did the flush grinding of the weld cover and also completed. The welder was noted moving to the top deck plate of the same OBG splice joint and performed repair excavations until the rest of the shift.

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At OBG 2W-PP15-W3#3 lifting lug access hole to top deck plate inside, ABF welder Darcel Jackson was observed 4G SMAW back welding fill pass to cover pass on the infill plate to top deck plate butt joint. The welder was noted using 1/8" diameter E7018H4R electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1110A. During welding, ABF QC Mike Johnson was noted monitoring the welder's welding parameters. During the shift, cover pass welding on this location was completed and the welder has moved to access hole #2 and #4 of the same location wherein he started back gouging the two access holes using carbon air arc gouging. The flush grinding of the bottom side of the completed #3 access hole was visually inspected and Magnetic Particle Testing (MT) tested by QC and this QA.

At OBG 8W/9W side plate 'C' inside, ABF welder Songtao, Huang was noted prepping his welding equipment and tools in preparation for the FCAW-G welding of the splice butt joint while at edge plate 'F' of the same OBG splice, ABF welder Jorge Lopez was also noted prepping his carbon air arc gouging equipment in preparation for the backing bar removal. Both welders were not able to start their respective tasks at the end of the shift.

At OBG 9W/10W top deck plate 'A1' and 'A5' outside, ABF welder Rick Clayborn was observed performing tack welding of fitting gears and aligning the abutting plates at the same time. ABF QC William Sherwood was noted monitoring the SMAW welding parameters during welding.

At OBG 8W/9W top deck plate 'A' outside, QA randomly observed ABF/JV qualified welder Wai Kitlai continuing to perform CJP repair welding. The welder was noted welding in 1G (Flat) position utilizing Shielded Metal Arc Welding (SMAW) with 5/32" and 1/8" diameter E7018H4R electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1001 Repairs. The welding repairs were excavated to a boat shape profile and were tested with Magnetic Particle Testing (MT) prior welding. During welding, ABF QC Gary Ersham was noted monitoring the welder and his welding parameters. Welding parameter measured at the time of welding were 180 amperes and 136 Amperes respectively on the electrodes mentioned above which appears in compliance to the WPS. The locations of the repairs were noted below;

	Location	Y-dimension	Length	Width	Depth	Remarks
1.	A5	850mm	400mm	25mm	14mm	Completed
2.	A3	5200mm	350mm	25mm	14mm	In progress
3.	A2	3820mm	75mm	24mm	14mm	Completed
4.	A2	530mm	95mm	24mm	14mm	Completed

This QA performed 10% MT verification at the following welded splice butt joints. Please see TL-6028 report for more information.

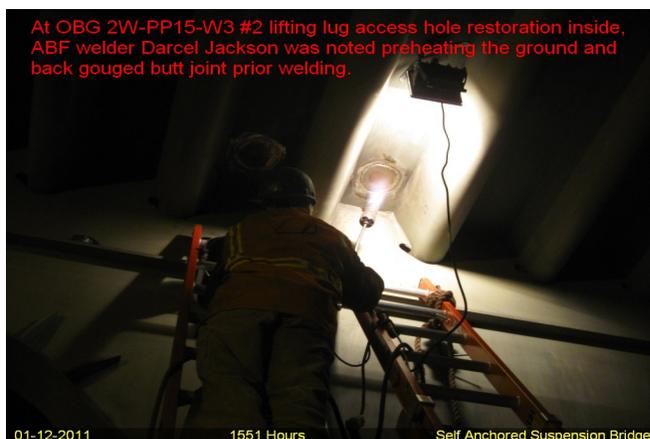
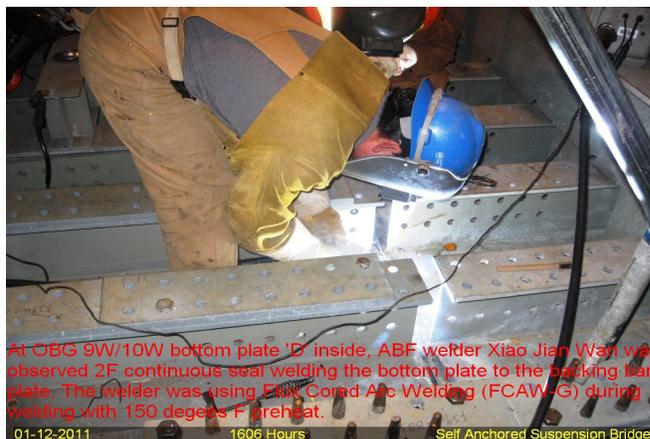
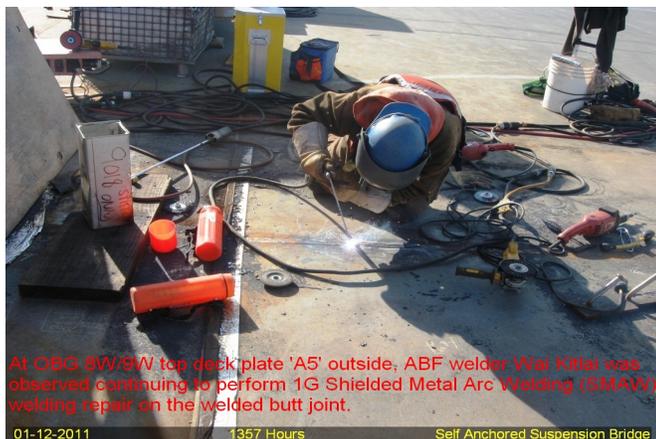
1. OBG 7E/8E edge plate 'B' inside – no defects noted.
2. OBG 7E/8E side plate 'C' inside – no defects noted.
3. OBG 7E/8E bottom plate 'D' inside – no defects noted.
4. OBG 7E/8E side plate 'E' inside – no defects noted.
5. OBG 7E/8E edge plate 'F' inside – no defects noted.

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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

**Reviewed By:** Levell, Bill

QA Reviewer

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