

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

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-028544**Date Inspected:** 08-Oct-2012**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>	William Sherwood and Barry Drake			<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>	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 12E-PP116.5-E5 deck access hole inside, QA randomly observed ABF/JV qualified welder Mike Jimenez continuing to perform CJP groove welding repair on a Seismic Performance Critical Member (SPCM) due to Ultrasonic Testing (UT) detected defect on welded butt joint. The welder was using Miller Proheat 35 Induction Heating System with the heater blanket put on top of the plate to preheat the repair area and its vicinity to 325°F and as soon as the required temperature was attained the welder started performing the welding repair. Welder Mike Jimenez was observed manually welding in 4G (overhead) position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm and 4.0mm diameter E7018H4R electrode implementing Caltrans approved welding procedure ABF-WPS-D15-1004 Repair. During welding, ABF QC William Sherwood was noted monitoring the welder's welding parameter with measured working current of 132 amperes on the 3.2mm diameter E7018H4R electrodes. During the shift, the repair welding at the location mentioned above was still continuing and the welder performed the post weld heat treatment (PWHT) of 450°F on the ongoing repair using the Miller Proheat 35 Induction Heating System and held it for one hour as required.

Y-location Length Width Depth RWR# Remarks

1. 3930mm 900mm 52mm 12mm 201208-115 R2-in progress.

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At OBG 12E-E2.1-@31000mm corner drop-in top deck plate inside, QA randomly observed ABF/JV qualified welder Wai Kit Lai continuing to perform CJP groove welding first time repair on a non-Seismic Performance Critical Member (SPCM) due to Ultrasonic Testing (UT) detected defect on welded splice butt joint. The welder preheated the repair area and its vicinity to >150°F using propylene gas torch prior excavation and then ground smooth the groove of the excavation. After its completion, ABF QC William Salvador Merino performed Magnetic Particle Testing (MT) on the removal of the defects with no relevant defect noted during the test.

The welder was noted using propylene gas torch to preheat the repair area and its vicinity to >150°F and as soon as the required temperature was attained the welder started performing the welding repair. Welder Wai Kit Lai was observed manually welding in 4G (overhead) position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode implementing Caltrans approved welding procedure ABF-WPS-D15-1000 Repair Rev. 2. During welding, ABF QC William Sherwood was noted monitoring the welder's welding parameter with measured working current of 126 amperes on the 3.2mm diameter E7018H4R electrodes. During the shift, repair welding at the location listed below were noted;

Y-location	Length	Width	Depth	Remarks
1. 24350mm	100mm	35mm	10mm	R1 – completed.
2. 24490mm	65mm	21mm	10mm	R1 – completed.
3. 26130mm	110mm	25mm	11mm	R1 – completed.
4. 27630mm	120mm	30mm	10mm	R1 – completed.
5. 29550mm	100mm	25mm	10mm	R1 – in progress
6. 28945mm	100mm	25mm	10mm	R1 – completed.

FW Spencer:

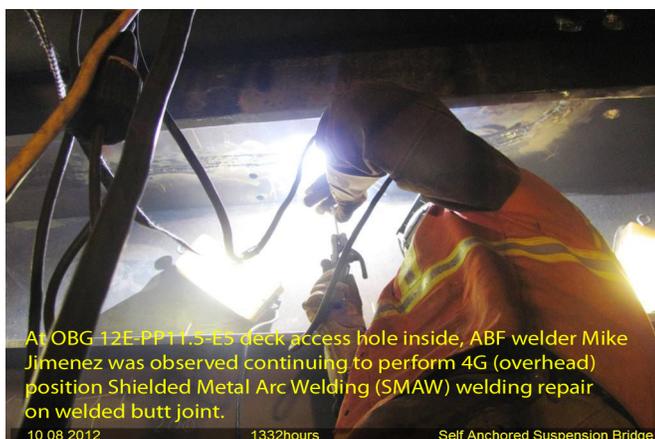
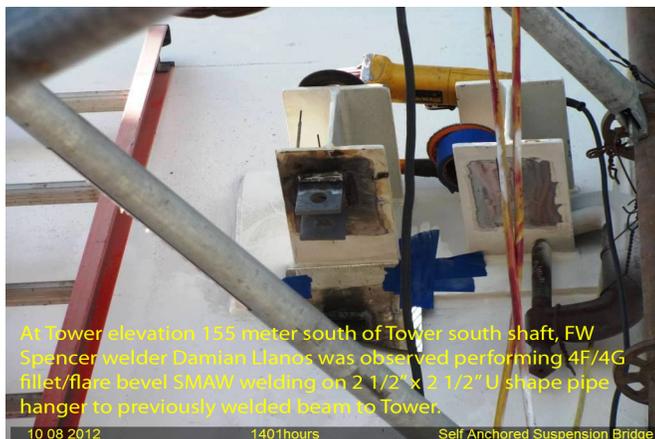
At Tower location elevation 145 and 155 meters, this QA randomly observed FW Spencer qualified welder Damian Llanos continuing to perform Complete Joint Penetration (CJP) 6G (all position) Shielded Metal Arc Welding (SMAW) welding fill pass to cover pass on the 1" weldolet for the 2 1/2" domestic water line. The welder was noted welding the fill and cover pass with 3/32" diameter E7018H4R electrode implementing Caltrans approved procedure FW Spencer WPS 1-12-1. The welder was noted preheating and removing the moisture of the joint using a portable propane gas torch prior welding. During welding, ABF QC Barry Drake was noted monitoring the parameters of the welder. After the welding completion of the 1" diameter weldolet, the welder moved to the 155 meter elevation on the south side of the Tower south shaft and fillet/flare welded one 2 1/2" x 2 1/2" U shape hanger to the previously welded beam attached to the Tower. At the end of FW Spencer shift, both welding works mentioned above were completed.

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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 Gary Thomas (916) 764-6027, 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:** Reyes, Danny

QA Reviewer