

**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-028495**Date Inspected:** 25-Sep-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1930**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** William Sherwood**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** 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 outside, 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 splice butt joint. The welder preheated the repair area and its vicinity to >225°F using propylene gas torch prior excavation and then ground smooth the groove of the excavation. After its completion, ABF QC William Sherwood performed Magnetic Particle Testing (MT) on the removal of the defects with no relevant defect noted during the test. This QA also performed same test verification and noted same result.

The welder was noted using propylene gas torch 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 1G (flat) 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. Welder Mike Jimenez was noted welding at location Y=600mm to Y=1500mm. During welding, ABF QC William Sherwood was noted monitoring the welder's welding parameter with measured working current of 130 amperes on the 3.2mm and 195 amperes on 4.0mm diameter E7018H4R electrodes. At the end of the shift, repair welding at the location mentioned above was still continuing and the welder has held performed the post weld heat treatment of 450°F on the completed repair using the Miller Proheat 35 Induction Heating System and held it for

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one hour as required.

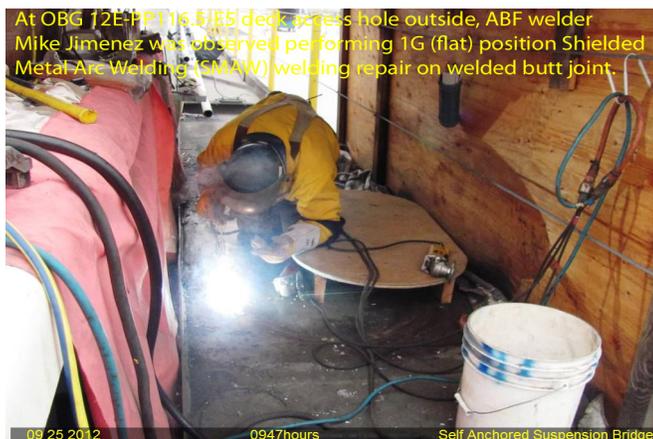
Y-location Length Width Depth RWR# Remarks

1. 3435mm 600mm 35mm 11mm 201208-115 R2- completed.

At OBG 13E-PP114-E2.1 PS1 floor beam plate stiffener inside, QA randomly observed ABF welder Wai Kit Lai perform 4G/1G (overhead/flat) positions on stiffener complete joint penetration (CJP) splice butt joint. First, the welder was noted welding at 4G position using Shielded Metal Arc Welding (SMAW) with 3.2mm diameter, E7018H4R electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1030. The joint being welded had a single V-groove butt joint with 60 degree inclusive angle. After welding from one side (bottom side) of the plate, the welder has back gouged the other side using disc and die grinder. After the completion of the back gouging, the welder performed back welding from the top using the same process. During welding, ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder. At the end of the shift, CJP welding of the splice butt joint mentioned above was completed.

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT/MT on the OBG drop-in floor beam splice butt joints and deck access hole longitudinal stiffener. The QA verification was performed to verify that the welding and the VT/MT inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification it appeared that the welds and the QC inspection complied with the contract documents.

1. 13W-PP123.5-W2.1 BW1 – floor beam web splice butt joint weld cover QA verified.
2. 13W-PP123.5-W2.1 BF2 – floor beam flange splice butt joint weld cover QA verified.
3. 13W-PP124.0-W2.2 BW1 – floor beam web splice butt joint weld cover QA verified.
4. 13W-PP124.5-W2.1 BW1 – floor beam web splice butt joint weld cover QA verified.
5. 13W-PP124.5-W2.1 BF2 – floor beam flange splice butt joint weld cover QA verified.
6. 13W-PP120-W2.0 FBF1 – bulk head manhole stiffener
7. 13W-PP124.5-W5 LSW – deck access hole longitudinal stiffener splice butt joint weld cover QA verified.
8. 13W-PP124.5-W5 LSE – deck access hole longitudinal stiffener splice butt joint weld cover QA verified.



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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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<b>Inspected By:</b>	Lizardo, Joselito	Quality Assurance Inspector
<b>Reviewed By:</b>	Levell, Bill	QA Reviewer

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