

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-028151**Date Inspected:** 12-Aug-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Bernie Docena**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 13W-PP121-W2 floor beam web inside, QA randomly observed ABF/JV qualified welder Mike Jimenez perform root pass back on the Complete Joint Penetration (CJP) butt joint. The welder was observed manually welding in the 3G (vertical) position utilizing a Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040C Revision 1. The joint being welded has a single V-groove butt joint welded with steel backing bar. Prior welding, ABF QC Bernie Docena was observed checking the fit up of the horizontal and vertical butt joint. The misalignment was measured 0mm to 2mm while the root opening was measured 6.0mm to 12.5mm which appears in conformance to the contract requirements. ABF Quality Control (QC) Bernie Docena was noted monitoring the welding parameters of the welder. QA randomly monitored the welding parameter with measured working current of 134 amperes on the 3.2mm diameter E7018H4R electrode which appears in compliance to the WPS. At the end of the shift, SMAW root pass welding was still continuing and should remain tomorrow.

At OBG 13W-PP122.2-LS3 deck stiffener flange inside, QA randomly observed ABF/JV qualified welder Gue Wu Chen continuing to perform PJP groove welding root pass to fill pass on the deck stiffener flange T-joint. The welder was observed perform manual welding in the 4G (overhead) position utilizing a Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E9018H4R electrode and implementing Caltrans approved Welding

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Procedure Specification (WPS) ABF-WPS-D15-1162-4. The stiffener flange plate has a bevel groove being welded PJP T-joint to the longitudinal stiffener. The plates were preheated to more than 200 degree Fahrenheit using Miller Proheat 35 Induction Heating System. During welding, ABF Quality Control (QC) Bernie Docena was noted monitoring the welding parameters of the welder with measured working current of 130 amperes on the 3.2mm E9018H4R. At the end of the shift, fill pass welding was still continuing and the welder held the same preheat of >200°F for three hours after welding as required.

At OBG 13W-PP124.5-W2.8 BW1 drop-in floor beam inside, QA randomly observed ABF/JV qualified welder Lin E. Yun perform CJP groove first time welding repair. The welder was observed welding the floor beam web butt joint in 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1004-Repairs. The repair excavation located at Y=315mm and having boat shape excavation dimensions of 50mm long x 30mm wide x 8mm deep was preheated to more than 325°F using propylene gas torch prior welding. During the shift, ABF QC Bernie Docena was noted monitoring the welder with measured working current of 128 amperes on the 3.2mm E7018H4R electrode. After the completion of the welding repair, the welder performed the Post Weld Heat Treatment (PWHT) of more than 450°F using the same propylene gas torch for one hour after welding as required.

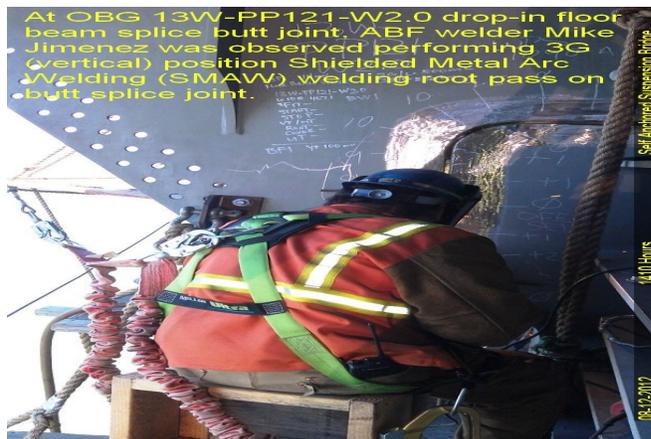
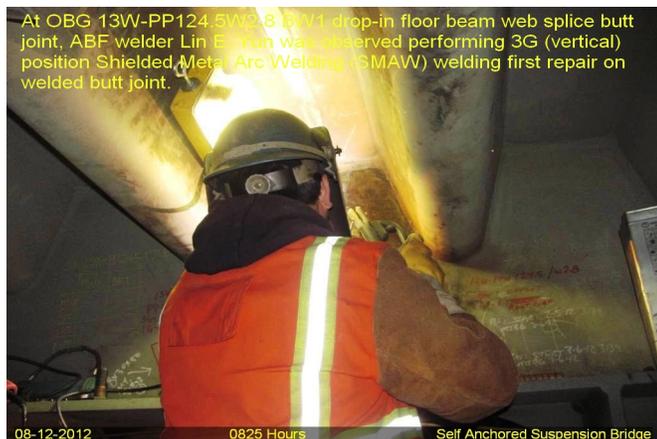
During the shift, the same welder was noted welding repair at the same floor beam flange butt joint at Y=0mm. The boat shape repair excavation was having dimensions of 25mm long x 20mm wide x 14mm deep. The welder was noted welding repair at 1G (flat) position using the same process but implementing Caltrans approved welding procedure ABF-WPS-D15-1001-Repairs. Repair at this location was also completed during the shift.

At OBG 13W-PP122.5-W2.8-BW1 drop-in floor beam, QA randomly observed ABF certified welder Richard Garcia perform 3G (vertical position) Shielded Metal Arc Welding (SMAW) back welding fill pass on the CJP splice butt joint. The welder was utilizing 3.2mm diameter E7018H4R on the fill pass implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1030. The joint being welded has a single V that was welded from one side then back gouged and ground. ABF QC Bernie Docena was noted monitoring the welder with measured working current of 130 amperes on the 3.2 diameter E7018H4R electrode. The workmanship and appearance of the completed fill pass deemed satisfactory. At the end of the shift, fill pass welding was still continuing and should remain tomorrow.



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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.

Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer