

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-028111**Date Inspected:** 05-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:** Julian Razo**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 Tower**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-WK- SK1 plate inside, QA randomly observed ABF/JV qualified welder Chau Tran continuing to perform CJP groove welding fill pass on the K plate skewed butt joint. The welder was observed perform manual welding in the 2G (horizontal) position utilizing a Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E9018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1072. The 18mm thick SK plate being welded to the 35mm thick 485W longitudinal stiffener has a single V groove butt joint preparation without backing that will be back gouged upon completion on one side. The plates were preheated to more than 200 degree Fahrenheit using Miller Proheat 35 Induction Heating System with the heater blanket put in place the back of the SK plate being welded. During welding, ABF Quality Control (QC) Julian Razo was noted monitoring the welding parameters of the welder with measured working current of 125 amperes. At the end of the shift, fill pass welding was still continuing and should remain tomorrow.

At OBG 13W/14W-LS5N deck stiffener flange inside, QA randomly observed ABF/JV qualified welder Lou Xiao Hua 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 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

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using Miller Proheat 35 Induction Heating System. During welding, ABF Quality Control (QC) Julian Razo was noted monitoring the welding parameters of the welder with measured working current of 125 amperes. During the shift, fill pass welding was still continuing and should remain tomorrow. The welder held the same preheat of >200 degree Fahrenheit for three hours after welding as required.

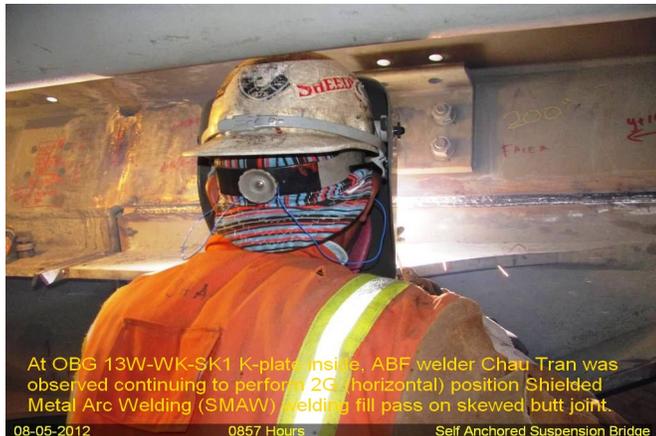
At OBG 13W-PP121.6 @1900 drop-in top deck plate inside, QA randomly observed ABF/JV qualified welder Mike Jimenez perform CJP groove welding repair from location Y=0mm to Y=1000mm. The welder was observed welding in the 4G (overhead) position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1004-Repairs. Since the area from Y=0mm to Y=1000mm has numerous UT detected defects with various sizes and depths, the welder decided to excavate the whole length. The repair excavation was preheated to more than 225°F prior carbon air arc gouging. After the removal of the UT detected defects, the groove of the excavation was ground smooth then tested with Magnetic Particle Testing (MT) by ABF QC Julian Razo. The repair excavation was preheated to more than 325 degree Fahrenheit using Miller Proheat 35 Induction Heating System with the heater blanket put in plate on top of the deck prior/during welding. During the shift, ABF QC Julian Razo was noted monitoring the welder with measured working current of 130 amperes on 3.2mm E7018H4R electrode. At the end of the shift, repair welding at location mentioned above was partially completed and the welder performed the Post Weld Heat Treatment (PWHT) of 450°F where repair was completed and held it for one hour as required.

At OBG 13W-W2.8@12570 drop-in top deck plate inside, QA randomly observed ABF/JV qualified welder Richard Garcia perform CJP groove welding repair from location Y=11800mm to Y=12570mm. The welder was observed welding in the 4G (overhead) position utilizing dual shielded Flux Cored Arc Welding (FCAW-G) with 1.6mm diameter electrode implementing Caltrans approved welding procedure ABF-WPS-D15-3110-4. This repair has been excavated and being welded with Caltrans approved Request for Weld Repair (RWR) #201208-001. Since the area from Y=18000mm to Y=12570mm has numerous UT detected defects with various sizes and depths, ABF has decided to excavate the whole length. The repair excavation was preheated to more than 225 degree Fahrenheit using Miller Proheat 35 Induction Heating System with the heater blanket put in plate on top of the deck prior/during welding. According to ABF QC William Sherwood, ABF is using the normal overhead back welding procedure instead of repair procedure because ABF is considering the welded joint as reweld instead of repair. During the shift, ABF QC Julian Razo was noted monitoring the welder with measured working current of 255 amperes, 22.5 volts. At the end of the shift, repair welding at location mentioned above was still continuing and should remain tomorrow.



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Summary of Conversations:

At OBG PP122.2 @8650 drop-in top deck plate repair, per ABF QC William Sherwood's conversation with ABF QC Manager Jim Bowers, ABF is using the normal overhead back welding procedure (ABF-WPS-D15-3110-4) instead of repair procedure because ABF is considering the welded joint as reweld instead of repair.

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
