

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-027124**Date Inspected:** 01-Feb-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

CWI Name:	Fred Von Hoff and Jesse Cayabya			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 13E/14E top deck plate 'A5' inside, QA randomly observed ABF/JV qualified welder Wai Kitlai continuing to perform CJP groove (splice) welding fill pass to cover pass on the splice butt joint. The welder was observed performing manual welding in the 4G (overhead) position utilizing a 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-D15-3110-4. The joint being welded has a single V-groove butt joint with backing bar that was removed. The splice joint was preheated and maintained to greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blankets located at the opposite side of the plate prior/during welding. During welding, ABF Quality Control (QC) Fred Von Hoff was noted monitoring the welding parameters of the welder with measured working current of 245 amperes, working voltage of 23.7 volts with travel speed of 190 mm/sec and calculated heat input of 1.83Kjoules/mm. At the end of the shift, cover pass welding on the splice butt joint was completed including flush grinding of the reinforcement weld cover.

At OBG 13E-PP121.5-E3-#1 & 2 lifting lug holes infill plate to top deck plate inside, ABF welder Erick Sparks was observed performing 4G Shielded Metal Arc Welding (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 implementing Welding Procedure Specification (WPS) ABF-WPS-D15-1110A Rev.1. Prior welding, the welder was noted back gouging the two welded lifting lug holes using carbon air arc gouging. After gouging and grinding smooth the

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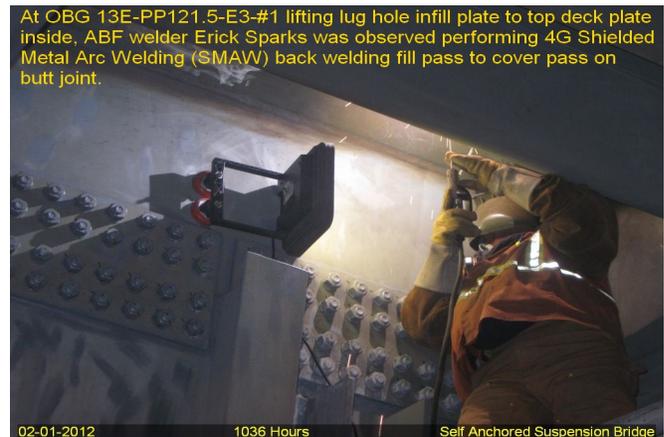
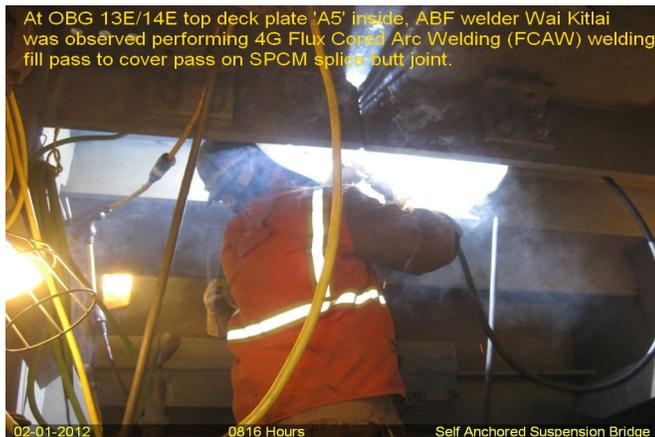
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groove, ABF QC Fred Von Hoff was noted performing Magnetic Particle (MT) testing on the gouged area with positive result. The welder started back welding the joints after the MT test and QC was noted monitoring the welder's welding parameters with measured working current of 135 amperes on the 1/8" diameter E7018H4R electrode. The welder was noted preheating the plates to more than 150°F using propylene gas torch prior welding. During the shift, cover pass welding was completed on the bottom side of the two lifting lug butt joints and the welder has moved to the other lifting holes of west bound OBG 13W-PP119.5-W4-#1 to 4.

At OBG 5W-PP29-W2 access hole infill plate to top deck plate outside, QA randomly observed ABF/JV qualified welder Jason Collins perform CJP groove root pass welding. The welder was observed welding in the 1G (flat) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1010 Revision 1. The joint being welded has a double V-groove butt joint. ABF Quality Control (QC) Jesse Cayabyab was noted monitoring the welding parameters of the welder. Prior welding, QC has checked the fit up alignment and noted minimal misalignment. This QA verified the fit up alignment and noted the same. At the end of the shift, root pass welding of the butt joint was completed.

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC MT of the Complete Joint Penetration (CJP) welding of eight (8) lifting lug hole infill plates to top deck plate butt joints. The QA verification was performed to verify that the welding and the 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 weld and the QC inspection complied with the contract documents.

1. OBG 12E-PP111-E3#1 to #4 lifting lug hole infill plate to top deck plate outside - QA MT verified
2. OBG 12E-PP114-E3#1 to #4 lifting lug hole infill plate to top deck plate outside - QA MT verified



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At OBS 13E/14E top deck plate 'A5' inside, ABF personnel were noted using the Miller Proheat 35 Induction Heating System to preheat and maintain the required preheat temperature.



At OBS BW-PP29-W3 deck access hole outside, ABF welder Jason Collins was noted grinding/cleaning up all the bevels of the infill plate including the longitudinal/transverse stiffeners prior installation.



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