

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-027131**Date Inspected:** 03-Feb-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:** Steve Jensen**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 5W-PP29-W2 deck access hole infill plate to top deck plate outside, QA randomly observed ABF/JV qualified welder Jin Pei Wang continuing to perform CJP groove welding fill pass then cover pass on the butt joint.

The welder was observed perform automatic welding in the 1G (flat) position utilizing a Bug-o track mounted 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-D15-3030-1. The joint being welded had a single V-groove butt joint that has been root welded without backing bar. The splice joint was preheated to greater than 150 degrees Fahrenheit using propane gas torch prior welding. During welding, ABF Quality Control (QC) Steve Jensen was noted monitoring the welding parameters of the welder. Measured welding parameters were 245 amperes, 21.4 volts and travel speed of 300mm per minute with calculated heat input of 1.05Kjoules per mm. At the end of the shift, cover pass welding on both straight portion of the butt joint was completed.

At OBG 5W-PP36-W2 deck access hole infill plate to top deck plate outside, QA randomly observed ABF/JV qualified welder Wai Kitlai continuing to perform CJP groove welding fill pass then cover pass on the butt joint radius. The welder was observed perform automatic welding in the 1G (flat) position utilizing a Bug-o track mounted 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-D15-3030-1. The joint being welded had a single V-groove butt joint that has been root welded without backing bar. The splice joint was

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preheated to greater than 150 degrees Fahrenheit using propane gas torch prior welding. During welding, ABF Quality Control (QC) Steve Jensen was noted monitoring the welding parameters of the welder. Measured welding parameters were 251 amperes, 22.4 volts and travel speed of 340mm per minute with calculated heat input of 0.99Kjoules per mm. At the end of the shift, cover pass welding on both radius portion of the butt joint was completed.

At OBG 8W-PP61-W2 access hole infill plate to top deck plate outside, QA randomly observed ABF/JV qualified welder Jason Collins perform grinding/cleaning of the bevel of the infill plate. The other welder Todd Jackson was also noted prepping the bevel of the top deck of the same access hole by grinding the edge of the plate to 30 degrees. At the end of the shift, the bevel preparation on both infill plate and top deck plate was completed and the infill plate was put in position but no welding was performed.

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 top deck plate splice 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 12W/13W- top deck plate A5 Y=500mm to Y=3500mm outside - QA MT verified
2. OBG 12W/13W- top deck plate A3 Y=4000mm to A4 Y=1800mm outside - QA MT verified

At OBG 8W location Panel Point PP61 grid line W2, this QA randomly observed FW Spencer qualified welder Damian Llanos perform Complete Joint Penetration (CJP) 6G (all position) Shielded Metal Arc Welding (SMAW) welding root pass to cover pass on the field splice butt joint of 2.5" and 4" domestic water and compressed air lines respectively. The system lines being welded are field weld joints along the grid line of W2 of the OBG. The welder was noted welding the root pass with 3/32" diameter E6010 electrode and followed by fill pass to cover pass using 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 Steve Jensen was noted monitoring the parameters of the welder. At the end of the shift, the welder has completed the splice butt joints at the following;

Line Service Line/Pipe Size Panel Point Location Joint Designation

- 1 Domestic Water 2 1/2" 61 Northwest 32/2.5/61/NW
- 2 Compressed Air 4" 61 Northwest 32/4/61/NW

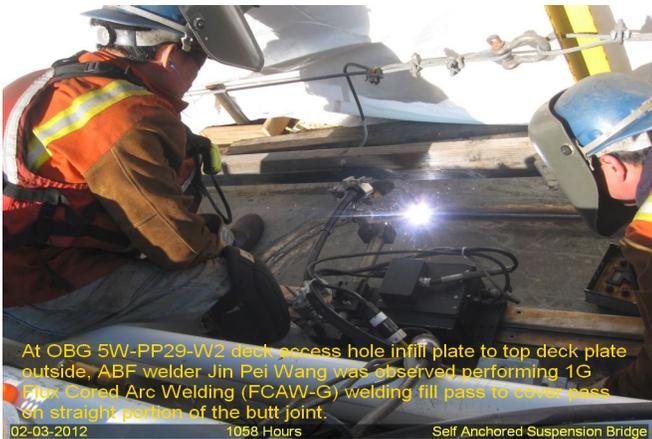
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At OBG 8W panel point PP61 grid line W2, EW Spencer welder Damian L Lanes was observed performing EC shielded Metal Arc Welding (SMAW) welding root pass to cover pass on 2 5/8" and 4" diameter pipe splice butt joints.



At OBG 5W-PP29-W2 deck access hole infill plate to top deck plate outside, ABF personnel were noted preheating the plates to required temperature prior FCAW-G welding.



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