

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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-023094**Date Inspected:** 26-Apr-2011**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:** Fred Von Hoff**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:** Orthotropic Box Girder**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 10E/11E side plate 'C2' (2640mm to 4577mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 continuing to perform CJP groove (splice) welding fill pass on the splice butt joint. The welder was observed perform automatic welding in the 3G (vertical) 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-D15-3042B-1. The joint being welded has a single V-groove butt joint with backing bar. 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. At the end of the shift, fill pass welding was still continuing and should remain tomorrow.

At OBG 7E/8E 'A' to 'B' (top corner transition) inside, ABF welder Jorge Lopez was noted fixing the two transition corners by grinding and touch up welding where undercut was noted. The welder was noted using 1/8" diameter E7018H4R electrode. During welding, ABF QC Fred Von Hoff was noted monitoring the welder's welding parameters. At the end of the shift, touch up welding and smooth grinding on both transitions was completed. The welder has moved to the other side of the OBG 7E/8E 'A' to 'F' (top corner transition) inside where the welder carried out the same as he previously did. Welding and grinding of the corner transition at this

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location was still in progress at the end of the shift.

At OBG 11E-PP97.5-E5 LSW longitudinal stiffener inside, QA randomly observed ABF/JV qualified welder Wai Kitlai perform CJP groove first time welding repair. The welder was observed welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E9018H4R electrode implementing welding procedure ABF-WPS-D15-1002-Repair. The repair excavation located at Y-dimension 45mm and having excavation profile of 50mm long x 20mm wide x 22mm deep was preheated to more than 200 degrees Fahrenheit using propylene gas torch prior welding. Prior welding, ABF QC Fred Von Hoff was also observed performing Magnetic Particle Testing (MT) on the boat shape repair excavation. During the shift, ABF QC Fred Von Hoff was noted monitoring the welder and his welding parameters. Repair welding at location mentioned above was completed at the end of the shift.

At OBG 7E-PP55-E3-#2 & 4 lifting lug access hole to top deck plate inside – ABF welder Jason Collins was observed 4G SMAW back welding fill pass to cover pass on the infill plate to top deck plate butt joints. The welder was noted using 1/8" diameter E7018H4R electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1110A. Prior welding, ABF QC Fred Von Hoff was observed performing Magnetic Particle Testing (MT) on the back gouging and grinding of the butt joints. During welding, ABF QC Fred Von Hoff was noted monitoring the welder's welding parameters. At the end of the shift, cover pass welding on the bottom side location of the two butt joints was completed and the welder has moved to #1 & 3 access holes of the same OBG and performed back gouging using carbon air arc.

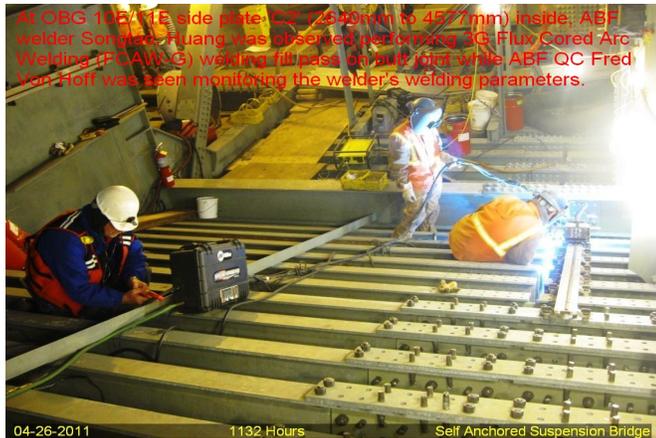
At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT/MT of the Complete Joint Penetration (CJP) welding of eight(8) longitudinal stiffeners and four (4) corner transition joints. The QA verification was performed to verify that the welding and the 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 weld and the QC inspection complied with the contract documents.

1. OBG 6W-PP46.5-W5 LSW longitudinal stiffener inside - QA VT/MT verified
2. OBG 6W-PP46.5-W5 LSE longitudinal stiffener inside - QA VT/MT verified
3. OBG 9E/10E top plate 'A' to edge plate 'B' top corner transition inside - QA MT verified
4. OBG 9E/10E edge plate 'B' to side plate 'C' bottom corner transition inside - QA MT verified
5. OBG 8E/9E top plate 'A' to edge plate 'B' top corner transition inside - QA MT verified
6. OBG 8E/9E edge plate 'B' to side plate 'C' bottom corner transition inside - QA MT verified
7. OBG 7W/8W LS4 to LS6 longitudinal stiffeners inside - QA VT/MT verified
8. OBG 10E/11E LS1 to LS3 longitudinal stiffeners inside - QA VT/MT verified

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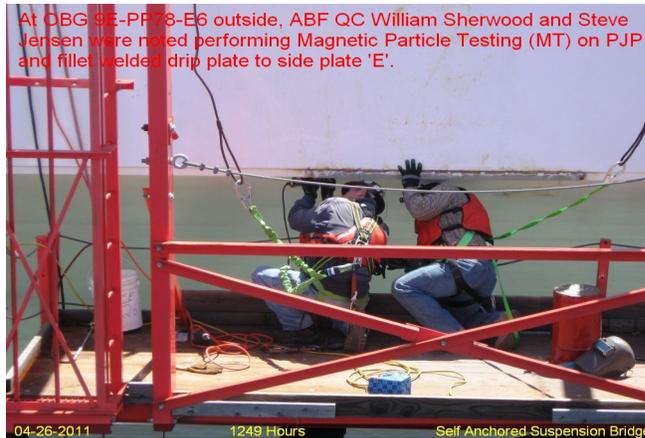
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At OBG 10B-1E side plate-C2 (230mm to 457mm) inside, ABF welder Songhai Huang was observed performing 3G Flux Cored Arc Welding (FCAW-G) working fill pass on butt joint while ABF QC Fred von Hoff was seen monitoring the welder's welding parameters.



04-26-2011 1132 Hours Self Anchored Suspension Bridge

At OBG 9E-PP18-E6 outside, ABF QC William Sherwood and Steve Jensen were noted performing Magnetic Particle Testing (MT) on PJP and fillet welder drip plate to side plate 'E'.



04-26-2011 1249 Hours Self Anchored Suspension Bridge



At OBG 11E-PP97.5-E5 LSW longitudinal stiffener inside, ABF welder Wai Kitlai was observed performing 3G Shielded Metal Arc Welding (SMAW) welding 1st time repair on welded butt joint.

04-26-2011 1118 Hours Self Anchored Suspension Bridge



At OBG 7E-PP65-E3-#2 3/4 lifting lug access hole to top deck plate inside, ABF welder Jason Collins was observed performing 4G Shielded Metal Arc Welding (SMAW) back welding fill pass to cover pass on butt joint.

04-26-2011 0839 Hours Self Anchored Suspension Bridge

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
