

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-028660**Date Inspected:** 30-Oct-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:	William Sherwood and Fred Mich			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 12E-E2.1-C corner drop-in side plate outside, QA randomly observed ABF/JV qualified welder Mike Jimenez continuing to perform CJP groove welding repair at location Y=4900mm to Y=5700mm with excavation profile of 800mm long x 55mm wide x 10mm deep. The repair welding is being performed per Caltrans approved Request for Weld Repair (RWR) #201210-013. The welder was observed manually welding in the 4G (overhead) position utilizing Shielded Metal Arc Welding (SMAW) with 4.0mm diameter E7018H4R electrode implementing Caltrans welding procedure ABF-WPS-D15-1004 Repair. The second time repair excavation was preheated to more than 225 degree Fahrenheit using Miller Proheat 35 Induction Heating System with the heater blanket put in place on top of the side plate prior excavation. During the shift, ABF QC William Sherwood was noted monitoring the welder with measured working current of 170 amperes on the 4.0mm E7018H4R electrode and adjusted preheat temperature of 325°F during welding. During the shift, the welder has completed the welding repair mentioned above and performed the Post Weld Heat Treatment (PWHT) of 450°F and held it for one (1) hour after welding as required. After the completion of the PWHT, the welder has moved to another location Y=8920mm of the same OBG side plate and performed same welding repair as mentioned above. The new Y-location was having excavation dimensions of 720mm long x 55mm wide x 11mm deep. The welder performed the welding repair until the end of the shift wherein the repair was not completed.

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At OBG 12E-E2.1-C corner drop-in side plate outside, QA randomly observed ABF/JV qualified welder Wai Kit Lai continuing to perform CJP groove welding repair at location Y=2860mm to Y=38860mm with excavation profile of 1000mm long x 50mm wide x 11mm deep. The repair welding is being performed per Caltrans approved Request for Weld Repair (RWR) #201210-013. The welder was observed manually welding in the 4G (overhead) position utilizing Shielded Metal Arc Welding (SMAW) with 4.0mm diameter E7018H4R electrode implementing Caltrans welding procedure ABF-WPS-D15-1004 Repair. The second time repair excavation was preheated to more than 225 degree Fahrenheit using Miller Proheat 35 Induction Heating System with the heater blanket put in place on top of the side plate prior excavation. During the shift, ABF QC William Sherwood was noted monitoring the welder with measured working current of 160 amperes on the 4.0mm E7018H4R electrode and adjusted preheat temperature of 325°F during welding. At the end of the shift, the welder has completed the welding repair mentioned above and performed the Post Weld Heat Treatment (PWHT) of 450°F and held it for one (1) hour after welding as required.

At Tower elevation 135 and 139 meter, this QA randomly observed ABF/JV qualified welder Richard Garcia continuing to perform 1G/4G (flat/overhead) position Partial Joint Penetration (PJP) welding 6mm bent plate butt joint per Request for Information ABF-RFI-002642R01 dated December 6, 2011. The RFI pertains to the modification of the Tower Lift 4 Façade Seal Elevator interference. The welder was noted implementing the Option #3 and detail #3 of the RFI's attachment.

During welding, the welder was observed manually welding in 1G/4G (flat/overhead) positions utilizing self-shielded Flux Cored Arc Welding (FCAW-S) with 0.035" diameter E71T-11 wire electrode implementing Caltrans welding procedure ABF-WPS-D11-2044. ABF QC Fred Michels was noted on site monitoring the welder and his welding parameters with measured working current of 80 amperes and 16 volts. During the shift, two bent plates modification were done at north and west shafts of the Tower at elevation 135 meter and the welder has moved to elevation 139 meter and performed 4G (overhead) FCAW-S welding on the same bent/seal plate modification. The remaining modification of the same bent plates at higher elevation will continue tomorrow.

FW Spencer:

At Tower location elevation 53 meter, this QA randomly observed FW Spencer qualified welder Damian Llanos continuing to perform Complete Joint Penetration (CJP) 6G (all position) Shielded Metal Arc Welding (SMAW) welding root pass to cover pass on 2 1/2" and 4" domestic utility water line and compressed air line field splice butt joints. The welder was noted welding the butt joints on 2 1/2" and 4" diameter pipe respectively for domestic water and compressed air lines. 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 procedure FW Spencer WPS 1-12-1. The welder was noted preheating and removing the moisture of the joint using a portable propylene gas torch prior welding. During welding, ABF QC Steve Jensen was noted monitoring the parameters of the welder. At the end of the FW Spencer shift, CJP welding on two (2) 2 1/2" diameter domestic utility water line and two (2) 4" diameter compressed air line pipe joints were completed.

Line Service Pipe Size Panel Point Location Joint Designation

1. Domestic Water 2 1/2" 111 Northwest 58/2.5/111/NW
2. Compressed Air 4" 111 Northwest 58/4/111/NW

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3. Domestic Water 2 1/2" 113 Northwest 59/2.5/113/NW

4. Compressed Air 4" 113 Northwest 59/4/113/NW



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 Gary Thomas (916) 764-6027, who represents the Office of Structural Materials for your project.

Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Reyes, Danny

QA Reviewer
