

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-028697**Date Inspected:** 01-Nov-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 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 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=30000mm to Y=31080mm with excavation profile of 1000mm 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 not completed the welding repair mentioned above but performed the Post Weld Heat Treatment (PWHT) of 450°F and held it for one (1) hour after welding as required.

At Bike Path panel point PP107 to PP109, QA randomly observed ABF/JV qualified welder Lou Xiao Hua continuing to perform manual welding on the Partial Joint Penetration (PJP) hand rail post base plate to bike path plate and 8mm fillet welding all around tube steel hand rail post to base plate. The welder was noted utilizing a Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode. The PJP joint being welded has a

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45 degree groove with 8mm bevel depth. During welding, ABF Quality Control (QC) Barry Drake was also noted monitoring the welding parameters of the welder. During the shift, SMAW PJP/fillet welding on some of the hand rail post relocations were completed but the remaining joints still to continue tomorrow.

At OBG 1E/2E outside, this QA was requested by ABF Lead QC Bonifacio Daquinag to work with QC Inspector on the removal of welded temporary attachment to OBG bottom plate. The welded temporary attachment shims are located underneath the OBG particularly where the cross beams are bolted. During the initial inspection where access were available, welded temporary attachments at cross beams number 1 thru 3 along the East bound were noted having undercut that requires fixing through welding. This was brought to the attention of the Lead QC Bonifacio Daquinag and also Task Leader Danny Reyes. During the shift, ABF welder Gue Wu Chen has ground smooth the removal of some of the welded temporary attachment but skipped those that require welding. Together with ABF QC Bernie Docena, this QA performed visual inspection and Magnetic Particle Testing (MT) on the removal of some of the attachments. This should continue on all cross beams along the East and West bound.

FW Spencer:

At OBG location panel point PP106 to PP112, 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" weldolet to 4" diameter compressed air line field branch joints. The welder was noted welding the branch joints on 2" diameter weldolet to 4" diameter compressed air line. 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 three (2) 2" diameter weldolet to 4" diameter compressed air line pipe joints were completed and one was in-progress.

Line Service	Pipe Size	Panel Point	Location	Joint Designation
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- | | | | | |
|-------------------|----|----------|-----|------------------------|
| 1. Compressed Air | 2" | weldolet | 106 | Northwest 1/CA2/106/NW |
| 2. Compressed Air | 2" | weldolet | 108 | Northwest 1/CA2/108/NW |
| 3. Compressed Air | 2" | weldolet | 110 | Northwest 1/CA2/110/NW |
| 4. Compressed Air | 2" | weldolet | 112 | Northwest 1/CA2/112/NW |

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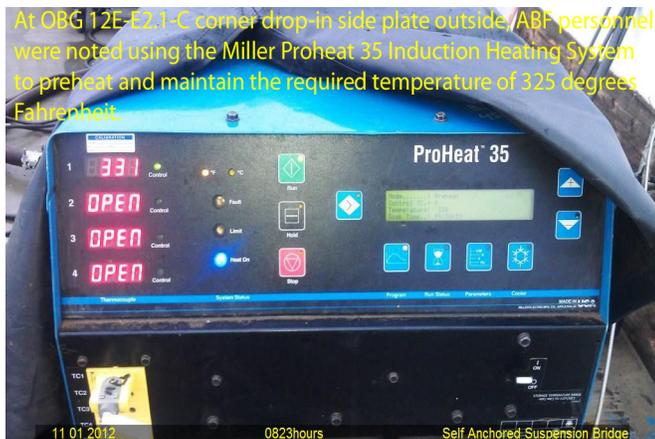
At location OBG12W panel point PP106 to PP112 grid line W2, FW Spencer welder Damian Llanos was observed continuing to perform 6G Shielded Metal Arc Welding (SMAW) production welding 2" diameter weldolet to 4" diameter compressed air line.



At Bike path location panel point PP107 to PP108, ABF welder Lou Xiao Hua was observed continuing to perform 2G/2F Shielded Metal Arc Welding (SMAW) welding railing post to base plate.



At OBG 12E-E2.1-C corner drop-in side plate outside, ABF personnel were noted using the Miller Proheat 35 Induction Heating System to preheat and maintain the required temperature of 325 degrees Fahrenheit.



At OBG 12E-E2.1-C corner drop-in side plate outside, ABF welder Wai Kit Lai was noted preheating the weld repair area using the propylene gas torch in addition to the Miller Proheat 35 Induction Heating System being used inside.

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