

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-028661**Date Inspected:** 31-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 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=8920mm to Y=9640mm with excavation profile of 720mm long x 55mm 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 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.

At OBG 12E-PP116.5-E5 deck access hole outside, QA randomly observed ABF/JV qualified welder Erick Sparks continuing to perform CJP groove welding repair on a Seismic Performance Critical Member (SPCM) due to Ultrasonic Testing (UT) detected defect on welded splice butt joint. The welder preheated the repair area and its vicinity to >225°F using propylene gas torch prior excavation and then ground smooth the groove of the

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excavation. After its completion, ABF QC Harry Scharein performed Magnetic Particle Testing (MT) on the removal of the defects with no relevant defect noted during the test. This QA also performed same test verification and noted same result.

The welder was noted using propylene gas torch to preheat the repair area and its vicinity to 325°F and as soon as the required temperature was attained the welder started performing the welding repair. Welder Erick Sparks was observed manually welding in 1G (flat) position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm and 4.0mm diameter E7018H4R electrode implementing Caltrans approved welding procedure ABF-WPS-D15-1004 Repair. Welder Mike Jimenez was noted welding at various Y locations. During welding, ABF QC Harry Scharein was noted monitoring the welder's welding parameter with measured working current of 130 amperes on the 3.2mm diameter E7018H4R electrodes. At the end of the shift, repair welding at the location mentioned above was completed and the welder has held performed the post weld heat treatment of 450°F on the completed repair using the Miller Proheat 35 Induction Heating System and held it for one hour as required.

Y-location Length Width Depth RWR# Remarks

- | Y-location | Length | Width | Depth | RWR# | Remarks |
|------------|--------|-------|-------|------|---------------------------|
| 1. | 3835mm | 84mm | 18mm | 12mm | 201210-040 R2- completed. |
| 2. | 3630mm | 75mm | 18mm | 11mm | 201210-038 R2- completed. |
| 3. | 3330mm | 65mm | 20mm | 11mm | 201210-037 R2- completed. |
| 4. | 3110mm | 70mm | 20mm | 11mm | 201210-036 R2- completed. |
| 5. | 2900mm | 70mm | 19mm | 8mm | 201210-035 R2- completed. |
| 6. | 2370mm | 105mm | 20mm | 12mm | 201210-033 R2- completed. |
| 7. | 2250mm | 105mm | 20mm | 12mm | 201210-032 R2- completed. |
| 8. | 1920mm | 101mm | 20mm | 12mm | 201210-029 R2- completed. |

At Bike Path panel point PP107 to PP109, QA randomly observed ABF/JV qualified welder Lou Xiao Hua 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 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.

FW Spencer:

At OBG location panel point PP105 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 1/2" and 4" domestic utility water line and compressed air line field splice butt joints and branch 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 one (1) 2

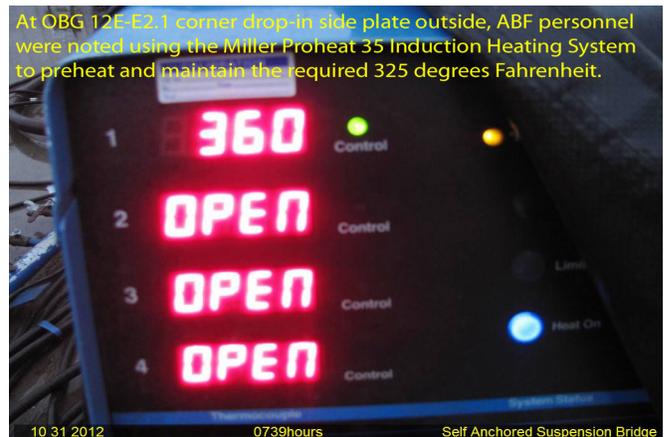
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1/2" diameter domestic utility water line, one (1) 4" diameter compressed air line pipe joints and two (2) 1" diameter weldolet branch joints were completed.

Line Service Pipe Size Panel Point Location Joint Designation

1. Domestic Water 2 1/2" 105 Northwest 55/2.5/105/NW
2. Compressed Air 4" 105 Northwest 55/4/105/NW
3. Domestic Water 1" weldolet 106 Northwest 1/DW1/106/NW
4. Domestic Water 1" weldolet 112 Northwest 1/DW1/112/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.

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Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Reyes, Danny

QA Reviewer