

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-028027
Date Inspected: 20-Jul-2012

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1930
Location: Job Site

CWI Name:	William Sherwood	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 Tower		

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 12W-W2.1 corner drop-in side plate 'C1' outside, QA randomly observed ABF/JV qualified welder Jin Pei Wang continuing to perform CJP groove (splice) back welding fill pass to cover pass on the splice butt joint from Y=11,000mm to Y=15,000mm. The welder was observed perform manual welding in the 4G (overhead) position utilizing a Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040C-Cu. The joint being welded has a single V-groove butt joint with copper backing bar that has been removed back gouged and ground. During welding, ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder with measured working current of 123 amperes. At the end of the shift, cover pass welding at location mentioned above was still continuing and should remain tomorrow.

At OBG 12E/13E LS1 longitudinal stiffener inside, QA randomly observed ABF welder Todd Jackson perform 3G (vertical) Shielded Metal Arc Welding (SMAW) complete joint penetration (CJP) welding fill pass on the stiffener splice butt joint. The stiffener plates being welded are made of high strength plate material HPS 485W and has a thickness of 30mm. The joint has a double 'V' joint preparation that is being welded from one side and after the completion from one side to be back gouged; Non Destructive Testing (NDT) tested using Magnetic Particle Testing (MT) and back welded to the other side. The welder was noted using E9018H4R with 1/8" diameter electrode implementing Caltrans approved welding procedure specification (WPS) ABF-WPS-D1.

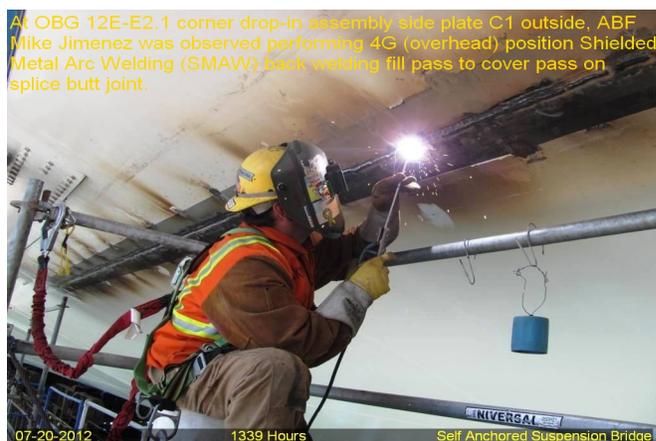
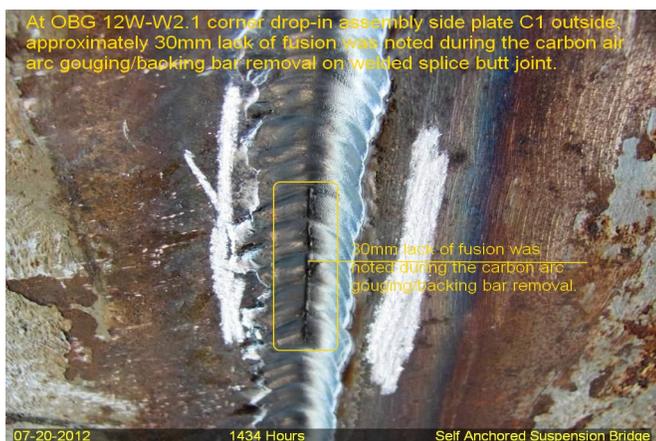
WELDING INSPECTION REPORT

(Continued Page 2 of 3)

5-1012-3. The splice joint was preheated to greater than 200 degrees Fahrenheit using Miller Proheat 35 Induction Heating System with the heater blanket located at the opposite side of the plate prior/during welding. The QA Inspector noted the ABF QC Salvador Merino was on site monitoring the in process preheats and welding parameters. Measured working current during welding was 130 amps on a 3.2mm E9018H4R electrode. During the shift, QA noted ABF QC Salvador Merino was closely monitoring the issuance of E9018H4R electrodes due to its limited exposure time allowed. Also during the shift, the welder left at noon due to medical appointment. The welder held the same preheat of $>200^{\circ}\text{F}$ on the splice butt joint for three hours after welding as required.

At OBG 12E-E2.1 corner drop-in side plate 'C1' outside, QA randomly observed ABF/JV qualified welder Mike Jimenez continuing to perform CJP groove (splice) back welding fill pass to cover pass on the splice butt joint from $Y=6,000\text{mm}$ to $Y=8,000\text{mm}$. The welder was observed perform manual welding in the 4G (overhead) position utilizing a Shielded Metal Arc Welding (SMAW) with 4.0mm diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040C-Cu. The joint being welded has a single V-groove butt joint with copper backing bar that has been removed back gouged and ground. During welding, ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder with measured working current of 180 amperes. At the end of the shift, cover pass welding at location mentioned above was still continuing and should remain tomorrow.

Other welding related activities noted during the shift include backing bar removal using carbon air gouging at 12E-E2.1 location $Y=20,000\text{mm}$ to $Y=23,000\text{mm}$ and 12W-W2.1 location $Y=20,000\text{mm}$ to $23,000\text{mm}$ of corner drop-in assembly top deck plates and side plate at 12W-W2.1-C1 from $Y=23,000\text{mm}$ to $Y=26,000\text{mm}$. All three back gouging/carbon arcing at respective locations were still continuing at the end of the shift and should remain tomorrow.



WELDING INSPECTION REPORT

(Continued Page 3 of 3)



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