

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-028732**Date Inspected:** 06-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:	Andrew Keech 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 2W-PP13.5-W2 deck access hole outside, QA randomly observed ABF/JV qualified welder Lou Xiao Hua continuing to perform CJP groove welding repair on a Non-Seismic Performance Critical Member (SPCM) due to Ultrasonic Testing (UT) detected defect on welded splice butt joint. Since these repairs are still first time repairs, Request for Weld Repair (RWR) is not yet required. The welder preheated the repair area and its vicinity to >150°F using propylene gas torch prior excavation and then ground smooth the groove of the excavation. After its completion, ABF QC Fred Michels 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 150°F and as soon as the required temperature was attained the welder started performing the welding repair. Welder Lou Xiao Hua was observed manually welding in 1G (flat) position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode implementing Caltrans approved welding procedure ABF-WPS-D15-1000 Repair. Welder Lou Xiao Hua was noted welding at various Y locations. During welding, ABF QC Fred Michels was noted monitoring the welder's welding parameter with measured working current of 125 amperes on the 3.2mm diameter E7018H4R electrodes. During the shift, repair welding was still continuing when observations were turned over to fellow QA Fritz Belford due to another job assignment at the tower.

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

Y-location	Length	Width	Depth	RWR#	Remarks	
1.	3515mm	150mm	40mm	11mm	N/A	3-repairs combined into one excavation. R1-in progress.
	3580mm					
	3620mm					
2.	4040mm	100mm	40mm	12mm	N/A	2 repairs combined into one excavation. R1- excavated.
	4080mm					
3.	1370mm	70mm	30mm	10mm	N/A	R1- excavated.

At Tower elevation 155 meters, QA randomly observed ABF welder Richard Garcia perform 8mm fillet welding between the Tower head cover and Tower head Chimney. The welder was noted welding in 2F (horizontal) position utilizing self-shielded Flux Cored Arc Welding (FCAW-S) with 0.072" diameter E71T-8 wire electrode implementing Caltrans Welding Procedure Specification (WPS) ABF-WPS-D15-F2200-2. Prior fillet welding, the paint coating on both sides of the joint was ground off and the plates were preheated to more than 150 degrees Fahrenheit. During the shift, QA noted ABF QC Andrew Keech was on site monitoring the in process preheats and welding parameters with measured working current of 330 amperes and voltage of 23 volts. At the end of the shift, fillet welding of the Tower head cover to Tower Chimney at West shaft south side and South shaft north side were completed.

At Tower elevation 155 meters, QA randomly observed ABF welder James Zhen perform 8mm fillet welding between the Tower head cover and Tower head Chimney. The welder was noted welding in 2F (horizontal) position utilizing self-shielded Flux Cored Arc Welding (FCAW-S) with 0.072" diameter E71T-8 wire electrode implementing Caltrans Welding Procedure Specification (WPS) ABF-WPS-D15-F2200-2. Prior fillet welding, the paint coating on both sides of the joint was ground off and the plates were preheated to more than 150 degrees Fahrenheit. During the shift, QA noted ABF QC Andrew Keech was on site monitoring the in process preheats and welding parameters with measured working current of 343 amperes and voltage of 23 volts. At the end of the shift, fillet welding of the Tower head cover to Tower Chimney at East shaft North side was completed and North shaft South side was still continuing.

FW Spencer:

At OBG location panel point PP20 to PP20.5, 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 4" diameter compressed air line field branch tie-in butt 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

WELDING INSPECTION REPORT

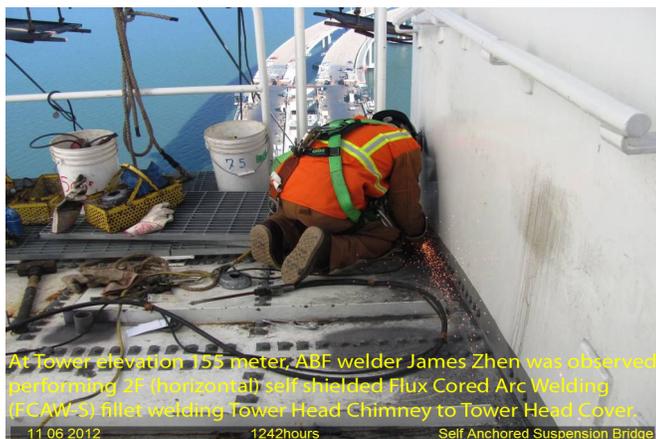
(Continued Page 3 of 3)

the FW Spencer shift, CJP welding on two (2) 4" diameter compressed air line pipe tie-in butt joints were completed.

Line Service Pipe Size Panel Point Location Joint Designation

1. Compressed Air 4" 20.5 Southwest 10.8/4/20.5/SW
2. Compressed Air 4" 20.0 Southwest 10.4/4/20./SW

At OBG 2W-PP13.5-W2 deck access hole outside, ABF QC Fred Michels was observed performing Magnetic Particle Testing (MT) on the repair excavation prior SMAW repair welding.



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
