

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

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-027933**Date Inspected:** 06-Jul-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:** Bernie Docena**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 Tower Base Electro Slag Weld (ESW) location 'V' face B (W-043), QA randomly observed ABF/JV qualified welder Han Wen Yu continuing to perform CJP groove welding repair. The welder was observed manually welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1000 Repair Rev. 2. The repair excavation was preheated and continuously maintained to more than 350 degree Fahrenheit using Miller Proheat 35 Induction Heating System prior/during welding. The ESW repair being welded is located at ESW 'V' face B, Y=250mm to Y=620mm was having dimensions of 370mm long X 60mm wide X 50mm deep is a continuation repair from face A due to linear indication that was left during previous MT. This repair has been approved per Request for Welding Repair (RWR) #201206-042. During the shift, ABF QC Bernie Docena was noted monitoring the welder with measured working current of 132 amperes. During the shift, repair welding at location mentioned above was completed. The welder held the same preheat of 350°F on the repair for three hours after welding as required.

Location	Weld No.	Y-dim.	Length	Width	Depth	Remarks
1. 'V'	W-043	250mm	370mm	60mm	50mm	Completed.

At Tower Base Electro Slag Weld (ESW) location 'E' face A (N-045), QA randomly observed ABF/JV qualified

# WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

welder James Zhen (who took over from Wai Kitlai) continuing to perform CJP groove welding repair. The welder was observed perform automatic welding in the 3G (vertical) position utilizing a Bug –o track mounted dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16” diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3000-3 Repair. The repair excavation was preheated and continuously maintained to more than 350 degree Fahrenheit using Miller Proheat 35 Induction Heating System prior/during welding. The ESW repair being welded is located at ESW ‘V’ face A, Y=7600mm to Y=9850mm having dimensions of 2250mm long X 60mm wide X 40mm deep. During the shift, ABF QC Bernie Docena was noted monitoring the welder with measured working current of 255 amperes, 23.2 volts with travel speed of 230mm per minute and calculated heat input of 1.54Kjoules per mm. At the end of the shift, 3G FCAW-G repair welding at location mentioned above was still continuing and should remain tomorrow. The welder held the same preheat of 350°F on the combined excavation repair for three hours after welding as required.

Location Weld No. Y-dim. Length Width Depth Remarks

1. 'E' N-045 7600mm 2250mm 60mm 40mm In progress.

At Tower Base Electro Slag Weld (ESW) location ‘T’ face A (S-043), QA randomly observed ABF/JV qualified welder Lou Xiao Hua continuing to perform CJP groove welding repair. The welder was observed manually welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1000 Repair Rev. 2. The repair excavation was preheated and continuously maintained to more than 350 degree Fahrenheit using Miller Proheat 35 Induction Heating System prior/during welding. The ESW repair being welded is located at ESW ‘T’ face A, Y=3710mm having dimensions of 160mm long X 50mm wide X 55mm deep has been approved per Request for Welding Repair (RWR) #201206-056. During the shift, ABF QC Bernie Docena was noted monitoring the welder with measured working current of 120 amperes. At the end of the shift, repair welding of the weld joint/location mentioned above was still continuing and should remain Monday. The welder held the same preheat of 350°F on the repair for three hours after welding as required.

Location Weld No. Y-dim. Length Width Depth Remarks

1. 'T' S-043 3710mm 160mm 50mm 55mm In progress.

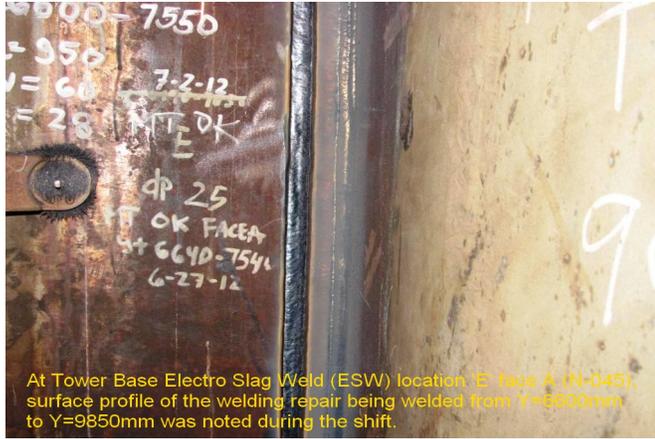


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# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

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## 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.

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**Inspected By:** Lizardo, Joselito

Quality Assurance Inspector

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**Reviewed By:** Levell, Bill

QA Reviewer