

**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-027159  
**Date Inspected:** 06-Feb-2012

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

**OSM Arrival Time:** 800  
**OSM Departure Time:** 1730  
**Location:** Job site

**CWI Name:** Salvador Merino  
**Inspected CWI report:** Yes No N/A  
**Electrode to specification:** Yes No N/A  
**Qualified Welders:** Yes No N/A  
**Approved Drawings:** Yes No N/A

**CWI Present:** Yes No  
**Rod Oven in Use:** Yes No N/A  
**Weld Procedures Followed:** Yes No N/A  
**Verified Joint Fit-up:** Yes No N/A  
**Approved WPS:** Yes No N/A  
**Delayed / Cancelled:** Yes No N/A

**Bridge No:** 34-0006**Component:** OBG 13/14 W**Summary of Items Observed:**

On this date, Quality Assurance Inspector (QAI) Robert A. DeArmond was present at the San Francisco Oakland Bay Bridge job site at Yerba Buena Island to observe erection and welding activities for the San Francisco Oakland Bay Bridge (SFOBB) project. This Quality Assurance Inspector (QAI) observed the following work performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below:

- A) Lifting Lug Holes
- B) Field Splice 13W-14W

## A). Lifting Lug Holes 13W (SPCM)

The QAI observed that welder Mike Jimenez, was welding multi-Pass fill and cover for lifting lug hole 13W PP12.5 W4 #4. This QAI observed that a copper plate was used as backing for this location as defined in Welding Procedure Specification (WPS) ABF-WPS-D15-1050A-CU. The QC inspector Steve Jenson verified the fit up for this location and found it to be acceptable, this information was relayed to the QAI. The welder then continued pre-heat throughout the area during welding using a propane type weed burner at 40 degrees Celsius (150 degrees F) which was verified using a tempstik and infrared gun by the QC. The welder was using the Shielded Metal Arc Welding (SMAW) electrode E7018 for the Complete Joint Penetration (CJP) weld in the flat (1G) position with 4.0 mm electrode for the fill pass with 185 amps and 3.2 mm electrode for the cover pass with 152 amps. The welder utilized a power grinder and power wire wheel for the interpass cleaning. The QC inspector for this location was Salvador Merino and was observed verifying and documenting the welding parameters for this location, along with overseeing the welding operations. At the time METS observation was performed. No issues were noted by the QAI.

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## WELDING INSPECTION REPORT

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The welder was grinding the starts and stops between weld layers to a bright metal. The location was still in process at the end of this QAI's shift.

### B). Field Splice 13W/14W

The QAI observed that welder Jeremy Dolman, was welding multi-Pass fill and cover pass at 13W-14W-F1 (side plate) in the vertical (3G) position. This QAI observed these parameters as defined in Welding Procedure Specification (WPS) ABF-WPS-D15-1000-Repair. The QC inspector Steve Jenson verified the excavation for repair for this location and found it to be acceptable, this information was relayed to the QAI. The welder then continued pre-heat throughout the area during welding using a propane type weed burner at 40 degrees Celsius (150 degrees F) which was verified using a tempstik and infrared gun by the QC. The welder was using the Shielded Metal Arc Welding (SMAW) electrode E7018 for the Complete Joint Penetration (CJP) weld in the vertical (3G) position with 3.2 mm electrode with 125 amps. The welder utilized a power grinder and power wire wheel for the interpass cleaning. The QC inspector for this location was Salvador Merino and was observed verifying and documenting the welding parameters for this location, along with overseeing the welding operations. At the time METS observation was performed. No issues were noted by the QAI.

The welder was grinding the starts and stops between weld layers to a bright metal. The location was still in process at the end of this QAI's shift.

### QA Observation and Verification Summary

The QA inspector observed the QC activities and the welding utilizing the WPS's as noted above, which appeared to be posted at the weld station. The welding parameters and surface temperatures were verified by the QC inspectors utilizing a Fluke 337 clamp meter for the electrical welding parameters and a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. The consumables utilized for the welding process stated appeared to comply with the AWS Specification and AWS Classification. The QC inspection, testing and welding performed on this shift appeared to be in general compliance with the contract documents. At random intervals, the QAI verified the QC inspection, testing, welding parameters and the surface temperatures utilizing various inspection equipment and gages which included a Fluke 337 Clamp Meter and Tempilstik Temperature indicators. Unless noted otherwise, all work observed on this date appeared to be in general compliance with the contract documents at the time of observations.



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**Summary of Conversations:**

As mentioned above between QA and QC concerning this project

**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 Nina Choy 510 385 5910, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	DeArmond,Robert	Quality Assurance Inspector
<b>Reviewed By:</b>	Levell,Bill	QA Reviewer

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