

**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-028547  
**Date Inspected:** 06-Oct-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:** 1530  
**Location:** Jobsite

<b>CWI Name:</b>	Fred Michels	<b>CWI Present:</b>	Yes	No
<b>Inspected CWI report:</b>	Yes No N/A	<b>Rod Oven in Use:</b>	Yes	No N/A
<b>Electrode to specification:</b>	Yes No N/A	<b>Weld Procedures Followed:</b>	Yes	No N/A
<b>Qualified Welders:</b>	Yes No N/A	<b>Verified Joint Fit-up:</b>	Yes	No N/A
<b>Approved Drawings:</b>	Yes No N/A	<b>Approved WPS:</b>	Yes	No N/A
		<b>Delayed / Cancelled:</b>	Yes	No N/A
<b>Bridge No:</b>	34-0006	<b>Component:</b>	OBG 12WEST	

**Summary of Items Observed:**

On this date, Quality Assurance Inspector (QAI) Rob 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:

12W PP112.5 W2.1 (R1 Weld Repair)

The QAI observed that welder 1556-Guo Wu Chen, was welding multi-Pass welds at 12W-PP112.5 Floor Beam Web Splice weld no. BW-2 in the vertical (3G) position. This QAI observed these parameters as defined in Weld Procedure Specification WPS-ABF-WPS-D15-1001-Repair. The QC inspector Fred Michels verified the joint geometry for these locations 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 tempilstik 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 overhead (3G) position with 3.2 mm electrode with 124.3 amps. The welder utilized a power grinder and power wire wheel for the interpass cleaning. The QC inspector for this location was Fred Michels 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

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## WELDING INSPECTION REPORT

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12W PP112 W2.1

The QAI observed that welder 9340-Jin Quan Huang, was welding multi-Pass welds at 12W-PP112 Floor Beam Web Plate Splice, weld no.BW-1 and BW-2 in the vertical (3G) position. Following QAI observation, it was apparent welder Jin Quan Huang performed weld excavation and welding of welds previously accepted by QC. This was discussed with QC NDE personnel and based on conversation weld BW-1 and BW-2 was previously accepted by QC and only contained recordables, as designated on the base metal near the weld joint. Task Leader Danny Reyes was notified of condition, and informed QAI to verify joint type, and to notify QC as well as WPS. Following review, this joint is designated as SPCM / FCW.

This QAI observed these parameters as defined in Weld Procedure Specification WPS-ABF-WPS-D15-1004-Repair. The QC inspector Fred Michels verified the joint geometry for these locations 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 tempilstik 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 126.2 amps. The welder utilized a power grinder and power wire wheel for the interpass cleaning. The QC inspector for this location was Fred Michels and was observed verifying and documenting the welding parameters for this location, along with overseeing the welding operations.

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

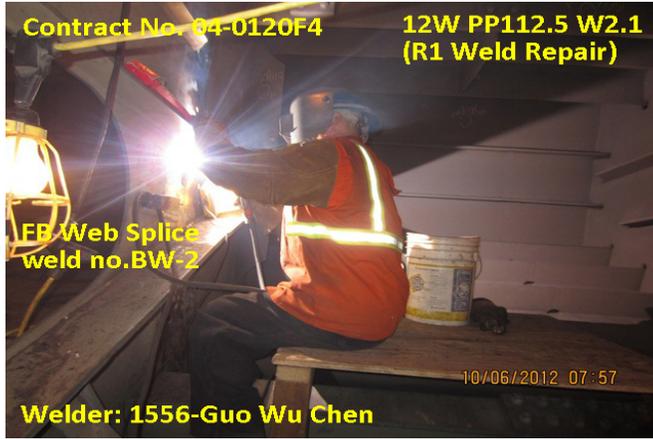
The QA inspector observed the QC activities and the welding utilizing the WPS's as noted above, which appeared to be posted at the weld station. The welding parameters and surface temperatures were verified by the QC inspectors utilizing a Fluke 337 clamp meter for the electrical welding parameters and 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 Gary Thomas (916) 764-6027, who represents the Office of Structural Materials for your project.

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**Inspected By:** DeArmond, Robert

Quality Assurance Inspector

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**Reviewed By:** Levell, Bill

QA Reviewer