

**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-027111**Date Inspected:** 28-Jan-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1200**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** See Below**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:** OBG**Summary of Items Observed:**

At the start of the shift this Quality Assurance Lead Inspector (QAI) traveled to the SAS project site and observed the work and the inspection performed by American Bridge/Fluor Enterprises (AB/F) Quality Control (QC) personnel. The observations and inspections were performed as noted below:

A). This Quality Assurance Lead Inspector (QALI) assigned the QA Inspectors to the following, but not limited to the work station(s) listed, to observe the welding and the QC inspection of the following:

Doug Frey-OBG E13 (Observation of production welding and QC inspection of the lifting lug holes) and OBG E12/E13 (Observation of welding and QC inspection of the deck plate identified as "A4") and OBG field splice E13/E14 (Observation of the welding and QC inspection of the deck splice identified as "A4") and QA/NDE verification.

Ken Riley-OBG W12 and W13 (Observation of production welding, repair welding and QC inspection of lifting lug holes), OBG field splice W12/W13 (Observation of production welding, repair welding and QC inspection of deck plate "A5" and bottom plate splice "D2-R4", See Note), OBG field splice W13/W14 (Observation of the welding and QC inspection of the side and edge plate splices identified as "E2" and "F1" accordingly) and QA/NDE verification.

QALI Note:

This repair identified as 12W-13W-D2, R4 was approved by Structural Materials Representative (SMR) Bahjat

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Dagher on Friday, January 27, 2012.

No work on the Skway

NOTE: See QA daily Weld Inspection Reports (WIR) and NDE reports for additional information and details.

## Quality Assurance Lead Inspector (QALI) Summary

This QA Lead Inspector (QALI) observed the QA Inspector's Douglas Frey and Ken Riley monitor the work performed by the QC inspectors at random intervals and also observed the QA Inspectors verify the welding parameters, the minimum preheat and the maximum interpass temperatures for compliance with the contract specifications. The QAI's utilized a Fluke 337 clamp meter to measure the electrical welding parameters, Tempil Heat Indicators and/or a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. At the conclusion of the shift, this QA Lead Inspector discussed and reviewed the work performed by the QAI's in regards to the various observations and the verifications of the WPS's, consumables, welding parameters, preheat and interpass temperatures. The QAI observations of the QC inspection and verification of the welding parameters performed on this date appeared to comply with the contract specifications and no issues were noted.

## OBG Field Splice W12/W13 (SPCM)

This QAI also observed the welder Richard Garcia ID # 5892 perform the CJP welding of the weld joint identified as WN: 12W-13W-A5. The Flux Cored Arc Welding w/gas (FCAW-G) welding process was utilized as per the WPS identified as ABF-WPS-D15-3110-4, Rev. 0. The QC inspector, Sal Merino, monitored the work and the welding performed on this date utilizing the WPS as a reference. The welding parameters were noted by the QC inspector and verified by this QAI as follows: 271 amps, 23.7 volts and a travel speed measured as 150 mm/m. This QAI also observed the QC inspector verify the minimum preheat temperature of 60 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius. The welding was performed in the overhead position (4G) with the work positioned approximately in a horizontal plane and the weld metal to be deposited from the underneath side. The welding and QC inspection appeared to comply with the contract specifications.

## QA Summary

The QC inspection and welding performed on the "A" deck field splices (SPCM) was observed at random intervals by this QA Inspector. The QAI observations included verification of the welding parameters, the minimum preheat and the maximum interpass temperatures for compliance with the contract specifications. This QAI utilized a Fluke 337 clamp meter to measure the electrical welding parameters, Tempil Heat Indicators and/or a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. The random observations, verifications of the welding and QC inspection, WPS's, consumables, welding parameters, preheat and interpass temperatures appeared to comply with the contract specifications.

This QA Inspector continued the daily review of field inspection reports and update of the field document control tracking records regarding the Orthotropic Box Girders (OBG, Longitudinal and Transverse "A" Deck Stiffeners, Deck Access Holes and the Tower Shear plates).

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# WELDING INSPECTION REPORT

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**Summary of Conversations:**

There were general conversations with Quality Control Lead Inspector, Bonifacio Daquinag, Jr., at the start of the shift regarding the location of welding, inspection personnel scheduled for this shift.

**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>	Reyes,Danny	Quality Assurance Inspector
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<b>Reviewed By:</b>	Levell,Bill	QA Reviewer
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