

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-026757**Date Inspected:** 22-Nov-2011**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:** Jobsite**CWI Name:** As noted 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:** SAS OBG**Summary of Items Observed:**

Quality Assurance Inspector (QA) Douglas Frey was at the American Bridge/Fluor (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

1. 14W/PP126.7/W3.7 Vent Hole Repair (Exterior)
2. 14W/PP125.2/W3.2 Vent Hole (Exterior)
3. 14W/PP128/W3/W1 Lifting Lug Hole Repair (Exterior/Interior)
4. 14W/PP125.7/W3.7 Vent Hole (Exterior)

Orthotropic Box Girder (OBG) section: The QC Documents observed being used by this QA Inspector for the following weld joints appeared to be designated as Seismic Performance Critical Members (SPCM).

1. 14W/PP126.7/W3.7 Vent Hole (Exterior)

This QA Inspector randomly observed ABF welder Jorge Lopez performing the repair welding operation of an excavation as per the Shielded Metal Arc Welding (SMAW) process in the (1G) flat position on "A" deck Vent Hole at the above named location. This QA Inspector observed the use of E7018-H4R electrodes and QC Inspector Sal Merino verify that the preheat temperature was at the minimum of 10 degrees C and that the welding parameters were in accordance with WPS D1.5-1004- Repair. Upon completion of the repair, PWHT was performed at the specified temperature for a period of 1 hour.

WELDING INSPECTION REPORT

(Continued Page 2 of 4)

14W/PP126.2/W3.7 Vent Hole (Exterior)

This QA Inspector observed QC Inspector Sal Merino utilize a Bridge Cam Gage to measure the fit-up of the 20 mm plate in the B-U-4a joint on vent hole 14W/PP126.2/W3.7. This QA Inspector verified the fit-up as acceptable and employed a 65°C Tempilstik to ensure the minimum pre-heat temperature had been achieved. This QA Inspector randomly observed ABF welder Jorge Lopez (welder ID 6149) performing the Shielded Metal Arc Welding (SMAW) process in the (1G) flat position and observed the QC Inspector verify the welding parameters were in accordance with the above mentioned WPS. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work was completed on this date and appeared to be in general compliance with the approved WPS and the contract specifications.

2. 14W/PP125.2/W3.2 Vent Hole (Exterior)

This QA Inspector made random observations of ABF welder Mike Jimenez (ID 4671) perform the Shielded Metal Arc Welding process (SMAW) in the 1G flat position on Vent Hole (VH) 14W/PP125.2/W3.2. This QA Inspector observed QC Inspector Sal Merino measure the pre-heat temperature to verify a minimum of 10°C was achieved. This QA Inspector also observed the QC Inspector monitoring the welding and verifying that the parameters were in compliance pertaining to ABF-WPS-D15-1050A-CU. The parameters were recorded as (Amperes=235) utilizing a 4.0 mm E7018-H4R electrode. During in process welding, this QA Inspector noted that the QC Inspector measured the inter-pass temperatures to maintain a heat range below 230°C. This QA Inspector made subsequent observations during the shift and noted that the work was completed on this date and appeared to be in general conformance to the contract specifications.

3. 14W/PP128/W3/W1 Lifting Lug Hole Repair (Exterior)

This QA Inspector randomly observed ABF welder Mike Jimenez performing the back-gouge operation of an ultrasonic rejectable indication on "A" deck Lifting Lug Hole 14W/PP128/W3/W1 located at "Y" 370 mm: (20 mm wide; 80 mm length; and 12 mm in depth). This QA Inspector observed QC Inspector Sal Merino perform a Magnetic Particle Inspection (MT) of the excavation to determine the soundness of the metal. Upon completion of the testing this QA Inspector verified that no rejectable indications were present.

This QA Inspector randomly observed ABF welder Mike Jimenez (Welder ID 4671) performing the repair welding operation of an ultrasonic indication as per the Shielded Metal Arc Welding (SMAW) process in the (1G) flat position on "A" deck Lifting Lug Hole 14W/PP128/W3/W1. This QA Inspector observed the use of E7018-H4R electrodes and QC Inspector Sal Merino verify that the preheat temperature was at the minimum of 10 degrees C and that the welding parameters (Amps=135) were in accordance with WPS D1.5-1004- Repair. The welding parameters observed at this location appeared to be in general compliance with approved WPS and the contract specifications. Upon completion of the repair, a thermal induction blanket was placed over the area for Post Weld Heat Treatment (PWHT) at 450 degrees F for 1 hour.

(Interior)

This QA Inspector randomly observed ABF welder Mike Jimenez performing the back-gouge operation of an ultrasonic rejectable indication on "A" deck Lifting Lug Hole 14W/PP128/W3/W1 located at "Y" 220 mm: (15

WELDING INSPECTION REPORT

(Continued Page 3 of 4)

mm wide; 100 mm length; and 7 mm in depth) on the Interior of the OBG. This QA Inspector observed QC Inspector Sal Merino perform a Magnetic Particle Inspection (MT) of the excavation to determine the soundness of the metal. Upon completion of the testing this QA Inspector verified that no rejectable indications were present.

This QA Inspector randomly observed ABF welder Mike Jimenez performing the repair welding operation of an excavation as per the Shielded Metal Arc Welding (SMAW) process in the (4G) overhead position on “A” deck lifting lug hole 14W/PP128/W3/W1. This QA Inspector observed the use of E7018-H4R electrodes and QC Inspector Sal Merino verify that the preheat temperature was at the minimum of 10 degrees C and that the welding parameters (Amps=135) were in accordance with WPS D1.5-1004- Repair. Upon completion of the repair, PWHT was performed at the specified temperature for a period of 1 hour.

4. 14W/PP125.7/W3.7 Vent Hole (Exterior)

This QA Inspector observed QC Inspector Sal Merino utilize a Bridge Cam Gage to measure the fit-up of the 20 mm plate in the BU-4a joint on vent hole 14W/PP125.7/W3.7. This QA Inspector verified the fit-up as acceptable and employed a 65°C Tempilstik to ensure the minimum pre-heat temperature had been achieved. This QA Inspector randomly observed ABF welder Jorge Lopez (welder ID 6149) performing the Shielded Metal Arc Welding (SMAW) process in the (1G) flat position and observed the QC Inspector verify the welding parameters were in accordance with the above mentioned WPS. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work was completed on this date and appeared to be in general compliance with the approved WPS and the contract specifications.

This QA Inspector generated a TL-15 on this date pertaining to Lifting Lug Hole 14W/PP128/W4/W4.

Note: The QAI reviewed the observations and inspection with QA Lead Inspector, Daniel Reyes, written in this report. No issues were noted by the QAI and the QA Lead Inspector concurs with the QA report.

Summary of Conversations:

The were no pertinent conversations to report.



WELDING INSPECTION REPORT

(Continued Page 4 of 4)

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.

Inspected By:	Frey,Doug	Quality Assurance Inspector
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Reviewed By:	Levell,Bill	QA Reviewer
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