

**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-028075**Date Inspected:** 31-Jul-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1930**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**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:

## 13E/14E-LS8-DSF (Interior)

This QA Inspector made random observations of the fit-up operations for the Deck Stiffener Flanges (DSF) for the longitudinal Stiffener (LS) at 13E/14E-LS8-DSF on the interior of the OBG. Quality Control Inspector Salvador Merino was observed measuring the fit and alignment of the pieces and found them to be acceptable. Upon completion of the fit-up, ABF-WPS-D1.5-1162-4 was observed to be un-approved. This QA Inspector randomly observed ABF/JV qualified welder Wai Kit Lai #2953 perform the Shielded Metal Arc Welding (SMAW) process in the 4G overhead position on the Partial Joint Penetration (PJP) TC-P4 joint of the DSF to LS-8. The welder was observed using E9018-H4R electrodes which this QA Inspector verified were obtained from a new container. The QC Inspector was observed monitoring the welding and the parameters as they pertain to ABF-WPS-D1.5-1162-4. On subsequent observations by this QA Inspector it was noted that between passes the work was cleaned as QC measured the inter-pass temperatures. The work progress throughout the remainder of the shift with an un-approved WPS and a TL-15 was generated on this date. The work was noted to be in progress.

## 12E/13E-B1 (Interior)

This QA Inspector at random intervals, observed QC Inspector Salvador Merino perform Magnetic Particle (MT)

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inspection of the back-gouge of 12E/13E-B1 on the interior of the OBG. The QC Inspector reported no indications were found and ABF/JV qualified welder Jim Quan Huang #9340 commenced welding using the SMAW process in the 3G vertical position implementing Cal-Trans approved WPS ABF-WPS-D1.5-1040-Revision 1. It was noted that between passes the welder ground the stop/start edges of the work for a smooth transition as QC was present to measure inter-pass temperatures. This QA Inspector randomly observed the welder throughout the shift and on a subsequent observation; the work progressed without incident and was in progress. The work at this location was found to be satisfactory and appeared to be in general compliance with the contract specifications.

### 12E-E2.1-C1.1 (Exterior)

This QA Inspector randomly observed ABF/JV qualified welder Chau Tran #3139 perform the Shielded Metal Arc Welding process in the 2G horizontal position of the B-U2a Complete Joint Penetration (CJP) splice on 12E-E2.1-C1 on the exterior of the OBG. QC Inspector Salvador Sandoval verified prior to the start of welding that the pre-heat temperature was in compliance with ABF-WPS-D1.5-1040C-CU. This QA Inspector observed the welder utilizing E7018-H4R electrodes at amperage of 129 and witnessed the cleaning of the joint between passes as QC measured the inter-pass temperatures. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that there were no issues at this location and appeared to be in general conformance with the contract specifications.

### 12E-E2.1 (Interior)

This QA Inspector randomly observed ABF/JV qualified welder Wai Kit Lai #2953 using the Flux Core Arc Welding (FCAW) process in the 4G overhead position on 12E-E2.1 on the interior of the OBG. This QA Inspector observed QC Inspector Salvador Merino verify prior to the start of welding operations, that the minimum preheat temperature as per the approved WPS was established; and afterwards verified that the welding parameters (Amps, Volts and Travel Speed) were in accordance with ABF-WPS-D1.5-1-3110-4. The welder was observed grinding and blending the start/stop edges of the work utilizing a small disc grinder and compressed air in between passes as QC measured the inter-pass temperatures with an infra-red temperature gun. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work at this location was in progress and appeared to be in general conformance with the contract documents.

### QC UT (Exterior)

This QA Inspector randomly observed QC Inspector Jesse Cayabyab at 13E-E2.2, and Andrew Keech at 13E-E2.8 performing Ultrasonic Testing (UT) on the exterior of the OBG. The QC Inspectors were observed scanning from each side of the weld and the scanning pattern as described in D1.5 6.24. The QC Inspectors were noted as identifying rejectable indications and the work at these locations is ongoing and appeared to be in general conformance with the contract documents and SE-UT-D1.5-CT-100-Revision 4.

### **Summary of Conversations:**

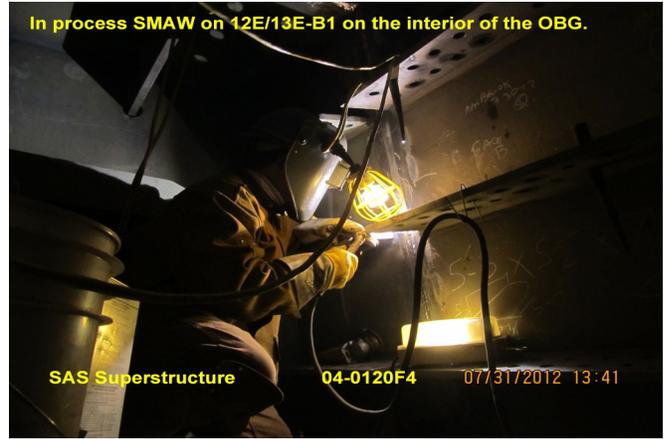
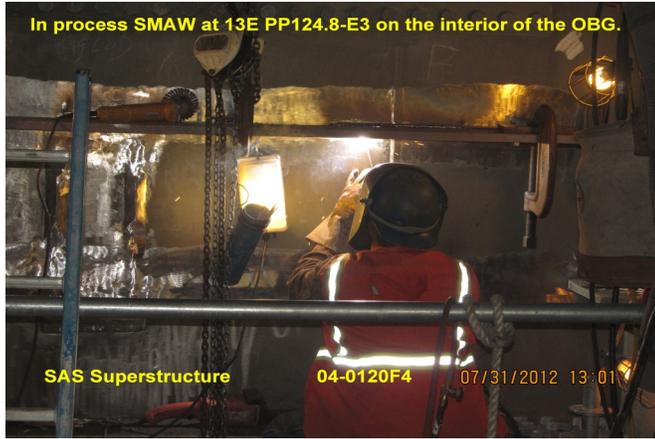
Discussed welder assignments and locations with Quality Control Inspector Salvador Merino.

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## 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>	Frey,Doug	Quality Assurance Inspector
<b>Reviewed By:</b>	Levell,Bill	QA Reviewer

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