

**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-026325**Date Inspected:** 21-Sep-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Pat Swain**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 Sections**Summary of Items Observed:**

This Quality Assurance (QA) Inspector, Craig Hager was on site at the job site between the times noted above. This QA Inspector was on site to randomly observe Quality Control (QC) personnel perform Non-Destructive Testing (NDT) and monitor American Bridge/Fluor (ABF) welding operations. This Quality Assurance (QA) Inspector, Craig Hager observed the following.

Self Anchored Suspension (SAS) Tower, Electro Slag Welding (ESW):

ESW weld location R -face A: This QA Inspector observed ABF welding personnel Richard Garcia (#5892) using the Shielded Metal Arc Welding (SMAW) process at repair weld location Y-1400 to Y-1740. This QA Inspector observed the original excavation was documented on the adjacent base metal as being 330 mm long, 55 mm wide and 20 mm deep. This QA Inspector observed the excavation was approximately 90% filled at 0730 hours this date. This QA Inspector observed the induction heating equipment was positioned on the outside (face B) of the weld for preheating. This QA Inspector also observed ABF welding personnel Richard Garcia (#5892) using a gas torch to preheat the adjacent base metals due to the configuration of the weld joint. This QA Inspector observed a temperature indicating marker was used to verify the minimum preheat temperature of 400°F. This QA Inspector observed QC Inspector Salvador Merino verify the following welding parameters; 120 amperes. This QA Inspector observed a 3.2 mm diameter E7018H4R electrode was being used. The welding observed this date appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-1000 Repair and a directive QC personnel had from QC Manager Jim Bowers specifying a 400°F preheat was to be used.

This QA Inspector was informed by Lead QC Inspector Bonifacio Daquinag Jr. that several Lifting Lug Holes

---

---

# WELDING INSPECTION REPORT

( Continued Page 2 of 2 )

---

---

(LLH) at various locations had been inspected and accepted by QC personnel therefore ready for QA inspection.

9W-PP79-W4 LLH # 2 and # 3: This QA Inspector performed a visual verification on LLH # 2 and # 3 and observed LLH # 2 appeared to comply with the contract requirements, LLH # 3 had several areas of undercut which were in excess of the acceptance criteria. This QA Inspector observed QC Inspector Pat Swain was the QC Inspector who had performed and accepted the visual inspection according to the markings adjacent to the weld. This QA Inspector asked QC Inspector Pat Swain to re-examine the weld. QC Inspector Pat Swain informed this QA Inspector he concurred with the findings and the undercut was in excess of the requirements. QC Inspector Pat Swain marked the various areas for repair. This QA Inspector proceeded with performing Magnetic Particle Testing (MT) on LLH # 2 for approximately 25% of the overall weld length. The MT verification appeared to comply with the contract requirements.

9W-PP80-W4 LLH # 3: This QA Inspector performed a visual and MT verification on LLH # 3. The work observed appeared to comply with the contract requirements.

11W-PP92-W3 LLH #1 and #2: This QA Inspector performed a visual and MT verification on LLH # 1 and # 2. The work observed appeared to comply with the contract requirements.

### Summary of Conversations:

This QA Inspector had general conversations with American Bridge/Fluor (ABF) and Caltrans personnel during this shift. Except as described above and noted above there were no notable conversations.

### 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.

---

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

---