

**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 #: 1x.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-014330**Date Inspected:** 21-May-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1100**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1800**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Tony Sherwood**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 to monitor American Bridge/Fluor (ABF) welding operations.

The following observations were made:

1) At weld joint E5/E6-A1 thru A5: ABF welding personnel Danny Ieraci (#3232) and Jordan Hazelaar (#2135) were performing Submerged Arc Welding (SAW) with QC personnel Tony Sherwood and Bonifacio Daquinag Jr. present.

2) At weld joint E3/E4-C This QA Inspector observed ABF welding personnel Rick Clayborn (#2773) was performing repair welding using the Shield Metal Arc Welding (SMAW) process with QC Inspector Steve McConnell present.

At weld joint E5/E6-A1 thru A5 this QA Inspector observed ABF welding personnel Danny Ieraci (#3232) had completed approximately 25% of the first Submerged Arc Welding (SAW) pass which had started at the center of weld section A3 and was progressing towards weld section A2. This QA Inspector observed QA Inspector Rick Bettencourt and QC Inspector Tony Sherwood were present.

This QA Inspector observed two SAW welding unit located inside the shelter but that only one was in operation at this time. This QA Inspector, Craig Hager received a turnover from QA Inspector Rick Bettencourt and randomly

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monitored the welding at this location for the duration of the shift.

This QA Inspector observed after ABF welding personnel Danny Ieraci (#3232) had completed the first SAW weld pass from the center section of A3 to A1, grind the previous SAW start at the center of section A3 and proceeded SAW welding from section A3 to A5 using the other SAW equipment inside the shelter. This QA Inspector randomly observed as QC Inspector Tony Sherwood verified the following welding parameters; 555 amperes and 32.3 volts at a travel speed of 368 mm per minute. The welding observed appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-4042B-1. Upon completion of the first SAW weld pass this QA observed various ABF personnel remove any slag and flux that had not previously been removed in preparation for QC personnel to perform a visual inspection and Magnetic Particle Testing (MT) of the first SAW pass.

This QA Inspector randomly observed QC personnel Tom Pasqualone and Bonifacio Daquinag Jr. perform a visual inspection and MT inspection on the first SAW weld pass starting at the center section of A3 and progress towards section A1. This QA Inspector observed a MT Yoke was used to induce an Alternating Current (AC) magnetic field into the weld and surrounding base material. This QA Inspector randomly observed the location of the Yoke was turned approximately 90 degrees from the initial starting point of inspection and the area re-inspected as required to produce a magnetic field in opposing directions. The technique of the MT inspection appeared to comply with the contract requirements. This QA Inspector observed QC Inspector Tom Pasqualone and/or Bonifacio Daquinag Jr. mark several areas for grinding. The areas marked for grinding appeared to be areas containing a contour which could prevent fusion of subsequent weld passes. This QA Inspector randomly observed as ABF personnel ground the areas marked by QC personnel and QC Inspector Bonifacio Daquinag Jr. re-inspected the areas. Upon completion of the visual and MT inspections at this section of the weld this QA Inspector performed a random visual verification observing the work appeared to comply with the contract requirements.

This QA Inspector randomly observed QC Inspector Tony Sherwood perform a visual inspection and MT on the remaining half of the first SAW weld pass from the center section A3 to A1. This QA Inspector observed a MT Yoke was used to induce an Alternating Current (AC) magnetic field into the weld and surrounding base material. This QA Inspector randomly observed the location of the Yoke was turned approximately 90 degrees from the initial starting point of inspection and the area re-inspected as required to produce a magnetic field in opposing directions. The technique of the MT inspection appeared to comply with the contract requirements. This QA Inspector observed QC Inspector Tony Sherwood mark several areas for grinding. The areas marked for grinding appeared to be areas containing a contour which could prevent fusion of subsequent weld passes. This QA Inspector randomly observed as ABF personnel ground the areas marked and QC Inspector Tony Sherwood re-inspected the areas. Upon completion of the visual and MT inspections at this section of the weld this QA Inspector performed a random visual verification observing the work appeared to comply with the contract requirements.

This QA Inspector observed both ABF welding personnel Danny Ieraci (#3232) and Jordan Hazelaar (#2135) were present to start the second SAW weld pass at weld joint E5/E6-A1 thru A5. Welding personnel Danny Ieraci (#3232) started at the center of weld section A3 and progressed towards A1 as ABF welding personnel Jordan Hazelaar (#2135) started at the same location and progressed towards weld section A5. This QA Inspector observed QC Inspector Tony Sherwood was present and monitoring Jordan Hazelaar (#2135) and QC Inspector

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Bonifacio Daquinag Jr. was present and monitoring Danny Ieraci (#3232). Please see photo below welding in progress.

By the end of the shift this QA Inspectors observed welding was approximately 75-80 % complete at weld joint E5/E6-A1 thru A5 this date.

At weld joint E3/E4-C this QA Inspector randomly observed QC Inspector Steve McConnell monitoring the excavation of a repair and the welding. This QA Inspector randomly observed as ABF personnel used a grinder to excavate an area rejected by QC during the Ultrasonic Testing of the weld. This QA Inspector was informed by QC Inspector Steve McConnell he had performed and accepted a visual and MT inspection of the excavation prior to the start of welding. This QA Inspector randomly observed ABF welding personnel Rick Clayborn (#2773) using the Shielded Metal Arc Welding (SMAW) process and QC Inspector Steve McConnell verify the following welding parameters; 120 amperes using a 3.2 mm diameter E7018 electrode. The work observed and welding appeared to comply with WPS - ABF-WPS-D15-1001-Repair.



### Summary of Conversations:

As noted above.

### 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 Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

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

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