

**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-029920**Date Inspected:** 14-Aug-2013**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:** Job Site**CWI Name:** Bernie Docena, Jesse Cayabyab**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 Tower**Summary of Items Observed:**

Caltrans Quality Assurance Inspector (QA) Joe Adame arrived at the American Bridge/Fluor (ABF) JV job site between the times noted above in order to monitor ABF Quality Control functions and the in process work being performed by ABF production personnel. The following items were observed:

**In Process Visual Inspection**

RWR201305-009

ESW W-043, Location "V"-Face B

The QA Inspector observed ABF welder Mike Jimenez (WID-4671) performing Shield Metal Arc Welding (SMAW) of the repair excavation on Electroslag Weld (ESW) "V", at face B. Locations are listed as detailed in Request for Weld Repair (RWR) 201305-009 from Ultrasonic Testing indications designated for repair. Repair locations were noted as:

Y= 5000~5400mm

L= 450mm

W= 90mm

D= 78mm

Prior to welding, the welder was observed preheating the weld to over 300° Fahrenheit prior to welding using the Miller ProHeat 35 with heat induction blankets. The welder was using 4.0mm diameter electrode (E7018-1 HR4) per ABF Welding Procedure Specification (WPS) ABF-WPS-D15-1000-Repair Rev.3. The welding parameters were verified by the QC Inspector with a Fluke 337 current clampmeter and preheat was verified with temperature indicators. QC performed welding parameters verifications at random intervals throughout the shift. The welding observed appeared to be in compliance with the WPS noted above.

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## WELDING INSPECTION REPORT

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NDT Inspection of Electroslag Welds (ESW)

RWR-201308-002

ESW N-043, Location "P"- Face A:

The QA Inspector observed ABF QC Inspector Jesse Cayabyab performed Ultrasonic Testing (UT) on Tower Electroslag Complete Joint Penetration (CJP) shear plate weld designated as ESW "P" at face A. Mr. Cayabyab stated that he was instructed by ABF to perform pulse echo UT to document the depths and indications prior to repair (pre-repair verification). The areas will be reinspected after SMAW repairs. The original Y locations were indications identified with pitch/catch UT as rejectable or recordable and designated to be removed and repaired. Y Locations were noted as – 1390mm, 1690mm, 3750mm, 3770mm and additional HAZ areas located 300mm above and below the prosed repair locations.

QC/QA did not observe any rejectable indications with pulse echo UT.

QC/QA observed seven recordable indications with pulse echo UT.

QA also performed UT of the above mentioned ESW location in accordance with the ABF approved supplemental procedure for confirmation and evaluation of planar and transverse type defects. Tandem report for work performed on this date will be completed by QC Inspector Jesse Cayabyab and signed by both QA/QC parties. Items listed on tandem report reflect indications agreed upon by QA/QC. See TL-6027 for additional details on the items inspected on this date.

Repair excavation

ESW E-043,"Q"-Face A:

RWR201308-003

The QA Inspector was later present to observe ABF welder Donald Plumb (WID-0891) performing excavation of ESW "QF" Face A @ Y-3390mm~3760mm to verify indications observed during Ultrasonic Testing with pulse/echo & pitch/catch method. Mr. Plumb was performing air carbon arc gouging and grinding on the excavation. ABF QC Inspector Bernie Docena was present monitoring the repair work in progress. Location of the repair is as follows:

Weld excavated at 35mm dp- Linear indication @3490, X=-4, L= 8mm, transverse indication @3600

Weld excavated at 43mm dp- two transverse indications @3600

Excavation Length Y=3390mm~3760mm, L-370mm (Excavation work in progress to be continued on the next work shift)

After grinding to bright metal the QC Inspector and the QA Inspector performed MT testing of the excavation to inspect for weld discontinuities at each hold point. See TL-6028 for additional details on items inspected on this date.

Base material excavation

ESW N-045,"E"-Face B:

RWR201307-010

The QA Inspector was informed by ABF QC Inspector Bernie Docena that ABF have performed an excavation of the diaphragm(floor) @6000mm. The excavation was a 60mm cope hole at ESW "E" Face B for future weld removal/repair access. The base material was removed on 8/8/13. The QA Inspector relayed the information to Tower SMR Aaron Prchlik for verification if removal of the base material had been reviewed and approved.

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# WELDING INSPECTION REPORT

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## Summary of Conversations:

Only general conversations with ABF/JV QC NDT personnel relevant to work and testing performed during 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 Gary Thomas (916) 764-6027, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Adame,Joe	Quality Assurance Inspector
<b>Reviewed By:</b>	Mertz,Robert	QA Reviewer

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