

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-029980**Date Inspected:** 04-Sep-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 activities and the in process work being performed by ABF production personnel. The following items were observed:

NDT Inspection of Electroslag Welds (ESW)

RWR-201308-008

ESW S-042, Location "L"- Face A, B:

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 "L" at face A, B. 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 original Y locations were indications identified with pitch/catch UT as rejectable or recordable and designated to be removed and repaired.

Y Location was noted as -3640mm, 3970mm, 6570mm and HAZ areas located 300mm above and below the proposed repair locations.

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

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

The QA Inspector also performed UT of the above mentioned ESW location in accordance with the ABF approved supplemental procedure for confirmation and evaluation of planar 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. The areas will be reinspected after SMAW repairs. See TL-6027 for additional details on the items inspected on this date.

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

NDT Inspection of Electroslag Welds (ESW)

ESW W-042, Location "M"- Face B:

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 "M" at face B. 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 Location was noted as – 4400mm, 5670mm, 5700mm, 5720mm and 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 four recordable indications with pulse echo UT.

The QA Inspector also performed UT of the above mentioned ESW location in accordance with the ABF approved supplemental procedure for confirmation and evaluation of planar 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. The areas will be reinspected after SMAW repairs. See TL-6027 for additional details on the items inspected on this date.

ESW Repair excavation

RWR-201308-003

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

The QA Inspector was later present to observe ABF welder Donald Plumb (WID-0891) performing Shield Metal Arc Welding (SMAW) on the repair excavation on Electroslag Weld (ESW) "Q", at face A. The locations and repair information are listed in Request for Weld Repair (RWR) 201308-003 from Ultrasonic Testing indications designated for repair. The repair locations were noted as:

Y= 3800mm~4300mm

L= 500mm

W= 80mm

D= 70mm

Prior to welding, Mr. Plumb was observed preheating the weld to over 350° 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 process in use was the Shielded Metal Arc Welding process (SMAW). The welding parameters were verified by ABF QC Inspector Bernie Docena with a Fluke 337 current Clampmeter and preheat was verified with temperature indicators. The QC Inspector performed welding parameters verifications at random intervals throughout the shift. The welding observed appeared to be in compliance with the WPS noted above.

Diaphragm Repair

ABF-RFI-003457R00

RWR-201306-002

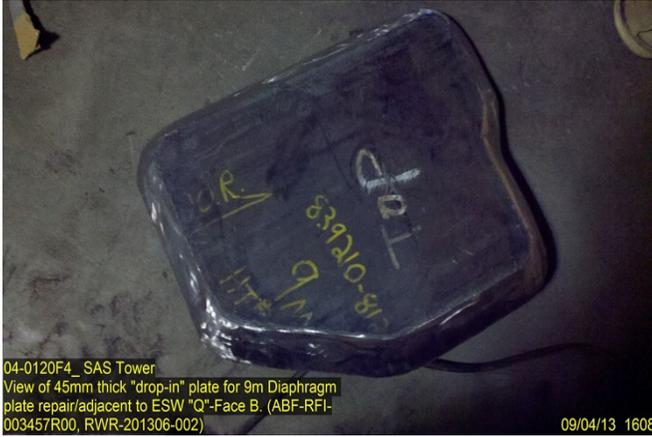
ESW E-043, Location "Q"-Face B:

The QA Inspector observed ABF welding personnel Kit Lai (WID-2953) performing cutting and grinding on replacement diaphragm material to complete the repair at the 9m location adjacent to ESW "Q" Face B. Per approved RFI 003457R00, the contractor removed the Elevation 9m Diaphragm to provide access for the repair of

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

ESW Weld "Q" (E-043). The 45 mm diaphragm plate was cut to size and Mr. Lai was observed preparing the plate edges to a 45° bevel. The remainder of the shift was spent trial fitting the plate to the existing hole and layout punch marks for ring beam angle stiffener bolt holes.



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.

Inspected By:	Adame,Joe	Quality Assurance Inspector
Reviewed By:	Mertz,Robert	QA Reviewer
