

**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-029493**Date Inspected:** 26-Apr-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:** Andrew Keech, Bernie Docena**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 was at the American Bridge/Fluor (ABF) job site at Yerba Buena Island 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:

**In Process Visual Inspection**

RWR201304-017

ESW E-044 "B"-Face A

This QA observed, at random intervals, ABF/JV welder Mike Jimenez (WID-4671) performing Shielded Metal Arc Welding (SMAW) with 4.0mm diameter E7018-MH4-R electrode and in accordance with ABF Welding Procedure Specification (WPS) ABF-WPS-D1.5-1000R-03. Prior to welding preheat was being maintained to over 300° degrees Fahrenheit using a Miller ProHeat 35 unit with heat induction blankets. Welding was performed on tower Electroslag Weld "ESW" designated as B- Face A, Original Y=3850mm. ABF Quality Control Inspector (QC) Bernie Docena was observed monitoring the welding parameters throughout the shift. The repair area will be inspected with UT/MT after the required cooling time of 48 hrs as described in section 12 AWS D1.5-02.

**Pre-Repair Verifications of Tower Electroslag Welds (ESW)**

QA was present to observe ABF/JV QC Inspectors Andrew Keech & Bernie Docena performing Ultrasonic Testing (UT) verification of designated ESW weld repair locations prior to the start of performing air carbon arc gouging for defect removal. Locations of the rejectable indications marked for repairs were noted as:

ESW S-043 "T" Face A,B

RWR-201304-017

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Y= Scanned 2850mm~3450mm

ESW S-045 "G" Face A, B

RWR-210304-054

Y= Scanned 7500mm~8560mm

ESW W-045 "H" Face A, B

RWR-201302-001

Y= Scanned 9340mm~9850mm

QA also performed a UT verification of proposed repair locations & HAZ areas of the repairs to be reinspected after welding. See TL-6027 for information on items inspected on this date.

In Process Visual Inspection

RWR 201304-015

ESW "T"-Face B

QA observed at random intervals, ABF/JV welder Chris Bruce (WID-8901) performing carbon arc air gouging of ESW welds for defect removal on ESW weld designated as "T". Location of excavation was noted as:

ESW S-043 "T" Face B

Y= (Original) 2100mm.

L= 260mm

W= 60mm

D= 14mm

After excavation and grinding to bright metal ABF Quality Control (QC) Inspector Bernie Docena was observed performing MT testing of the excavation to ensure all discontinuities were removed prior to welding. The QA Inspector also performed MT inspection of the excavation and did not observe any weld defects. Repair area is to be inspected with UT/MT after weld repair and the required cooling time of 48 hrs as described in section 12 of AWS D1.5-02. See TL-6028 for information on items inspected on this date.

Ultrasonic Testing of Tower Electroslag Welds (ESW)

RWR#'s-201208-007,201208-004,201208-008,201208-009,201208-005

ESW S-045, Location "G"- Face A, B:

The QC Inspector and QAI performed Ultrasonic Testing (UT) of completed repairs on Tower Electroslag Complete Joint Penetration (CJP) shear plate weld designated as ESW "G" face A, B. The original "Y" locations were: 3100, 3700,3720,4360,4400. QA performed Ultrasonic Testing (UT) on approximately 2200mm of Tower Electroslag Complete Joint Penetration (CJP) shear plate weld designated as "ESW G" face A, B.

QA observed ten (10) recordable planar indications at the time of testing.

QA observed six (6) recordable transverse indications at the time of testing.

The findings have been joint verified by Quality Control inspection personnel at this time. QA performed UT of weld designated as ESW "G" in accordance with the approved supplemental procedure for confirmation and evaluation of planar type defects. Tandem report for work performed on this date will be completed by QC technician and signed by both QA/QC parties. Items listed on tandem report reflect indications agreed upon by QA/QC. Please see TL-6027 for information on items inspected on this date.

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**Summary of Conversations:**

Only general conversations with ABF/JV QC NDT personnel relevant to testing and work 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
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<b>Reviewed By:</b>	Mertz,Robert	QA Reviewer
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