

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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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-029739**Date Inspected:** 24-Jun-2013**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:** 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 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:

**Tower Electroslag Welds:**

The QA Inspector was present to perform Ultrasonic Testing (UT) verification on Electroslag (ESW) welds on the interior of the Tower. The purpose of the UT inspection was for the detection of planar indications utilizing both the "pulse echo" (PE) technique and the "pitch and catch" (PC) technique for further discontinuity evaluation on ESW welds. The UT inspection was performed as a joint inspection with ABF/JV Quality Control (QC) Smith Emery NDT personnel. The QA Inspector performed joint UTSW Pitch/Catch with QC Inspector Jesse Cayabyab on the items listed below. ABF QC did perform testing on "Y" locations previously mentioned by QA on 6/22/13 and the data mutually agreed upon is as follows:

ESW N-043 Location "P" (Face B) 80/100mm Thick, 70° Angle (Results below):

Y: 1560mm, X: +15

-PEUT: Ind. Lvl (A): 68, Ref. Lvl (B): 48, Att. Factor(C):6,	Ind. Rating (D): 12,	SD (E): 92
-PCUT: Ind. Lvl (A): 74, Ref. Lvl (B): 48, Att. Factor(C): 16,	Ind. Rating (D): 10,	SPa (E):252

Y: 1945mm, X: +5

-PEUT: Ind. Lvl (A): 67, Ref. Lvl (B): 48, Att. Factor(C):10,	Ind. Rating (D): 9,	SD (E): 150
-PCUT: Ind. Lvl (A): 71, Ref. Lvl (B): 48, Att. Factor(C): 16,	Ind. Rating (D): 7,	SPa (E):158

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Y: 2240mm, X: +5

-PEUT: Ind. Lvl (A): 62, Ref. Lvl (B): 48, Att. Factor(C): 4,	Ind. Rating (D): 10,	SD (E): 94
-PCUT: Ind. Lvl (A): 82, Ref. Lvl (B): 48, Att. Factor(C): 16,	Ind. Rating (D): 18,	SPa (E):285

Y: 2675mm, X: +15

-PEUT: Ind. Lvl (A): 61, Ref. Lvl (B): 48, Att. Factor(C): 4,	Ind. Rating (D): 9,	SD (E): 78
-PCUT: Ind. Lvl (A): 71, Ref. Lvl (B): 48, Att. Factor(C): 16,	Ind. Rating (D): 7,	SPa (E):280

Y: 3130mm, X: 0

-PEUT: Ind. Lvl (A): 66, Ref. Lvl (B): 48, Att. Factor(C):8,	Ind. Rating (D): 10,	SD (E): 100
-PCUT: Ind. Lvl (A): 70, Ref. Lvl (B): 48, Att. Factor(C): 17,	Ind. Rating (D): 5,	SPa (E):214

Y: 3360mm, X: +10

-PEUT: Ind. Lvl (A): 65, Ref. Lvl (B): 48, Att. Factor(C):4,	Ind. Rating (D): 13,	SD (E): 68
-PCUT: Ind. Lvl (A): 85, Ref. Lvl (B): 48, Att. Factor(C): 16,	Ind. Rating (D): 22,	SPa (E): 300

Y: 3450mm, X: +20

-PEUT: Ind. Lvl (A): 65, Ref. Lvl (B): 48, Att. Factor(C):7	Ind. Rating (D): 10,	SD (E): 106
-PCUT: Ind. Lvl (A): 82, Ref. Lvl (B): 48, Att. Factor(C): 16,	Ind. Rating (D): 18,	SPa (E): 210

Y: 3750mm, X: +15

-PEUT: Ind. Lvl (A): 64, Ref. Lvl (B): 48, Att. Factor(C):8	Ind. Rating (D): 8,	SD (E): 113
-PCUT: Ind. Lvl (A): 74, Ref. Lvl (B): 48, Att. Factor(C): 16,	Ind. Rating (D): 10,	SPa (E): 210

Y: 8525mm, X: -N/A

-PEUT: Non recordable indication  
-PCUT: Non recordable indication

Y: 8540mm, X: -N/A

-PEUT: Non recordable indication  
-PCUT: Non recordable indication

Y: 8570mm, X: -N/A

-PEUT: Non recordable indication  
-PCUT: Non recordable indication

Y: 8925mm, X: -N/A

-PEUT: Non recordable indication  
-PCUT: Non recordable indication

Y: 9115mm, X: +15

-PEUT: Ind. Lvl (A): 66, Ref. Lvl (B): 48, Att. Factor(C):3	Ind. Rating (D): 15,	SD (E): 58
-PCUT: Ind. Lvl (A): 90, Ref. Lvl (B): 48, Att. Factor(C): 16,	Ind. Rating (D): 26,	SPa (E): 305

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Y: 9165mm, X: +15

-PEUT: Ind. Lvl (A): 66, Ref. Lvl (B): 48, Att. Factor(C):3                      Ind. Rating (D): 15,                      SD (E): 57  
-PCUT: Ind. Lvl (A): 80, Ref. Lvl (B): 48, Att. Factor(C): 16,                      Ind. Rating (D): 16,                      SPa (E): 310

\* Note due to limited access on 100mm side of Face B UT P/C was performed on 80 mm side only.

ESW pitch & catch UT was performed per ABF Sup. Procedure 3 UT of ESW Groove Welds Pitch- Catch. The tandem UT report for work performed on this date will be completed by QC Inspector Jesse Cayabyab and signed by both QA/QC parties to be presented to ABF & CT METS for further review.

### 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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