

**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 #: 99.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-030059**Date Inspected:** 20-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:** Scott Kortum, 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:** SAS Tower**Summary of Items Observed:**

Caltrans Quality Assurance Inspector Simion Ramirez (QA Inspector) arrived at job site. QA Inspector performed random QA visual testing (VT) and non-destructive testing (NDT) of ongoing ABF production work. QC Inspectors verified joint fit-up and pre-heat and checked electrical welding parameters of each welder at the start of shift and randomly until the end of shift. Welding procedure specifications (WPS) were available for reference on site. Caltrans QA Inspector random observation of quality control functions are noted below:

Tower Skirt: In Process Welding Skirt Plate #2, Welds At Jt's #153 South Shaft, #154 North Shaft

ABF personnel continued fit-up and welding of each partial joint penetration (PJP) splice weld noted above. WPS #ABF-WPS-D15-2140-3 for flux core arc welding (FCAW) was utilized by QC Inspectors. QA Inspector witnessed QC Inspector magnetic particle testing (MT) the root passes of welds noted above. All weld passes were installed in the groove on the exterior face. Be advised that locations where the root gap exceeds 5mm and up to 8mm maximum the contractor utilized steel backing (9mm x 38mm), in accordance with RFI# ABF-RFI-003417R02. ABF personnel ground weld reinforcing of the weld joints above to a flush and smooth contour.

- The weld joint fit-up and alignment was checked with a straight edge and bridge cam gauge.
- Pre-heat was performed with a rosebud torch and verified by QC with temperature stick (200°F).
- Welding was performed by approved welders (Kit Li, Rick Clayborn).
- Electrical parameter check results for Kit Li (20.3 volts / 260 amps) and Rick Clayborn (20.0 volts / 270 amps).
- The weld procedure and joint details utilized (FWT21 and FWT19) are for a partial joint penetration (PJP) weld.
- Electrode utilized is FCAW NR-232, .072" diameter.
- Weld passes were de-slagged by grinder and wire wheel.

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Tower Skirt: NDT, Skirt Plate #2, At Jt's #156 West Shaft, 157 West Shaft, #157 North Shaft

Weld crowns were ground to a flush smooth contour. QA Inspector observed upon cooling to ambient temperature, QC Inspector performed VT and MT on approximately 25% of exterior weld surface, all test results are in general compliance. QA Inspector performed verification VT and MT on 10% of QC inspected areas, QA test results concur with QC results.

**Summary of Conversations:**

Communications with QC personnel regarding grinding to flush contour and general welding.

QC MT of skirt plate #2 vertical weld splice.



QC pre-heat verified by temperature stick 225°F.



**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>	Ramirez, Simion	Quality Assurance Inspector
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<b>Reviewed By:</b>	Riley, Ken	QA Reviewer
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