

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 #: 99.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-030070**Date Inspected:** 21-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 #154 North Shaft, #157 East 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 (20.5 volts / 270 amps) and Rick Clayborn (20.0 volts / 270 amps).
- The weld procedure and joint details utilized (FWT21) 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 #153 East Shaft Backing Bar CJP Splice

Prior to installation of backing bar at weld Jt #153 East Shaft. ABF personnel installed one CJP splice weld joining backing bar plate (9mm x 38mm), making the backing plate continuous. The CJP splice weld was back gouged and back welded. The front and back surfaces of weld were ground to flush and smooth contour. QA Inspector witnessed QC Inspector performed UT examination of backing bar splice weld. Test results are in general compliance.

Summary of Conversations:

Only general conversation regarding the comments above.

QC checking amps/volts of in process welding.



QC UT of backing bar CJP splice.



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: Ramirez, Simion

Quality Assurance Inspector

Reviewed By: Riley, Ken

QA Reviewer