

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-030079**Date Inspected:** 30-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:	Tony Sherwood, 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 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) for complete joint penetration (CJP) welds and partial joint penetration (PJP) were available for reference on site. Caltrans QA Inspector random observation of quality control functions are noted below:

Tower Skirt: In Process Welds, Skirt Base Plate Jt's #002, Skirt Plate #2 #156 S. Shaft & #156 W. Shaft ABF personnel continued fit-up and welding of joints #002 CJP and #156 S. & #156 W, PJP splice welds noted above. WPS #ABF-WPS-D15-2030-1 and ABF-D15-2140-3 for flux core arc welding (FCAW) was utilized by QC Inspectors. ABF personnel installed backing bar plate (9mm x 38mm) at base plate, and QC Inspector verified fit-up complied with specified tolerance. Approved welder installed stringer passes and operated welding equipment within WPS electrical parameters. Weld run-off tabs are removed and ground flush with tips of base plate. Be advised that the backing bar for this joint will remain in place, in accordance with RFI# ABF-RFI-003417R00.

- 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 (250°F).
- Welding was performed by approved welders (Kit Li & Rich Clayborn).
- Electrical parameter check results for Kit Li (20.5 volts / 310 amps), Rick Clayborn (21V / 270A).
- The weld procedure and joint details utilized (FWT22) is CJP weld, (FWT19) is for PJP weld.
- Electrode utilized is FCAW NR-232, .072" diameter.

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- Weld passes were de-slagged by grinder and wire wheel.

Tower Skirt: NDT Weld Jt's, Base Pl. #004 & #002 CJP Splice

Weld crowns of CJP welds are in the as welded condition with 1/8" reinforcing on face side. After 24 hour hold period, QC Inspector performed VT and MT on 100% of weld #004 exterior face and weld ends. QC deemed results acceptable. QA Inspector observed QCI perform UT inspection on approximately 25% of CJP weld #004, QC deemed results acceptable. QC performed MT inspection of CJP weld #002 root pass, QC found no rejectable indications. Welding remains in progress. QA Inspector performed verification MT and UT on approximately 10% of QC inspected areas. QA test results are in general compliance with project specifications.

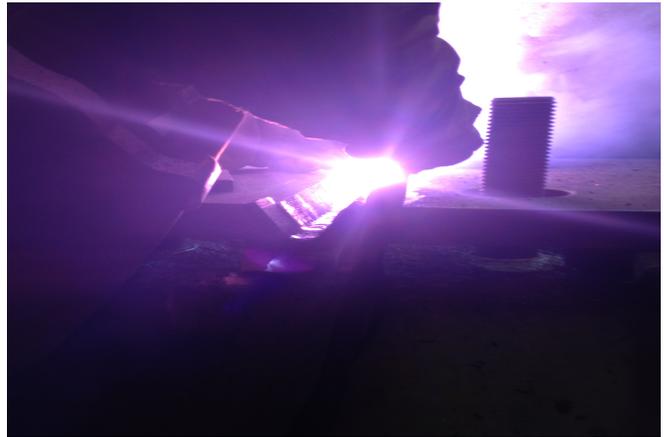
Summary of Conversations:

QCI conferred with QAI regarding 8mm gap at the bottom 1/3 of vertical joint at skirt plate #2 #156 W. shaft. The contractor chose to start welding at the top 1/3 of joint. This had the effect of closing the root gap in the middle and lower 1/3 of joint to approximately 3mm - 5mm.

QA verification UT of QC 25% UT of base plate splice.



In process FCAW root stringer pass installation.



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
