

**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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-019814**Date Inspected:** 28-Jan-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

|                                    |                                |           |            |                                  |                        |           |            |
|------------------------------------|--------------------------------|-----------|------------|----------------------------------|------------------------|-----------|------------|
| <b>CWI Name:</b>                   | Steve Jensen and Fred Von Hoff |           |            | <b>CWI Present:</b>              | <b>Yes</b>             | <b>No</b> |            |
| <b>Inspected CWI report:</b>       | <b>Yes</b>                     | <b>No</b> | <b>N/A</b> | <b>Rod Oven in Use:</b>          | <b>Yes</b>             | <b>No</b> | <b>N/A</b> |
| <b>Electrode to specification:</b> | <b>Yes</b>                     | <b>No</b> | <b>N/A</b> | <b>Weld Procedures Followed:</b> | <b>Yes</b>             | <b>No</b> | <b>N/A</b> |
| <b>Qualified Welders:</b>          | <b>Yes</b>                     | <b>No</b> | <b>N/A</b> | <b>Verified Joint Fit-up:</b>    | <b>Yes</b>             | <b>No</b> | <b>N/A</b> |
| <b>Approved Drawings:</b>          | <b>Yes</b>                     | <b>No</b> | <b>N/A</b> | <b>Approved WPS:</b>             | <b>Yes</b>             | <b>No</b> | <b>N/A</b> |
|                                    |                                |           |            | <b>Delayed / Cancelled:</b>      | <b>Yes</b>             | <b>No</b> | <b>N/A</b> |
| <b>Bridge No:</b>                  | 34-0006                        |           |            | <b>Component:</b>                | Orthotropic Box Girder |           |            |

**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 9E/10E side plate 'C1' inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 continuing to perform CJP groove (splice) welding fill pass to cover pass on the splice butt joint. The welder was observed perform automatic welding in the 3G (vertical) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3042B-1. The joint being welded has a single V-groove butt joint with backing bar. The splice joint was preheated and maintained to greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blankets located at the opposite side of the plate prior/during welding. During welding, ABF Quality Control (QC) Fred Von Hoff was noted monitoring the welding parameters of the welder. At the end of the shift, fill pass welding was still continuing and should remain tomorrow.

QA randomly observed ABF/JV qualified welder Rory Hogan (ID #3186) continuing to perform CJP groove welding cover pass on Orthotropic Box Girder (OBG) 8E/9E side plate 'C1' outside. The welder was observed welding in the 4G (overhead) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3110-4. The welder was using a track mounted welder holder assembly that was remotely controlled. The joint being welded has the backing bar gouged using the Esab Plasma Arc machine and was ground smooth. The splice joint was preheated to greater than 150 degrees Fahrenheit prior welding and the

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# WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

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vicinity was properly protected from wind. During welding, ABF Quality Control (QC) Steve Jensen was noted monitoring the welding parameters of the welder. During the shift, the ABF QC and the welder have informed this QA that the welding machine the welder was using was not working properly and that the welder has also spent some time fixing the machine. At the end of the shift, cover pass welding was still continuing and should remain tomorrow.

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC visual inspection of the Complete Joint Penetration (CJP) welding of the two edge plates and two 25mm fillet weld of jacking frame deviation saddle. The QA verification was performed to verify that the welding and the visual weld inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification it appeared that the welds and the QC inspection complies with the contract documents.

1. Deviation saddle north fillet weld – QA VT/MT verified
2. Deviation saddle south fillet weld – QA VT/MT verified
3. 8E/9E edge plate ‘B’ inside – QA VT/MT verified
4. 8E/9E edge plate ‘F’ inside – QA VT/MT verified

At OBG 6E-PP44-E4-#1 lifting lug access hole to top deck outside, ABF welder Salvador Sandoval was observed continuing to perform 1G Shielded Metal Arc Welding (SMAW) welding fill pass to cover pass on the infill plate to top deck plate butt joint. The welder was noted using 1/8” diameter E7018H4R electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1070. During welding, ABF Quality Control (QC) Steve Mc Connell was noted monitoring the welding parameters of the welder. At the end of the shift, cover pass welding was completed and the welder was noted preparing to move to hole #2 of the same location.



## Summary of Conversations:

No significant conversation occurred today.

## 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 SMR Sang Le 916-764-5650, who represents the Office of Structural Materials for your project.

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# WELDING INSPECTION REPORT

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| <b>Inspected By:</b> | Lizardo, Joselito | Quality Assurance Inspector |
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| <b>Reviewed By:</b> | Levell, Bill | QA Reviewer |
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