

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

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-027165**Date Inspected:** 09-Feb-2012**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:** Jobsite**CWI Name:** As noted below**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 OBG**Summary of Items Observed:**

Quality Assurance Inspector (QA) Douglas Frey was at the American Bridge/Fluor (ABF) job site at Yerba Buena Island in California 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:

## 13E PP122.5 E4 Lifting Lug Hole #2 (Exterior)

This QA Inspector observed ABF welder Salvador Sandoval (ID 2202) pre-heat the joint to 66 degrees C prior to performing Shielded Metal Arc Welding (SMAW) in the (1G) flat position on lifting lug hole #2 at 13E PP122.5 E4 on the exterior of the OBG. This QA Inspector observed the QC Inspector monitor the inter-pass temperatures and the welding to ensure the parameters were in compliance pertaining to ABF-WPS-D1.5-1050A-CU. The parameters were recorded as (Amperes=128) utilizing a 3.2 mm E7018-H4R electrode. The welder was observed grinding and blending the start/stop edges of the work between passes and throughout the joints depth. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work was completed on this date and appeared to be in general conformance with the contract specifications. This joint is a Seismic Performance Critical Member (SPCM).

## 13E PP119.5 E4 QC NDT (Exterior)

This QA Inspector randomly observed QC Inspector Mr. Bernie Docena perform a R2 ultrasonic inspection of the repaired area on "A" deck lifting lug holes #1-4 at 13E PP119.5 E4. This QA Inspector observed that Mr. Docena detected three (3) rejectable ultrasonic indications listed below. The deck section thickness at this location

---

---

# WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

---

---

is 20mm.

LLH #1 - y+0; 150mm's in length, 18mm's deep at +3db's.

LLH #2 - y+0; 50mm's in length, 18mm's deep at +3db's.

LLH#4 - y+150; 50mm's in length, 17mm's deep at +10db's.

These joints are Seismic Performance Critical Members (SPCM).

## QA NDT (Exterior)

This QA Inspector performed a Magnetic Particle (MT) Inspection at the locations listed below. This QA Inspector performed the yoke method in conformance with ASTM E 709 and the standard of acceptance with D1.5 section 6.26. This QA Inspector noted that no rejectable indications were found at the time of testing. This QA Inspector generated a TL-6028 MT report on this date. The completed work at this location appeared to be in general conformance with the contract specifications.

13E PP119.5 E4 Lifting Lug Holes #1-4 (SPCM)

13E PP121.5 E4 Lifting Lug Holes #1-4 (SPCM)

## 12E/13E-A4 (Interior)

This QA Inspector randomly observed ABF welding personnel Wen Han Yu utilize the Plasma Arc Cutting (PAC) method to remove the backing bar from face "B" of "A4" at 12E/13E on the interior of the OBG. The welder employed the use of scaffolding to access the joint utilizing a "Bug-O" motorized rail system with a magnetic base attached in the (4G) overhead position to operate the PAC system. This QA Inspector noted the use of respiratory masks and proper safety procedures were followed. This QA Inspector made subsequent observations and noted that the work was in progress and appeared to be in general conformance with the contract documents.

## 13E PP122.5 E4 Lifting Lug holes #4 (Exterior)

This QA Inspector observed QC Inspector Fred Von Hoff perform joint fit-up operations on an "A" deck lifting lug hole #4 on the exterior of the OBG located at 13E PP122.5 E4. This QA Inspector verified the B-U4a complete Joint penetration (CJP) fit-up and found it to be satisfactory and in conformance with the welding procedure. This QA Inspector randomly observed ABF welder Salvador Sandoval (ID 2202) pre-heat the joint to 66°C prior to performing SMAW in the (1G) flat position. This QA Inspector observed the QC Inspector monitoring the inter-pass temperatures and the welding to ensure the parameters were in compliance pertaining to ABF-WPS-D15-1050A-CU. The parameters were recorded as (Amperes=128) utilizing 3.2 mm E7018-H4R electrodes. This QA Inspector randomly observed the ABF welder grind and blend the start and stop areas of the weld throughout the joints depth. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work was completed on this date and appeared to be in general conformance with the contract specifications. This joint is a seismic Performance Critical member (SPCM).

---

---

# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

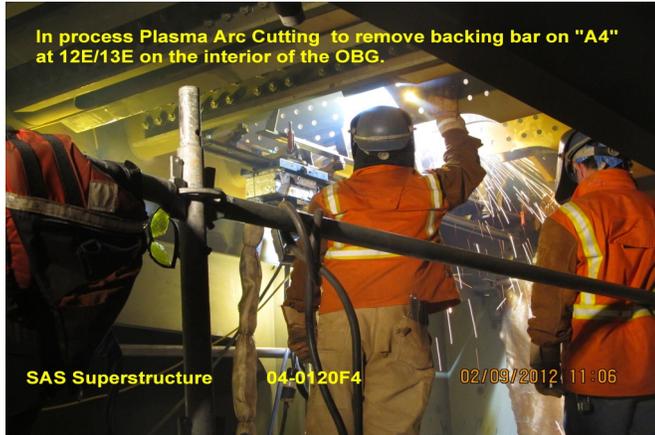
---

---

Note: The QAI reviewed the observations and inspection with QA Lead Inspector, Daniel Reyes, written in this report. No issues were noted by the QAI and the QA Lead Inspector concurs with the QA report.

## Summary of Conversations:

The were no pertinent conversations to report.



## 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 Nina Choy 510-385-5910 , who represents the Office of Structural Materials for your project.

---

**Inspected By:** Frey,Doug

Quality Assurance Inspector

**Reviewed By:** Levell,Bill

QA Reviewer