

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 #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-024217**Date Inspected:** 31-May-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See 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:** OBG**Summary of Items Observed:**

CWI Inspector: Mr. Li Peng Fei

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG Trial Assembly

This QA Inspector observed ZPMC welder Mr. Wang Rucheng, stencil 066881 used shielded metal arc welding procedure WPS-B-P-2214-FCM-1 to make OBG segment 13CW welds SEG3015N-189 and 190. This QA Inspector observed a welding current of approximately 170 amperes (amps), the base material had been preheated with electrical heaters and Mr. Wang Rucheng appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Guijun, stencil 067275 used flux cored welding procedure WPS-B-P-2214-TC-U4B-FCM-1 to make segment 13BW weld DP3172-001-017. This QA Inspector observed a welding current of approximately 190 amps the base material had been preheated with electrical heaters and Mr. Wang Guijun appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

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This QA Inspector observed ZPMC welder Mr. Li Jian stencil 067829 used shielded metal arc welding procedure specification WPS-B-P-2214-TC-U4B-FCM-1 to make segment 13BW weld DP3146-001-257. This QA Inspector observed a welding current of approximately 170 amps, the base material had been preheated with an electrical heater and Mr. Li Jian appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Li Shoufu, stencil 066674 used shielded metal arc welding procedure WPS-345-SMAW-2G(2F)-Repair-1 to make OBG segment 13AW welds SEG3013Y-358, 360 and 362. This QA Inspector observed a welding current of approximately 220 amps the base material had been preheated with a torch and Mr. Li Shoufu appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Pan Ming, stencil 066673 used flux cored welding procedure WPS-B-T-2232-ESAB to make OBG Segment 13BW welds SA7514-001-011 and 012. This QA Inspector observed a welding current of approximately of approximately 320 amps, 26.0 volts, the base material had been preheated with a torch and Mr. Pan Ming appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

Segment 13AE PP117.4 to 118 on the CB side

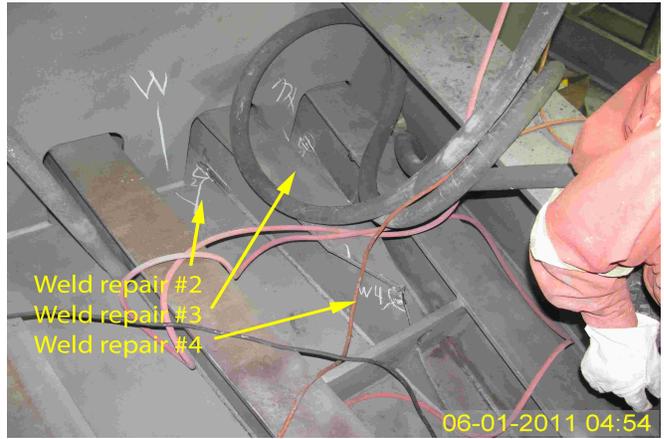
ZPMC requested Caltrans personnel to perform visual inspections of OBG segment 13AE lower sections between PP117.3 to PP118, cross beam side, on June 1, 2011 at around 04:00 hours following the initial pre-blast cleaning of the steel surfaces. This QA Inspector along with other QA Inspectors performed random visual inspections of these areas. This QA Inspector visually observed approximately 30 locations that required grinding to resolve visual weld spatter, arc strikes, shallow nicks, scrapes, and other minor surface rejections and approximately ten areas that require magnetic particle inspections. This QA Inspector observed items #1, #2, #3 and #7 as listed below. QA Inspectors observed a total of seven locations which require weld repairs. The following areas were marked on applicable drawings which were forwarded to dayshift QA Inspectors for tracking of repairs.

1. Porosity, 400 mm from SEG3013Q weld 205 @ PP118. Top edge of bottom plate rib has porosity
2. Porosity and overlap, second rib up from LD, @ PP117.5 Rib weld to side plate has porosity and overlap.
3. Overlap top and bottom toe of weld, @ PP117.5. AQ11 rib weld to side plate weld
4. End of tapered end of the first rib AQ11 from LD. MT rejection of weld repair area, top end of taper.
5. Incomplete fusion (hole), weld 192. 50mm from @PP117.5 (toward open end)
6. Base metal gouge in side plate located between edge plate and weld 204, SEG3013W view S3E, 250 mm from floor beam at PP117.5.

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7. Base metal temporary weld removal areas, holed flange plate approximately two meters above bottom plate above view SEG3013S AR2.



Summary of Conversations:

See Above.

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 James Devey +8615000026784, who represents the Office of Structural Materials for your project.

Inspected By: Dawson,Paul

Quality Assurance Inspector

Reviewed By: Riley,Ken

QA Reviewer
