



SAS Superstructure

Location: 04-SF-80-13.2 / 13.9

Client Name: CalTrans

Run date 22-Nov-14

Time 7:01 AM

Daily Diary Report by Bid Item

Contract No.: 04-0120F4

Diary #: 1109 Const Calendar Day: 682 Date: 17-Apr-2014 Thursday

Inspector Name: Brignano, Bob Title: Transportation Engineer

Inspection Type:

Shift Hours: Break: Over Time:

Federal ID:

Location:

Reviewer: Schmitt, Alex Approved Date: Status: Submit

04-0120F4
04-SF-80-13.2/13.9
Self-Anchored
Suspension Bridge

Weather

Temperature 7 AM 12 PM 4PM
Precipitation Condition clear

Working Day If no, explain:

Diary:

Dispute

General Comments

CCO 314, SAMPLING AND TESTING A354 GRADE BD MATERIAL:



This morning, prior to the start of the normal work shift on site (7am), one of the two rods currently under load breaks. The status of the 2 test rigs is as follows this morning:

Rod 12 (2008 Rod, ID S2-A8, Heat MJF-32, Top)
Broke at 0.70 Fu after about 44 hours at about 06:37 AM this morning

Rod 13 (2008 Rod, ID S2-A8, Heat MJF-32, Bottom)
Still under load at 0.70 Fu

The activities on CCO 314 are as follows after the rod broke before the start of the shift.

ABF Engineer Kelvin Chen is working part time in the field and office on CCO 314.

There is work in the field on TR 12 today by ABF, because of the rod break this morning. There is no work on TR 13 today by ABF, because the tensioning step scheduled for today is delayed by the AE activity of the rod. There is also work by ABF to modify TR's 1-4 to TR's 14-17.

VGO (Dave Van Dyke) is on site today for the scheduled tensioning step of the TR's 12 & 13 rods. After the TR 12 rod broke early this morning, he produces the typical morning reports offsite and then produces special reports for the broken rod while onsite. The tensioning step scheduled at TR 13 is postponed from this morning (after 10am typical tension step time) to this afternoon and then cancelled in the afternoon. Dave was scheduled to fly out of the Bay Area this afternoon with Rob Rutledge flying in to the Bay Area later in the evening. Dave postpones his flight because of the initial plan to tension in the afternoon (VGO was on standby). Dave flies out later in the afternoon after the tensioning step is cancelled and Rob still flies in as scheduled this evening. Rob produces the evening reports while offsite.

VGO pH and Reference Electrode Checks: With today being a scheduled tension step day at the test rigs, typically VGO would have tested pH and the Reference Potential at the wet chamber of the rod still under load (TR 13) prior to the scheduled tensioning step. However, after consultation with the DJV, in the interest of safety, we told VGO not to test pH or reference electrode at TR 13. The AE activity was showing potential cracking and crack propagation at the time when the tensioning for the next load step was scheduled and VGO would have been doing work in the wet chamber for the pH and reference electrode work. Also, the tensioning step was postponed and eventually cancelled.

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Crews at the Pier 7 warehouse area are working an 8-hour shift 0700 through 1530 today. Ironworkers CJ Biskner (foreman) and Kyle Crowley only work briefly (approximately 1000 to 1200) at the test rigs to remove the second fracture surface from the rod that broke this morning, and then work the remainder of the morning and afternoon on non-CCO 314 operations elsewhere at the Pier 7 warehouse area. Portions of the shift not spent at the CCO 314 test rigs are not covered in this diary. ABF Ironworker Donald Plumb and Laborer Carlos (Pedro) Garcia work all day at the test rigs on CCO 314 for the modification of TR's 1-4 to TR's 14-17.

ABF continues work modifying TR's 1-4 to TR's 14-17 with Ironworker Donald Plumb. He continues work at TR 3 (to be modified to TR 16) at the south end. He continues to grind the existing longitudinal welds on top of the test rig to bring them flush with the steel plates so that the new doubler plate will sit flat. He fits up the new doubler plate, lays out and marks the cut for the new handhole, drills holes in the existing top plate of the test rig to match the new hole locations in the new doubler plates, cuts the new handhole, grinds after cutting the handhole, and tack welds the new doubler plate. The new handhole is torch cut about 1/8" away from the final dimensions and then ground out to the final dimensions. The holes that need to be drilled are 1/2", 1-1/4", and 1-1/2", but ABF does not have a 1/2" Hougén drill bit and instead use a 9/16" Hougén drill bit (only 1/16" larger than per plan) after checking with me.

Also note that the 9/16" hole is supposed to line up with a hole in the doubler plate that is drilled full depth and then tapped partial depth, but all 8 doubler plates are fabricated identically and half of them were supposed to be fabricated opposite hand. After checking with VGO, we determine that this is ok, because for the Phase 2 (TR's 5-11) and Phase 3 (TR's 12&13) work where the drill and tap hole is for the connection of a thermocouple, VGO used an alternate connection detail that did not involve using the drill and tap threads because they caulked down a piece of plastic with threads on top of the doubler plate. They did that because of the requirement for 2 coats of thick epoxy paint in the threads which made the drill and tap threads not useable.

For the new 9/16", 1-1/4", and 1-1/2" holes drilled with Hougén drill bits, the 1-1/4" and 1-1/2" drill bits available on site are not very sharp, so after checking with me, ABF orders 2 new drill bits for these 2 sizes. Prior to that ABF spent a portion of the day trying to find better drill bits.

Laborer Carlos (Pedro) Garcia starts the day by continuing to clean up sandbags at TR's 3 and 4. The intact sandbags are stacked on pallets for later use and the broken sandbags are dumped in a skip box. This work also includes sweeping sand on the ground from the broken sandbags. After that work is done, along with yesterday's completion of sandbag cleanup at TR 2, at about 1100, he starts to clean the threads of the used jacking rods from TR's 1-4. He uses a wire brush, wire wheel brush, and MEK. This cleanup is necessary because these rods have varying amounts of rust on them from being stored outside under tarps. Reusing these jacking rods previously used at TR's 1-4 requires MT, which is scheduled for next week on Monday with Smith-Emery. Cleaning of about one and a half rods are completed today.

This morning, prior to the start of the normal work shift on site (7am), TR 12 broke at 0.70 Fu. After the rod break, several steps are performed by CT-METS (Elijah Turner and Saied Khan) with my assistance.

I take a NaCl solution sample from the wet chamber about 0720. The sample was later provided to the DJV. Below are the pH results.

TR 12 bottom of wet chamber post fracture:

0-14 pH paper = 5

4.0-7.0 pH paper = 5.5

6.5-10.0 pH paper = <6.5 (out of range)

Then, the TR 12 wet chamber has the water removed by the laborer with a shop vacuum between approximately 0755 and 0800. Then the preservation steps start on the section of the rod that impacted the sandbags at the south end. The VGO clamp for the reference electrode is removed and the nut is backed off (turn towards stickout end of rod). The moisture in the rod to nut thread interface is documented, both on the rod and in the nut. Then work on the stickout end of the rod stops for while to

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perform the preservation steps on the fracture surface still in the test rig. The steps, per the approved procedure are water rinse, dry, alcohol rinse, dry, and WD-40. This is complete about 0845. Then work goes back to the other fracture surface – first the sides of the stickout end of the rod are dried, labeled, photographed, and zinc oxide / white rust samples are taken from the rod in the area of the nut engagement. This is complete about 0930. Then the preservation steps on the fracture surface on the stickout end of the rod start. The steps, per the approved procedure are water rinse, dry, alcohol rinse, dry, and WD-40. This is complete about 1000.

Then, after the 10am morning break, ironworkers CJ Biskner (foreman) and Kyle Crowley arrive at TR 12 to remove the end plate and extract the half of the test rod still inside the test rig. They start by using an air gun to unbolt the end plate. They do this without moving the traffic plate above this area out of the way. Note that they need to remove the 2x4 for the SWPPP containment out of the way for the end plate unbolting operation. Then, they use come-alongs to pull the rod assembly (test rod, coupler, jacking rod) to the south. The test rod is then unthreaded from the coupler. This portion of the test rod already had the fracture surface preservation steps performed, so the rod is taken to the office for storage. The work by ABF to remove the second half of the test rod is complete about 1100. There is some cleanup and then the ironworkers leave the test rig site.

The TR 13 rod is scheduled to be tensioned to the next step today after the 10am break. Prior to that scheduled tensioning time, after consulting with the DJV, the tensioning step is postponed to the afternoon to allow review of the VGO data and CT-METS AE reports. One reason for this postponement is that the CT-METS AE report for TR 13 is later than usual because the CT-METS personnel were involved in the TR 12 fracture surface preservation steps. Then, in the afternoon, with ABF available until 1530 if necessary, and VGO on standby, the decision is made by the DJV bolt group not to tension the rod to the next step today because of the AE activity. They were significant AE activity events last night and this morning with continued AE activity this morning. The AE activity was showing potential cracking and crack propagation at the time when the tensioning for the next load step was scheduled. This decision was made in the interest of safety. The test protocol includes provisions for duration extensions on a case-by-case basis. The decision to not tension and the notification to ABF and VGO are at about 1400. ABF and VGO are notified that a tensioning step may be required on Friday or Saturday if there is no AE activity overnight and the AE data indicates that the tensioning can be safely performed. Note that later in the afternoon and in the evening, the AE activity is still high.

A 7kW generator – Whisperwatt 7000 – ABF ID 002343 is used by the laborer for power tools for prep work on jacking rods. A 40kW generator – MQ Power 40 – ABF ID 002051 is on idle/standby at the test rig work area. An oxyacetylene torch is used at the test rig work area. A compressor – IR P185 ABF ID 000002 is used at the test rig work area. A welding machine – Lincoln Vantage 500 ABF ID 000074 is used at the test rig work area. An extendable forklift is brought to the test rig work area to assist with the removal of the end plate from TR 12, but other methods end up being used instead. A Kubota Cart is used by the laborer and ironworker working on the modifications to the test rigs.

Note that there is k-rail at this work area. Some of the k-rail is rented and addressed by the rental agreement. Some of the k-rail is ABF's k-rail used on site and paid as rented from ABF on a daily basis. To elevate the k-rail, crane mats and timber blocking (12x12's) are in use. The k-rail quantities are as follows:

10' bought k-rail = 20 pieces

10' ABF k-rail = 6 pieces

20' rented k-rail = 10 pieces

20' ABF k-rail = 15 pieces

Note that this includes three 20' ABF k-rail between the CCO 314 work area and FW Spencer's yard, with that k-rail being in place prior to the CCO work and not related to CCO 314. Also a fourth 20' ABF k-rail is between the CCO 314 work area and FW Spencer's yard along the fence line near the BayView Trailer.

The agreed extra work with ABF is as follows:

Engineer Kelvin Chen - 2 hrs

Ironworker Donald Plumb - 8 hrs



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Laborer Carlos (Pedro) Garcia - 8 hrs
Ironworker foreman CJ Biskner - 2 hrs
Ironworker Kyle Crowley - 2 hrs
Extendable Forklift - 1 hr
185 CFM Compressor - 1 hr
Vantage 500 Welder - 8 hrs
7kW Generator - 8 hrs
Kubota Cart - 8 hrs
k-rail: 10 pcs @20' and 4 pcs @10'
Crane Mats (12x12 - 5'x16') - 4 pcs
Crane Mats (12x12 - 5'x7') - 15 pcs
See the attached Extra Work Order - Signed with ABF for CCO 314 work

INSPECTOR OT REMARK:

Office 2 hours: After this morning's break of the TR 12 rod, I am in the office late to address various issues related to this rod's break and the request to postpone the tensioning step of the TR 13 rod. ABF is working in the field from 0700 to 1530. My shift is 0700 to 1730 and my OT hours are 1530 to 1730.