

MID SPAR - WING CENTER TANK

CW-801
C-224
GREEN

This segment extends from LBL 49 to RBL 85, and from the lower chord to the upper chord.

The upper and the lower chord vertical legs extend for almost the entire length of this section. The lower chord is bent 45 degrees aft at LBL 17.27 and is fractured at RBL 34.00. The upper chord is attached to the upper skin panel from RBL 17.00 to LBL 17.00. The panel is bent aft approximately 12" at the LHS. The left lower half of the panel is bent diagonally aft from LBL 17.00 at the upper chord to RBL 34.00 at the lower chord. The web is fractured from LBL 17.00 downwards and horizontal to the right to RBL 9.00 at 14" from the upper chord. The web below and to the left of this fracture is bowed forward. Between RBL 34.00 and 44.00 the web has jagged fractures from the lower chord extending upwards 17". The web is fractured from LBL 17.00 to the CL, 7" above the lower chord. The extreme LHS corner at LBL 44.65 is bent aft 90 degrees.

Forward face of web from RBL 34 to RBL 67 shows several vertical gouge marks, ranging in length from 6 to 28 inches. These marks vary in orientation from approximately 5 degrees to 30 degrees inboard from top to bottom. The marks have removed soot from the web surface.

A number of fastener heads along the forward face of the web at RBL 44, 57, and 67 have been partially or fully sheared off in an approximately vertical direction. The sheared heads are not sooted. The remainder of the fastener heads are sooted.

The RHS access door aft skin is fractured for its entire height vertically in the middle and the skin is bowed slightly fwd. The fwd skin of the RHS access door is missing and the honeycomb core has 6 horizontal fracture lines running across. The LHS access door has a piece of aft skin, 6" X 20" missing. The skin is burnt and bent in an aft direction. The fwd skin of this door is missing and the honeycomb core has 5 horizontal fractures running across. One piece of honey comb core is bent fwd.

A total of 12 stiffeners ^{or partial stiffeners} remain attached. Stiffeners at RBL 44.65, 34.00, 17.27 8.94, LBL 17.27, 34.00 have complete cross sections located approximately midway vertically but are fractured below and above varying in length from 32" to 60 ". The other stiffeners have either a web flange only or web flange plus small portion of stiffener web.

M. Hedges 12-6-96 WA
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Tension fittings common to upper skin, are attached to this panel at RBL 57.5, 34.00, 8.94 LBL 8.94. The lower tension fittings are attached at LBL & RBL 8.94. Two upper tension fittings at RBL & LBL 17.27 remain attached to the mid spar upper chord and stiffeners. The stiffener at LBL 17.27 is fractured just below the shear tie. This stiffener is also fractured 12" from the lower chord.

All stiffeners are attached to the lower chord except at LBL 17.00, 34.00, and 44.65. The stiffener segment at RBL 75.00 is 18" long starting at the lower chord. The stiffener segment at RBL 66.65 is 61" long starting at the lower chord. At RBL 57.5 the stiffener is full length and the stiffener web is fractured off. The stiffener at RBL 44.65 is attached to the web, and only 26" of entire stiffener cross-section remains located approximately midway vertically. The stiffener at RBL 34.00 remains attached to the web with its web flange and only 46" of entire stiffener cross-section remains located above approximately 16" from the lower chord. The stiffeners at RBL 17.27 and 8.94 remain attached to the web with its web flange and only 55" of entire stiffener cross-section remains. The lower twenty inches are not an entire cross-section. The stiffener is bent aft 40 degrees at 24" from the lower chord with the stiffener web flange fractured from the bulkhead web attach flange. LBL 8.94 is fractured at 2 places and the free flange is missing. LBL 17.27 is 45" long fractured at two places 8" up from the bottom, and 5" down from the top. LBL stiffener is 35" long and is fractured 18" from the bottom, and 14" from the top. Stiffener at LBL 44.65 has a bulkhead web flange only and is 45" long.

This section of the mid spar exhibit evidence of fire damage and sooting which is documented in Fire Group notes.

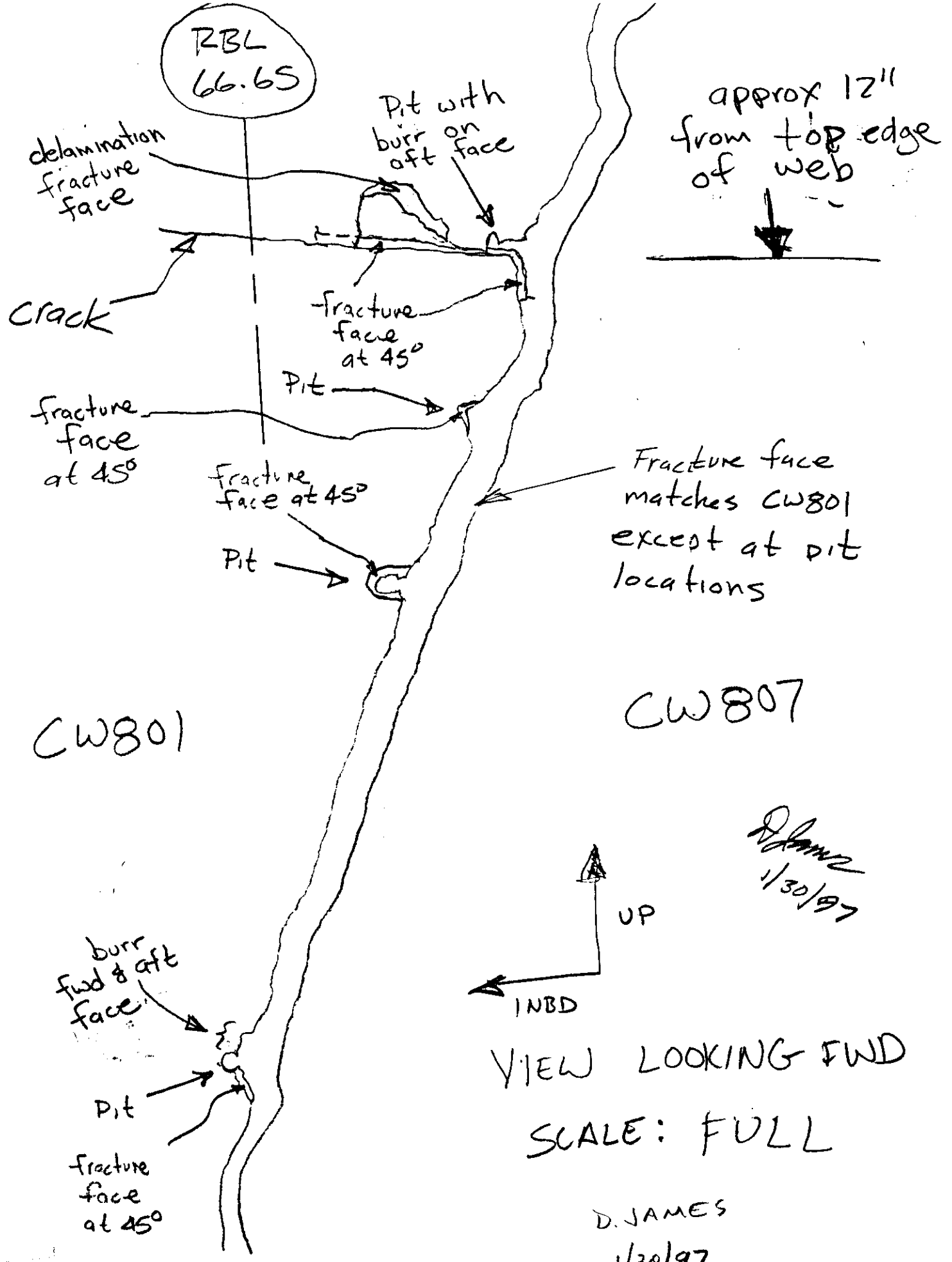
J. J. ... 12-6-96 TWA

USA ... BOEING 12/7/96

SD GREEN ALPA 12-7-96

R. ... IAM 12-7-96

Stephen F. Klappack JR 12-09-96 FAA



Wing Center Section

Midspar Bulkhead

Center Section Upper skin

LBL 33.99

This area bent aft

Blackened Area

Curled up

BL ϕ

Edge is blackened

Midspar web pulls away from upper skin (running right)

RBL 33.99

this area is clean (very light soot)

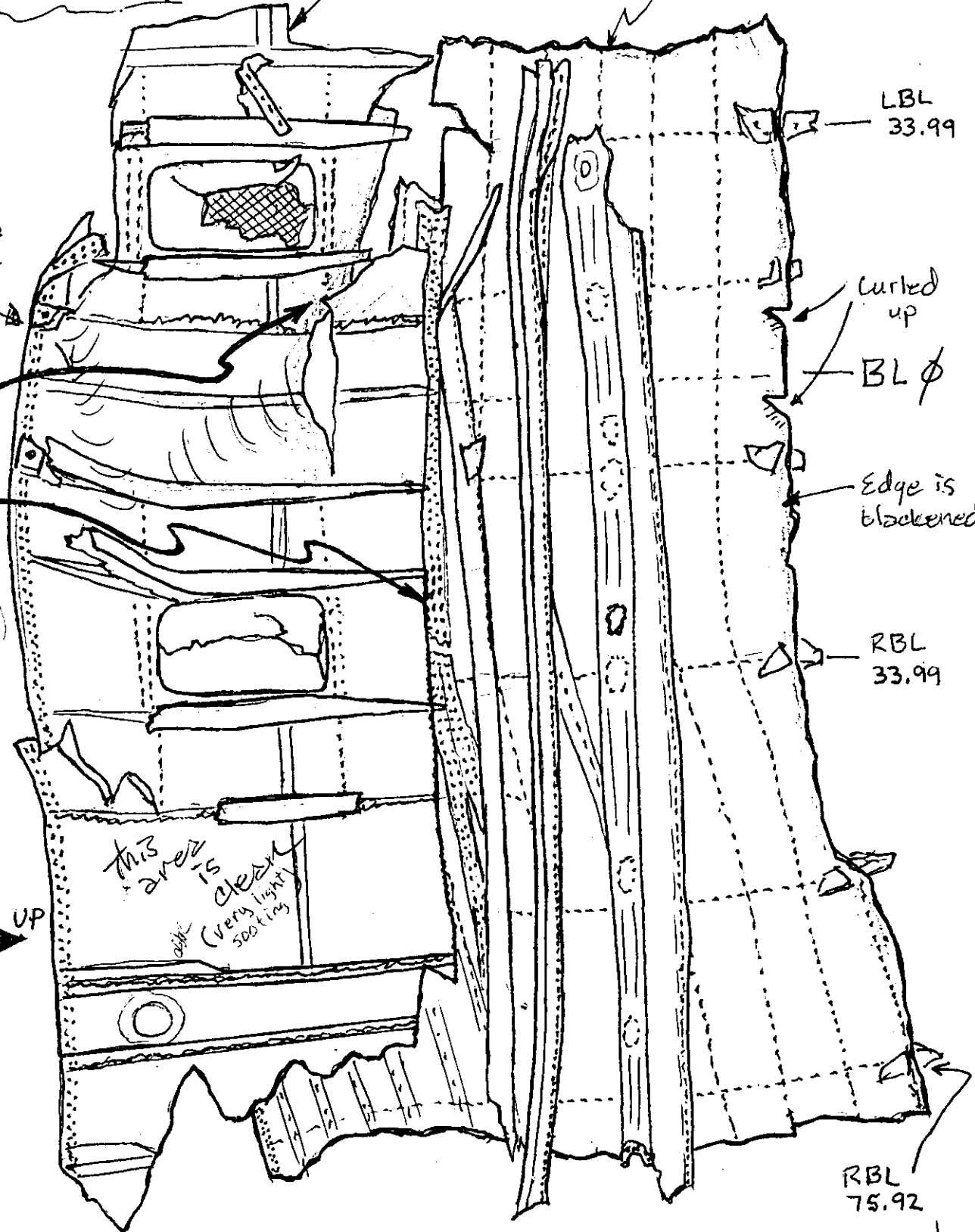
FWD UP

RBL 75.92

CW-801 GREEN TAG #C-224

VIEW LOOKING FWD (Section resting on RHS edge)

S. Chisholm 8/8/96



Wing Center Section

