

**WATER IMPACT DAMAGE  
STUDY**

# Metallurgy Group Notes - Fuselage Water Impact Damage Survey

The purpose of this study was to determine up to what point on each side of the fuselage water impact damage existed. The following criteria was used to ascertain whether water impact ~~extra~~ existed on a part:

- Flattened stringers, frames, or shear ties
- Inward distorted skin minus sub-structure (pillowing)
- Heavy twisting of the skin panel
- Exterior paint badly damaged from skin yielding and impact

The attached figures of the left and right sides of the fuselage depict the damage that existed due to impact with water. The areas not highlighted in blue below a certain water line were not available for examination. Based on this survey, the following general observations were made:

## ⇒ Yellow Zone Parts - (Sta. 140 to 740/780)

- The right side of the airplane exhibited water impact damage up to the window belt  $\approx$  S-22R whereas the left side of the airplane exhibited water impact damage from S-45R (at Sta. 140) to S-37L (at Sta. 780).

## ⇒ Red Zone Parts - {Sta. 740 - 1000 (front Spar)}

- No water impact damage was noted in these pieces on either right or left sides.

## ⇒ Green Zone Parts

Sta. 1000 - 1480 - Wings - Not included in survey

Sta. 1480 - 2360

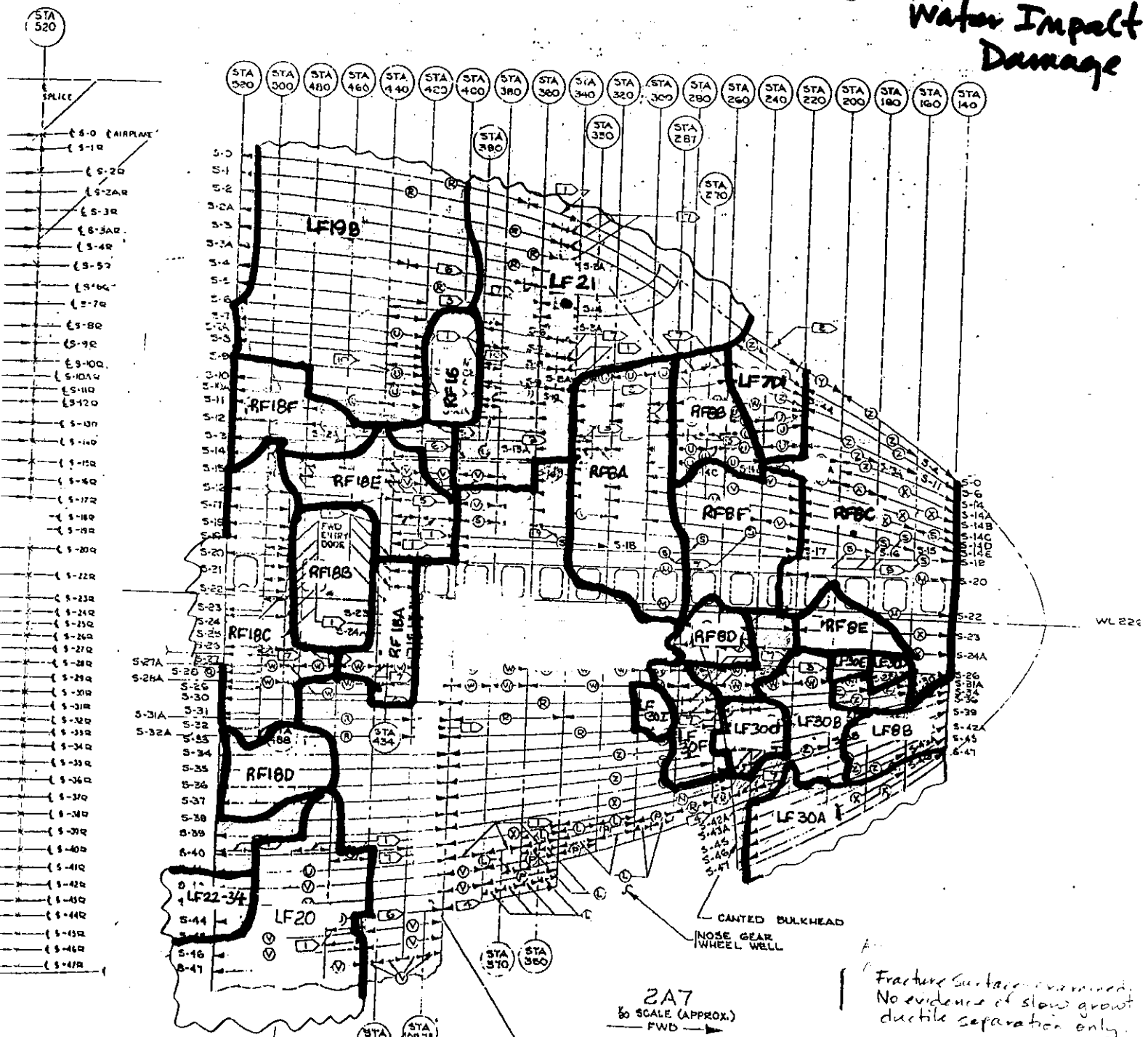
- Right side of fuselage exhibited water impact damage below the window belt (S-22R) up to Sta. 2240. From Sta. 2240 to Sta. 2360 the damage progressed upward to S-16R.
- The left side of the fuselage exhibited water impact damage primarily below stringer 28L up to Sta. 2240. From Sta. 2240 to Sta. 2360 the damage progressed upward to S-19L.

JR Straus  
& Zekar

**SECTION 41 - STA. 140 - 520  
(R/H Side)**

J.K. Stiller  
F. Zickler

**Water Impact  
Damage**

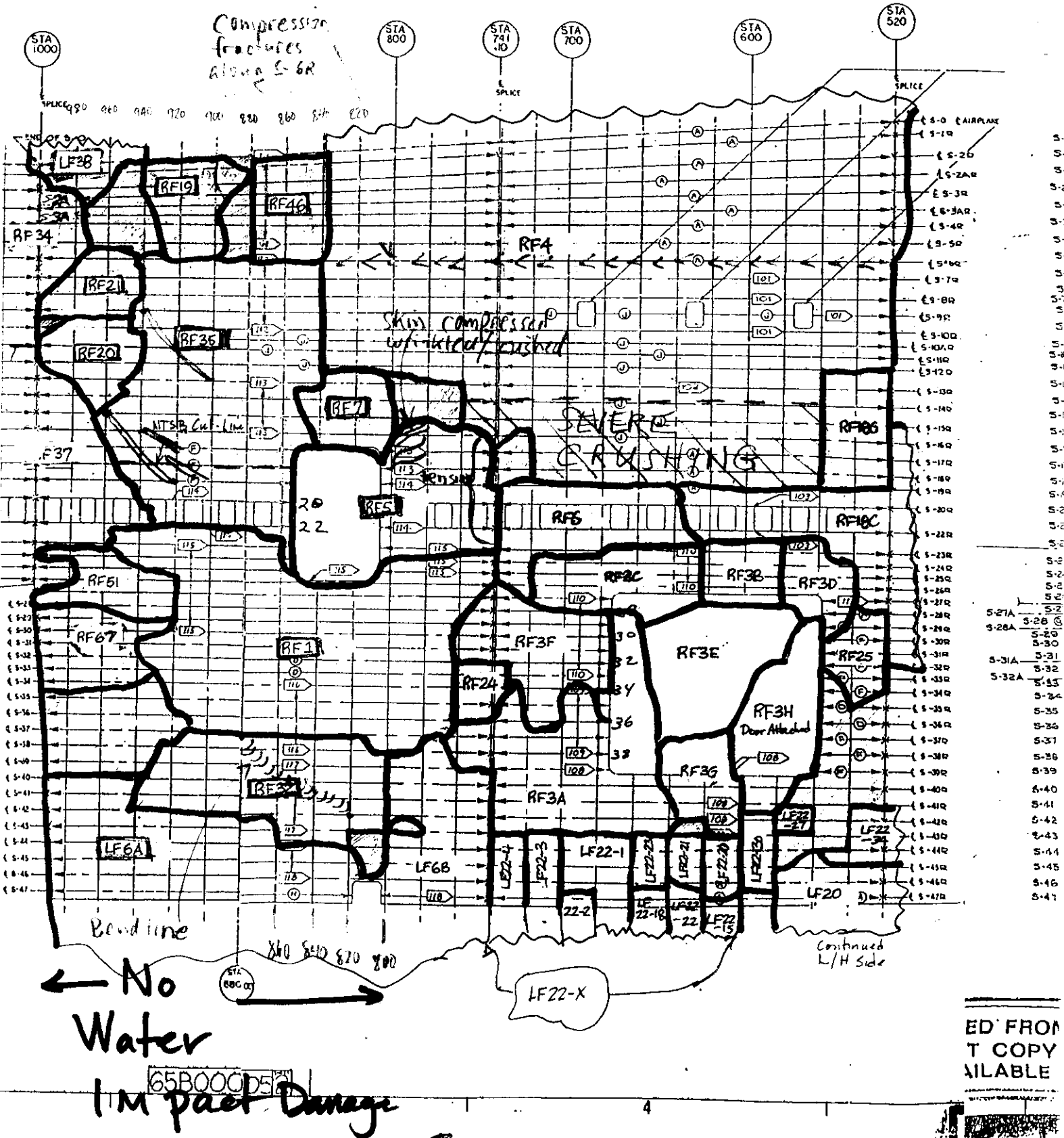


DOG CUTOFF  
(ELEC. RECEPTACLE)

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AVAILABLE

**FR 21**

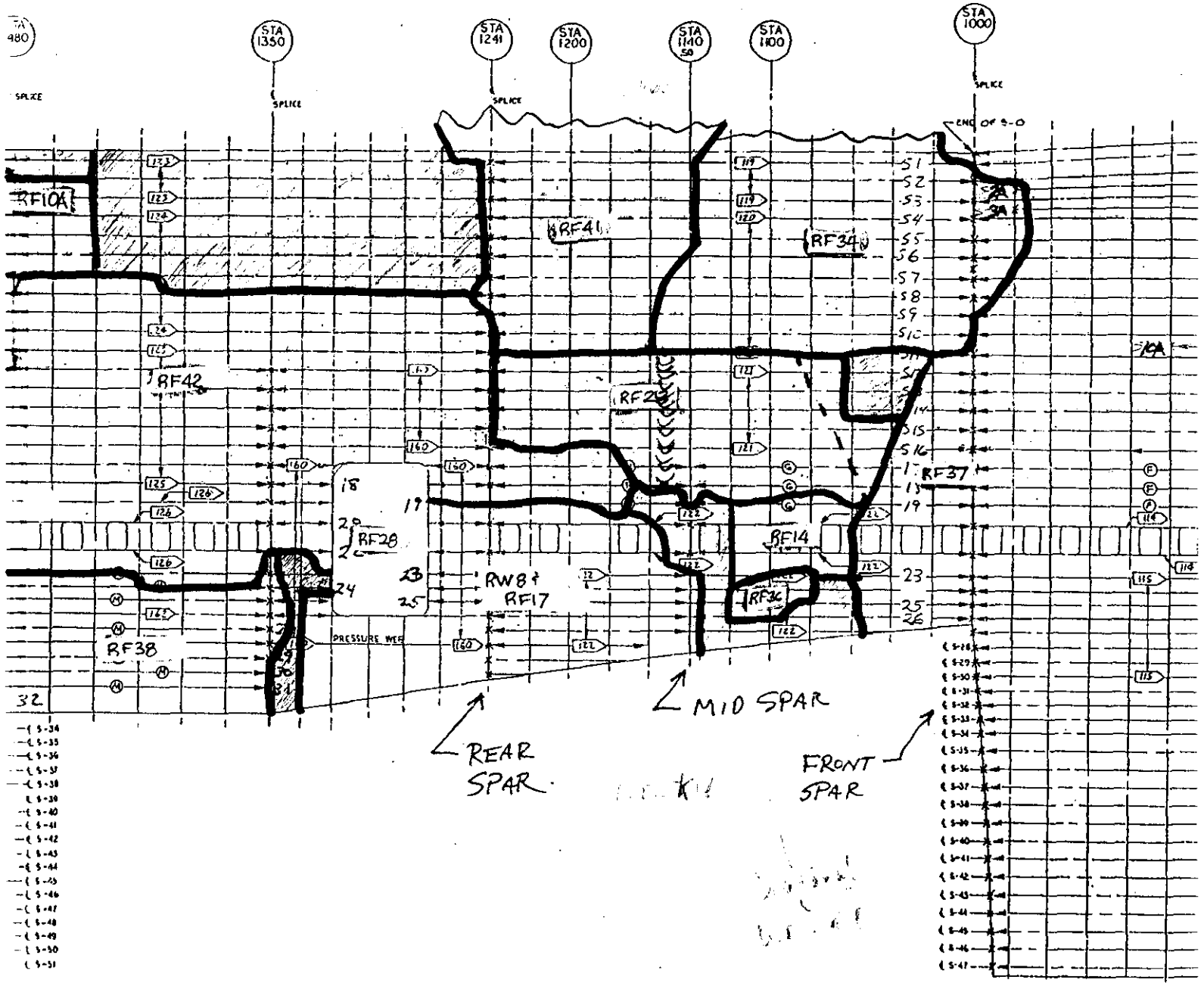
# SECTION 42 - STA. 520-1000 (R/H Side)



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# SECTION 44 - STA. 1000-1480 (R/H Side)

RIGHT HAND SIDE

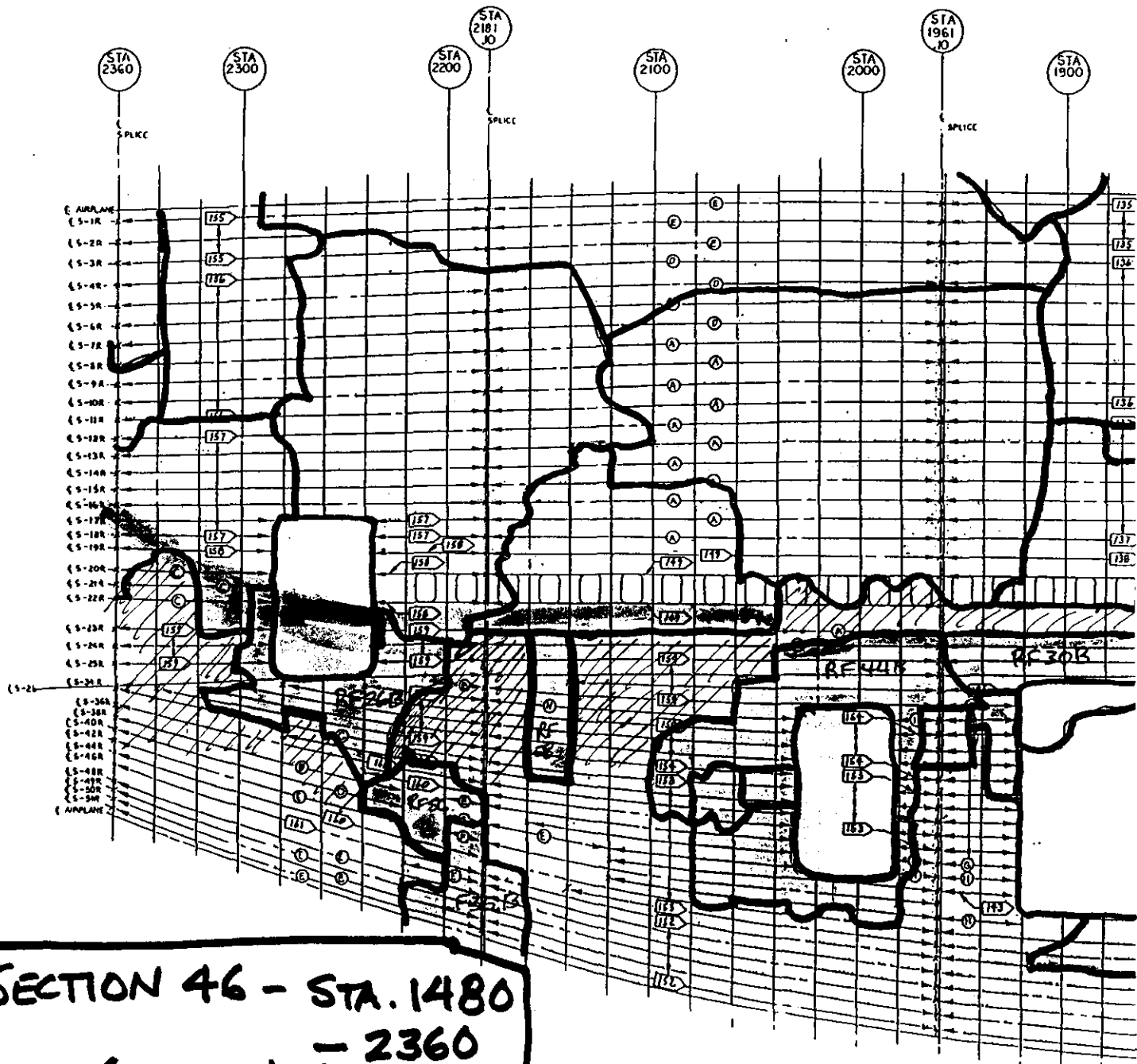


DEVELOPED VIEW -  
RIGHT SIDE  
SCALE  $\frac{1}{20}$

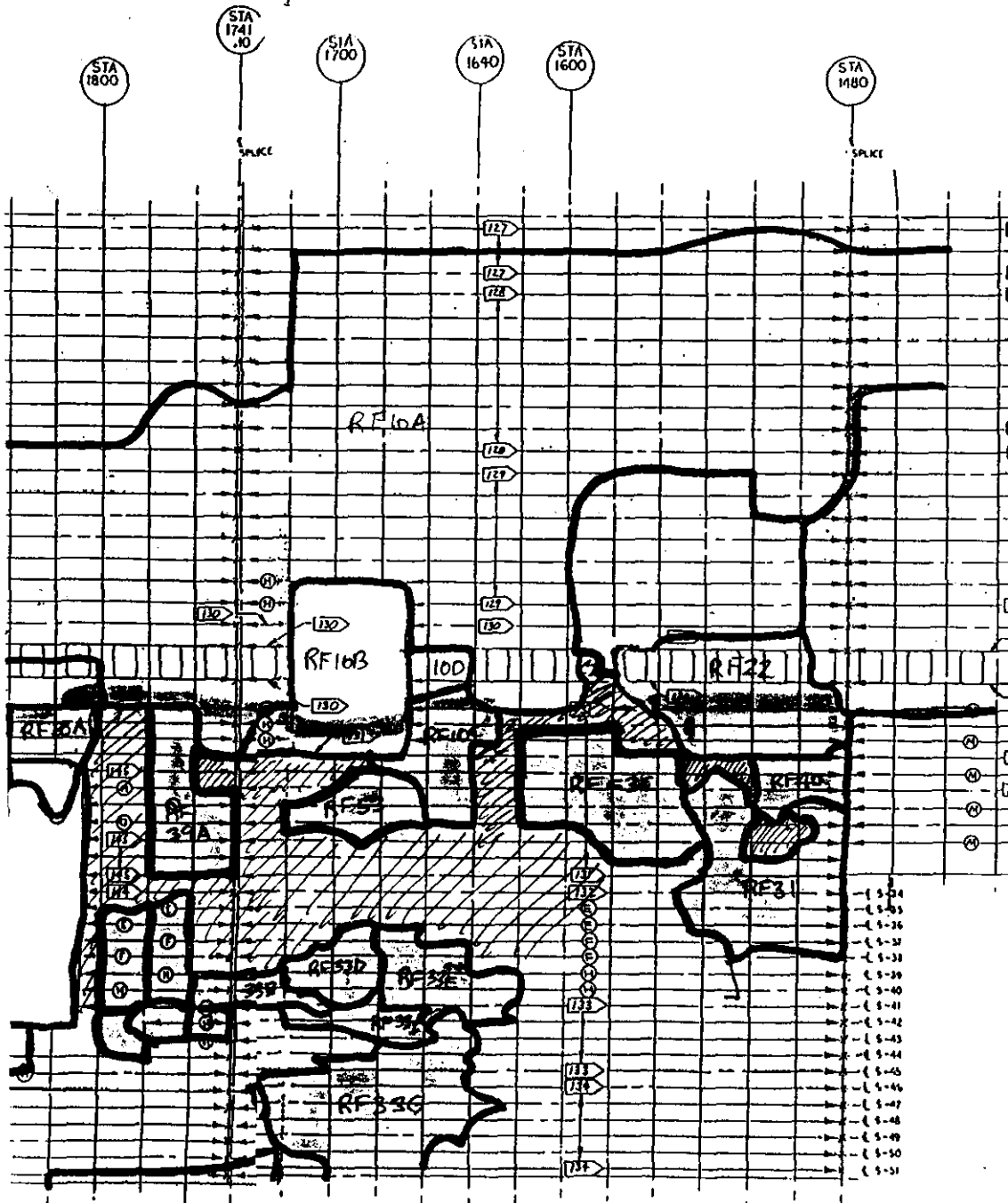
MAW GEAR  
W/NELL BLKHD

65B000

**E-FR-2**



SECTION 46 - STA. 1480  
 - 2360  
 (R/H Side)



Below Blue Line  
Parts exhibited  
Water Impact  
Damage

# SECTION 41 - STA. 140 - 520 (L/H Side)

J. R. Straus  
F. Zakar

Diagonal  
Wrinkles

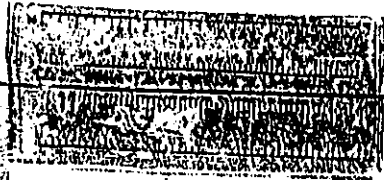
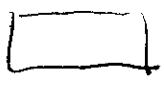
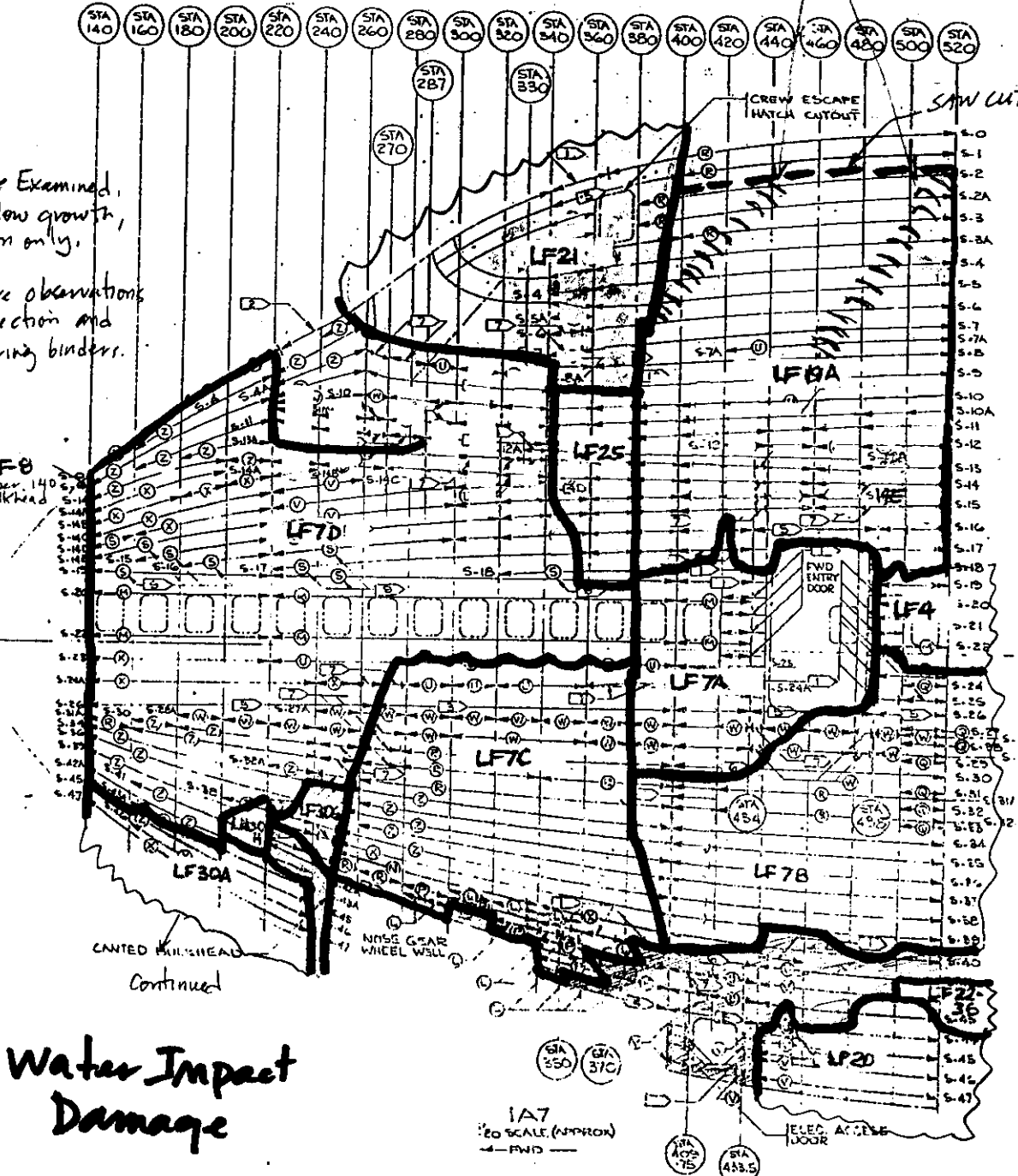
Fracture Surface Examined,  
No evidence of slow growth,  
ductile separation only.

General fracture observations  
Made to noted section and  
documented in ring binders.

LF-9  
Raydome  
Fragments  
WL 226

Water Impact  
Damage

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AVAILABLE



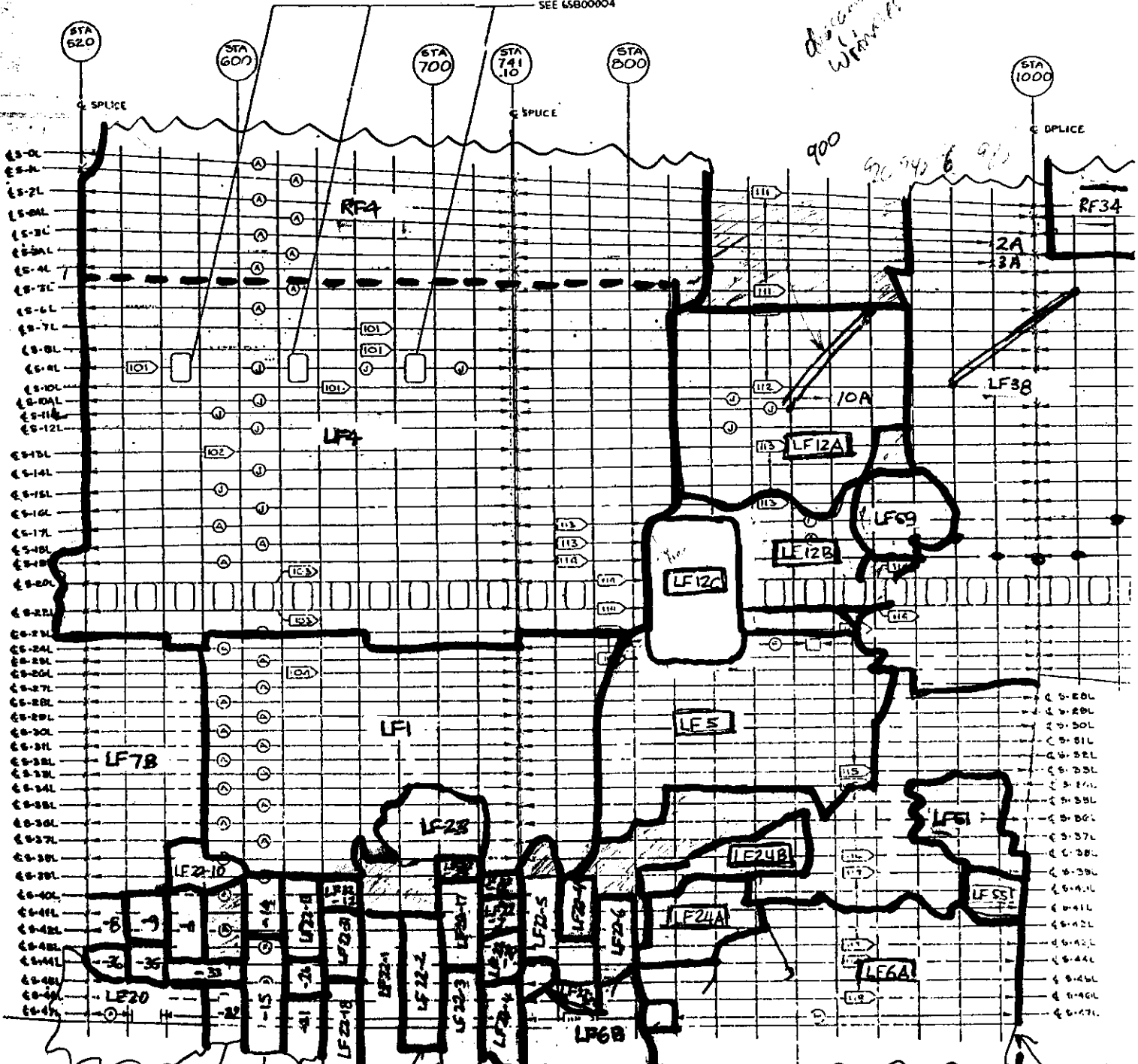
ER 1



# SECTION 42 - STA. 520-1000 (L/H Side)

SEE 65B00004

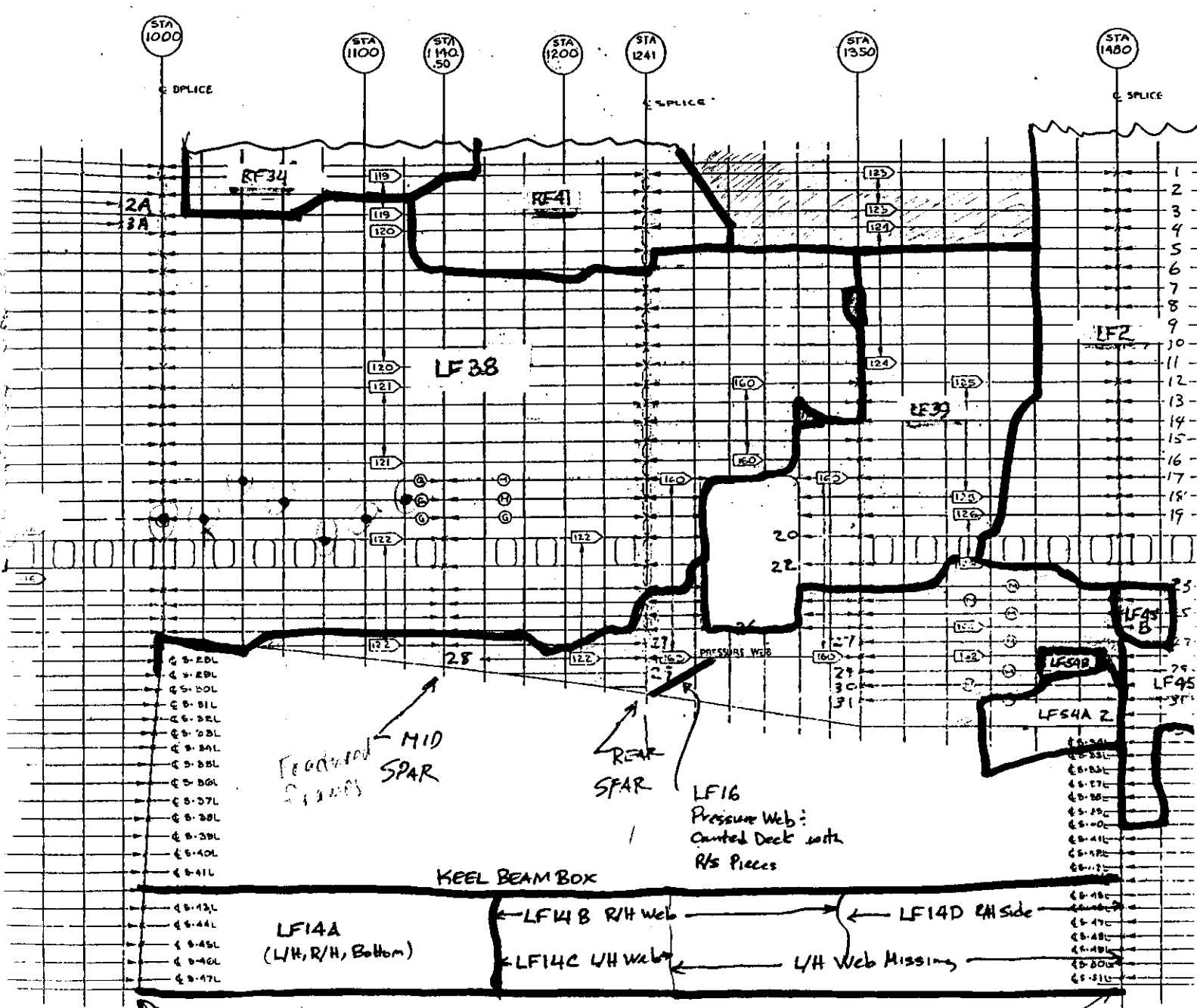
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wireless*



No  
Water  
Impact  
Damage

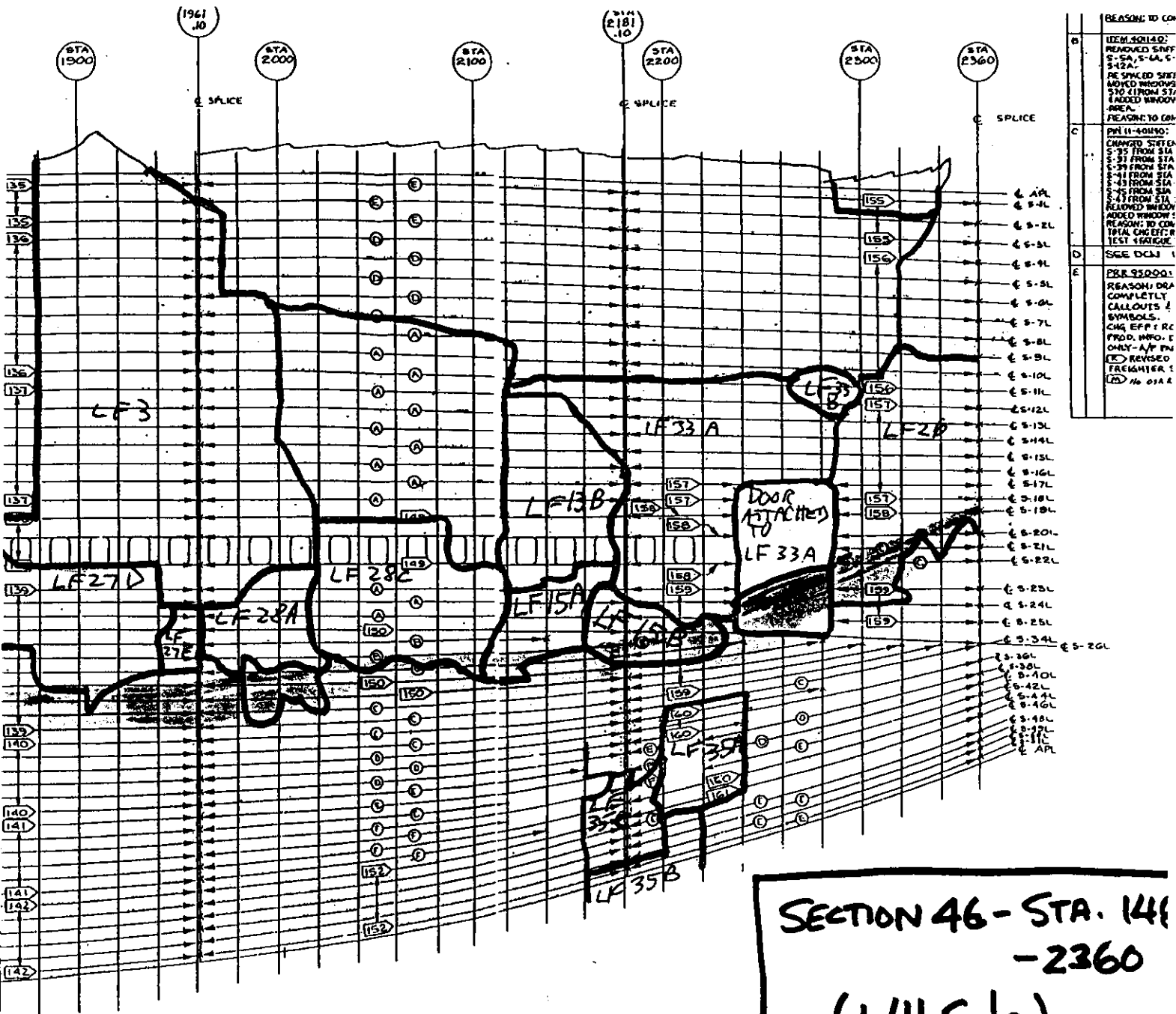
65B00005 3

# SECTION 44 - STA. 1000-1480 (L/H Side)

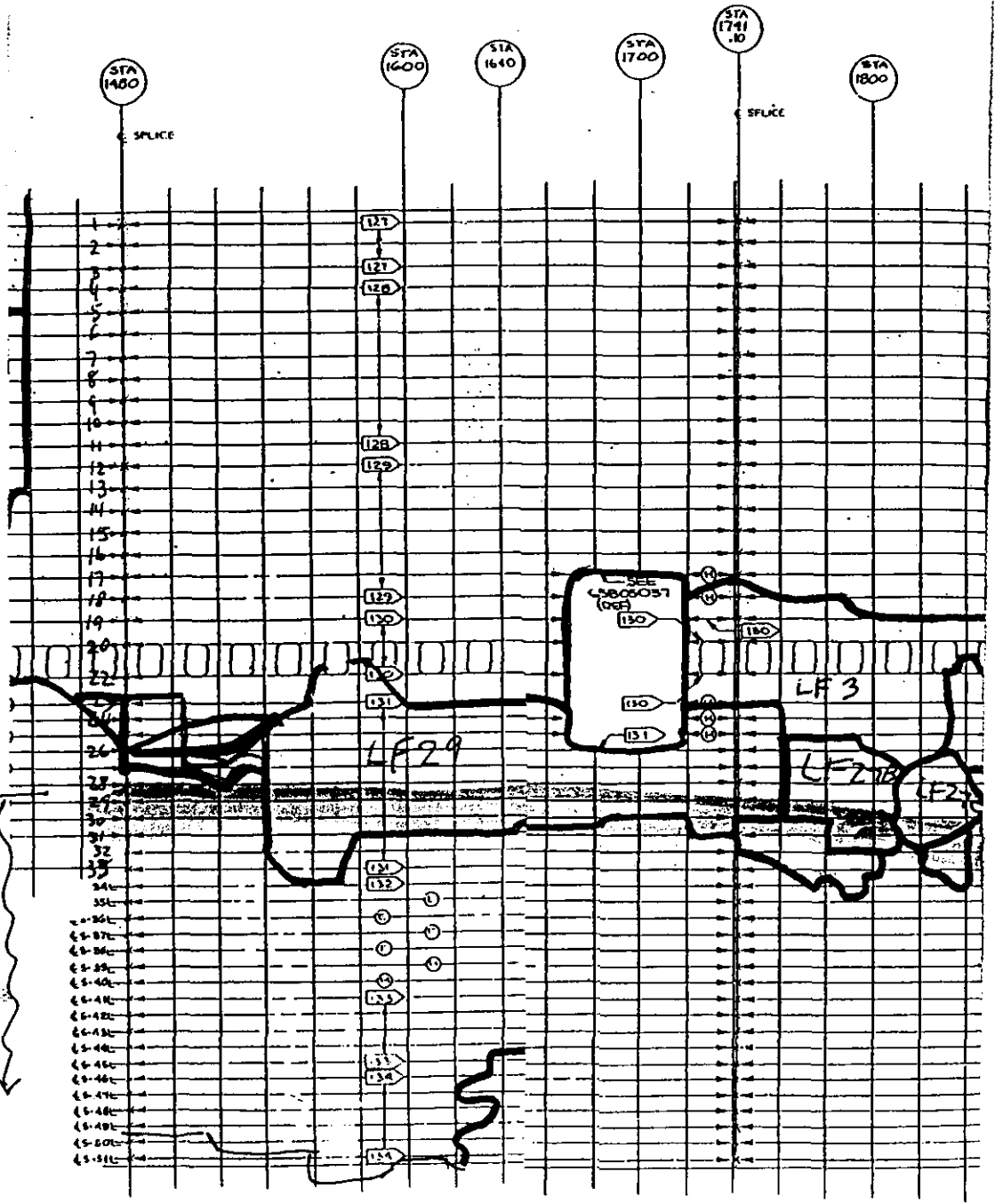


DEVELOPED VERTICAL LEFT SIDE  
SCALE: 1/80

STA. 1152



**SECTION 46 - STA. 141  
- 2360  
(L/H Side)**



DEVELOPED VIEW-  
LEFT SIDE