

~~SECRET~~

[REDACTED]

14 000403200

Vehicle No. 1112

Re-entry Capsule No. 554

Cassette No. \_\_\_\_\_

Camera No. 54

Date of Launch August 30, 1961

Time of Launch 1305 EDT

Date of Recovery September 1, 1961

Time of Recovery \_\_\_\_\_

Location In sea near Hawaii

Additional Remarks \_\_\_\_\_

*Dimensions A, B, and C reported in  
C-101 message in error. Discard message  
and use values on p 6.*

*Corrected conflict in horizon camera  
and beams between log books and  
[REDACTED] Log Book values  
assumed to be correct and will be  
continued.*

Declassified and Released by the NRO

In Accordance with E. O. 12968

NOV 26 1997

on \_\_\_\_\_

Compiled by [REDACTED]

Approved by [REDACTED]

*C-101 Project Engineer*

[REDACTED]

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Supply Spool No. 229

Emulsion Type J-23

Slit Width 0.200 inches Nominal ~~(Step)~~ Exposure 300 seconds

DMC Step No. 447 Cycling Rate \_\_\_\_\_ seconds

Actual Exposure \_\_\_\_\_ seconds Timing Pip Frequency - 160 CPS

OPTICS C<sup>III</sup>

~~LENS~~ LENS SERIAL NO. E7 - Wratten No. 21 Filter ~~(Goertz Data)~~

Operational Focal Length 24.014 inches

Resolution - Figure of Merit\*

PCIC Acceptance N.A. lines/mm

Itek Previbration \_\_\_\_\_ lines/mm

Itek Post-Vibration \_\_\_\_\_ lines/mm

Other L/H 184 lines/mm

\*See attached Resolution Data Sheets

HORIZON OPTICS - Wratten No. 25 Filter (Goertz Data)

PORT (Left) (Take-up) STARBOARD (Right) (Supply)

Exposure Time 1/200 sec 1/200 sec

Effective Aperture 6.8 6.8

Serial No. 803299 803310

Equivalent Focal Length (EFL) 89.15 mm 89.95 mm

Back Focal Length 81.72 mm 81.87 mm

~~Flange Focal Length~~ \_\_\_\_\_ mm \_\_\_\_\_ mm

Angle Off Axis 0° | <sup>5</sup> ~~2-1/2~~ 10 | 15° | 20 | ~~22-1/2~~ 20 | 0° | <sup>5</sup> ~~2-1/2~~ 10 | 15° | 20 | ~~22-1/2~~ 20

Min. Resolution on Super XX 56 | 44 | 39 | 34 | 31 | 26 | 63 | 49 | 39 | 34 | 27 | 24 lines/mm lines/mm

Radial Distortion (EFL)

10° .004 mm .005 mm

20° .036 mm .033 mm

Tangential Distortion (EFL) (Max. Vector)

.002 mm .010 mm



Lens No. F7

Date 6-8-61

**HYAC II PHOTOGRAPHIC RESOLUTION**  
**(HIGH CONTRAST - SO 1213 EMULSION)**  
**- RESOLUTION IN LINES/MM -**  
**TANGENTIAL / RADIAL**

FOCAL POSITION	LEFT				RIGHT		
	2 1/4°	2°	1°	0°	1°	2°	2 3/4°
Focal Increments - 0.0012 Inches Away From Lens	167	188	188	188	188	211	188
	188	188	188	211	211	188	167
	167	188	188	188	188	167	149
	188	188	188	211	167	167	167
	167	188	188	188	211	188	167
	188	188	188	188	188	167	167
	188	211	167	188	188	167	167
	211	167	188	211	211	188	167
	167	188	188	211	266	211	188
	188	211	237	237	237	211	211
149	188	237	211	237	237	211	
167	211	237	237	211	237	211	
133	167	188	266	237	211	211	
167	188	188	299	237	237	237	
188	211	237	237	237	237	211	
188	237	237	266	237	237	237	

Operational Flange Focal Distance  Inches

Operational E. F. L. 24.012 Inches

Distortion

	357	357 1/2	358	359	0°	1°	2°	2 1/2°	30
MM.	+0.031	+0.015	+0.003	-0.002	0.000	-0.002	-0.021	-0.042	-0.068

Test Performed By \_\_\_\_\_ Date \_\_\_\_\_

Approved By \_\_\_\_\_ Date \_\_\_\_\_



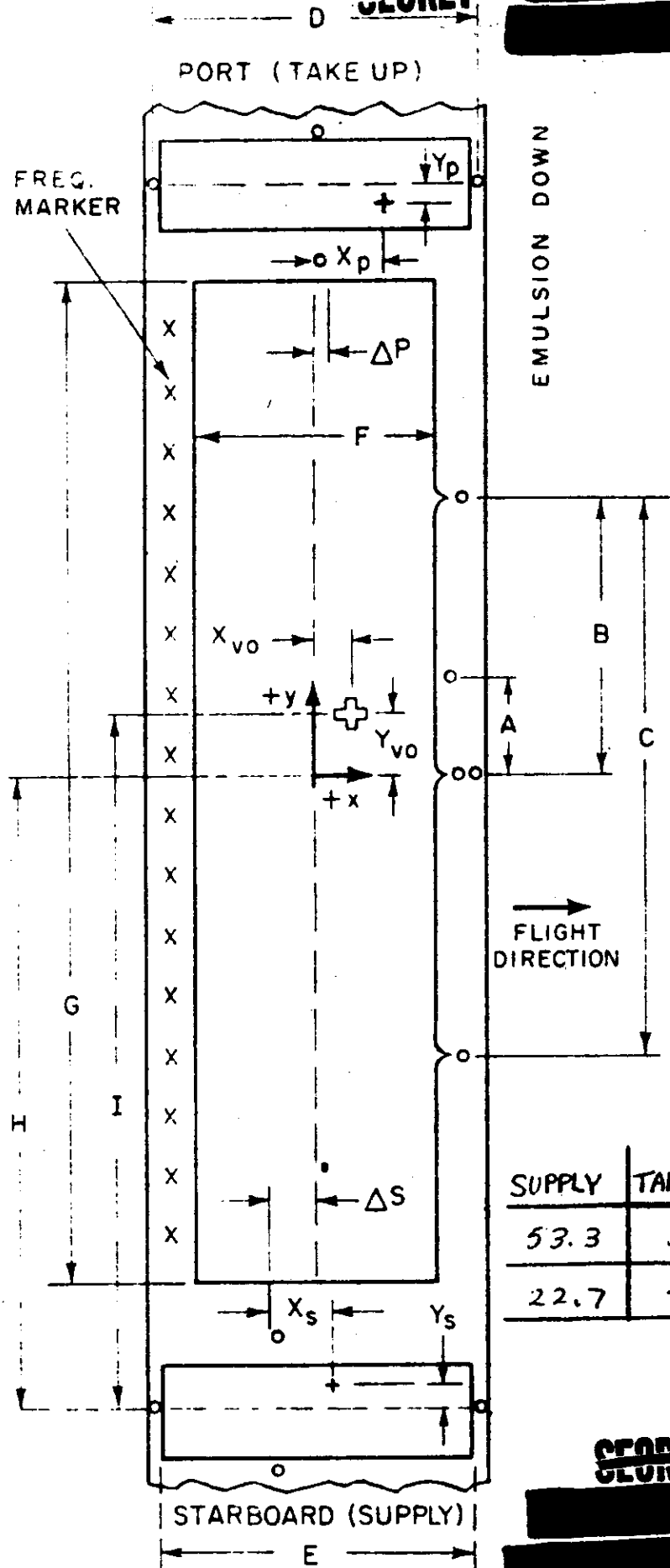
Transcribed from Log Book

*[Handwritten signature]*

**Notice of Missing Page(s)**

**Pages 4 and 5 of the original document were missing.**

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TABULATION

Horizon Reading (mm)

$X_{\bar{p}} = -243$      $Y_{\bar{p}} = +251$   
 $X_{\underline{p}} = +222$      $Y_{\underline{p}} = -888$

Vertical Offset (mm)

$X_{vo} = -1.757$      $Y_{vo} = +1.544$

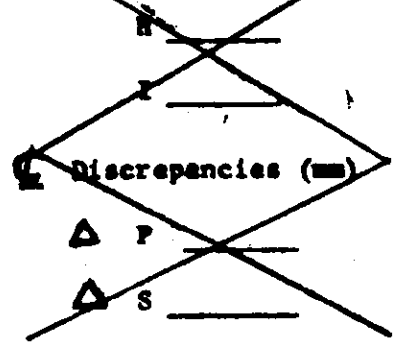
Shrinkage Measurements\* (mm)

- A 76.175
- B 355.251
- C 711.468
- D 56.45
- E 56.432

Format Dimensions\*  
~~(Inches x 1/32)~~ mm

- F 57.1
- G 758.5

~~of Format Locations (mm)~~



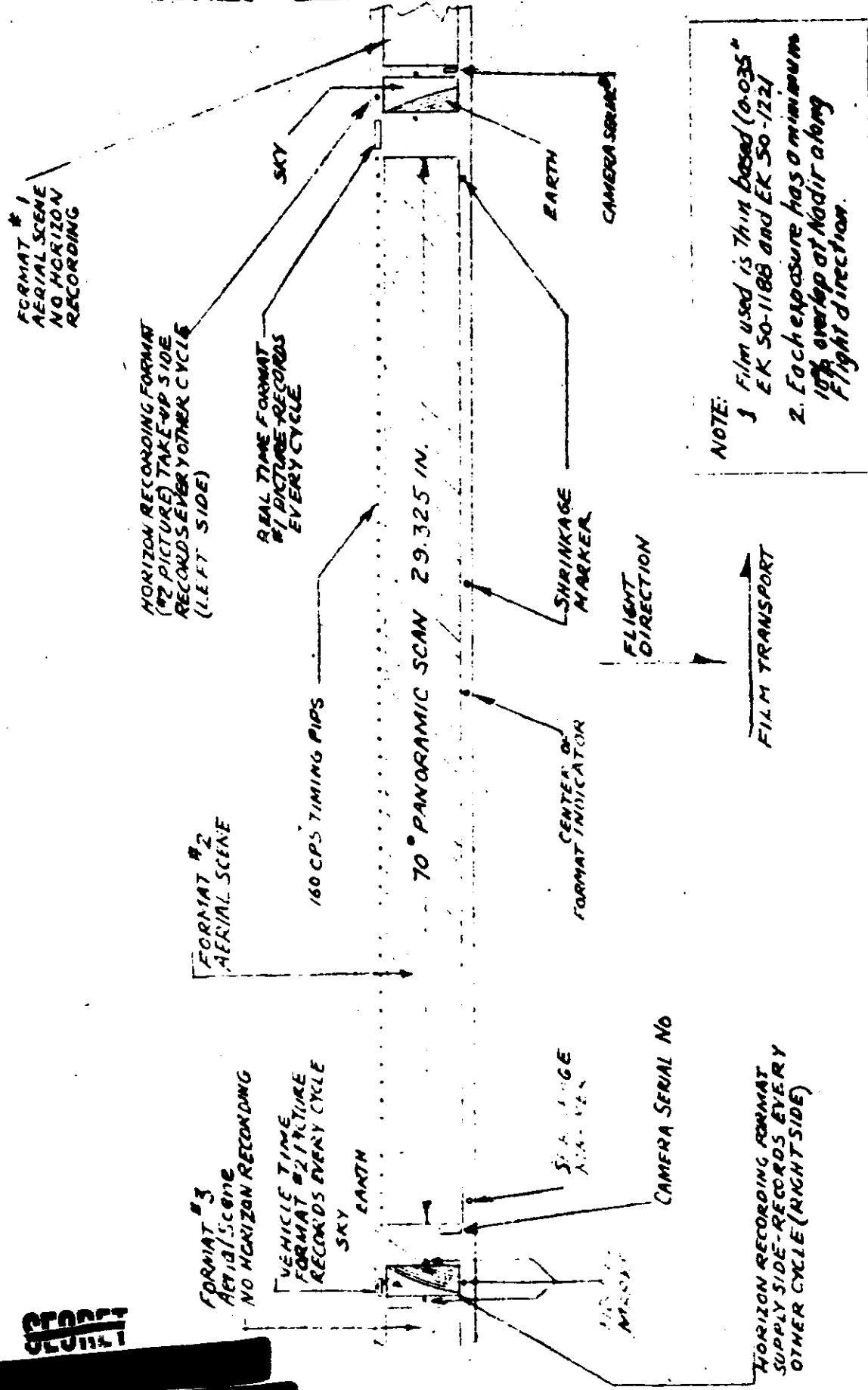
SUPPLY	TAKE-UP
53.3	53.3
22.7	27.8

\*Post Vibration Measurements at Itek

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NOTE:

1. Film used is Thin based (0-035" EK 50-1188 and EK 50-1221)
2. Each exposure has a minimum 10% overlap at Nadir along Flight direction.

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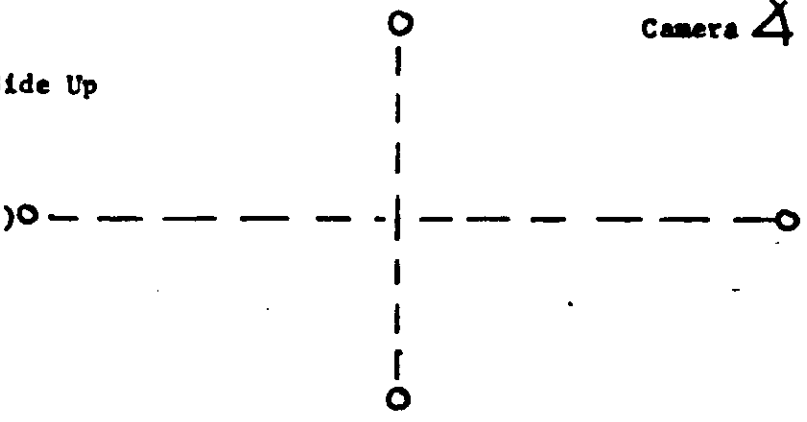
HORIZON ALIGNMENT DATA SHEET

*No Data*

STARBOARD  
(Supply)  
Emission Side Up

Camera 4

(Supply Spool)

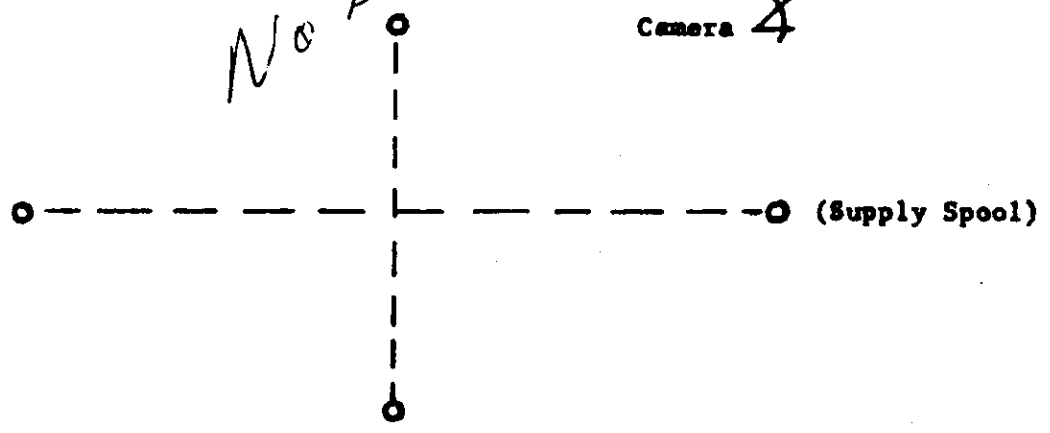


PORT  
(Take Up)

Camera 4

*No Data*

(Supply Spool)



SPART  
CHUMI

NT  
SOLE  
NG FORMAT  
PLY SIDE  
HER CYCLE

MECH. MAX. DEVIATION OF  
MECHANICAL CENTER OF  
LENS

FORMAT #2  
WITH HORIZON RECORDING

REAL TIME FORMAT  
(#1 PICTURE)  
RECORDS EVERY CYCLE

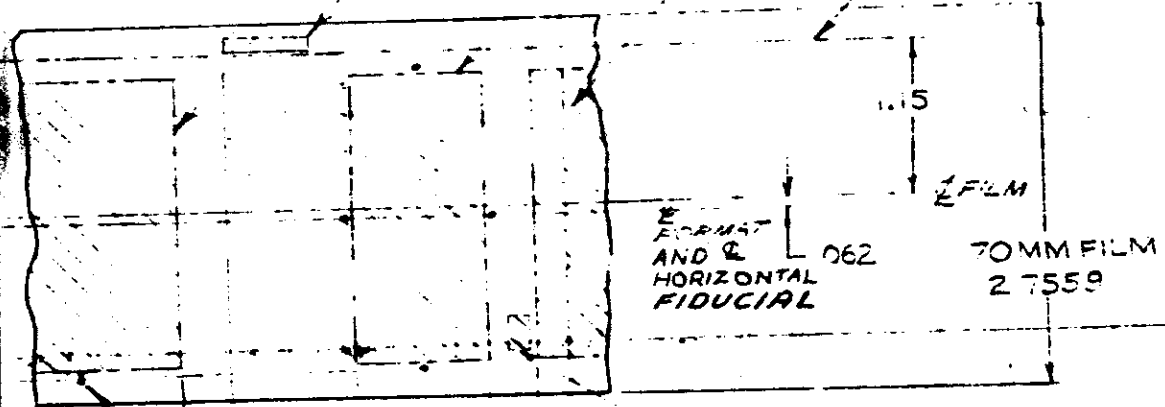
CENTER OF FORMAT  
SIDE 2

HORIZON RECORDING FORMAT  
(#2 PICTURE)  
TAKE UP SIDE  
RECORDS EVERY OTHER CYCLE  
**LEFT SIDE**

PLATE  
#2

FORMAT #1  
NO HORIZON RECORDING

TRIGGER PULSE  $\phi$



FORMAT  
AND  
HORIZONTAL  
FIDUCIAL

70MM FILM  
2.7559

SERIAL NO.

2.138  
1.238 .900 .36  
1.662  
0.002

REVISION "A" - 12/2/58 GPW  
SEE RECORD PRINT.

PLATE #3  
SHRINKAGE MARKERS (2)  
.015 DIA.

WORKING THRU BACK OF FILM

ITEK Corporation  
Boston, Mass.



REAL TIME FORMAT  
- (#2 PICTURE)  
RECORDS EVERY CYC  
HORIZON RECORDING  
(#2 PICTURE) SUPPL  
RECORDS EVERY OTH  
RIGHT SIDE

FORMAT #3  
NO HORIZON  
RECORDING

FIDUCIAL MARKS  
.015 DIA.

SERIAL NO.

00 REF

2.10  
FORMAT

2.224 ±.001

1.112 ±.001

.05

2.500 REF

.100 TYP.

.625  
TYP.

.212  
TYP.

.250 TYP.

.062

.450

.512 ±.001

.156 TYP.  
.04 TYP.

.062

.000  
±.001

1.000 ±.001

.36

.900

1.238

28.000 ±.001

29.725

1.024 ±.001

.031 TYP.

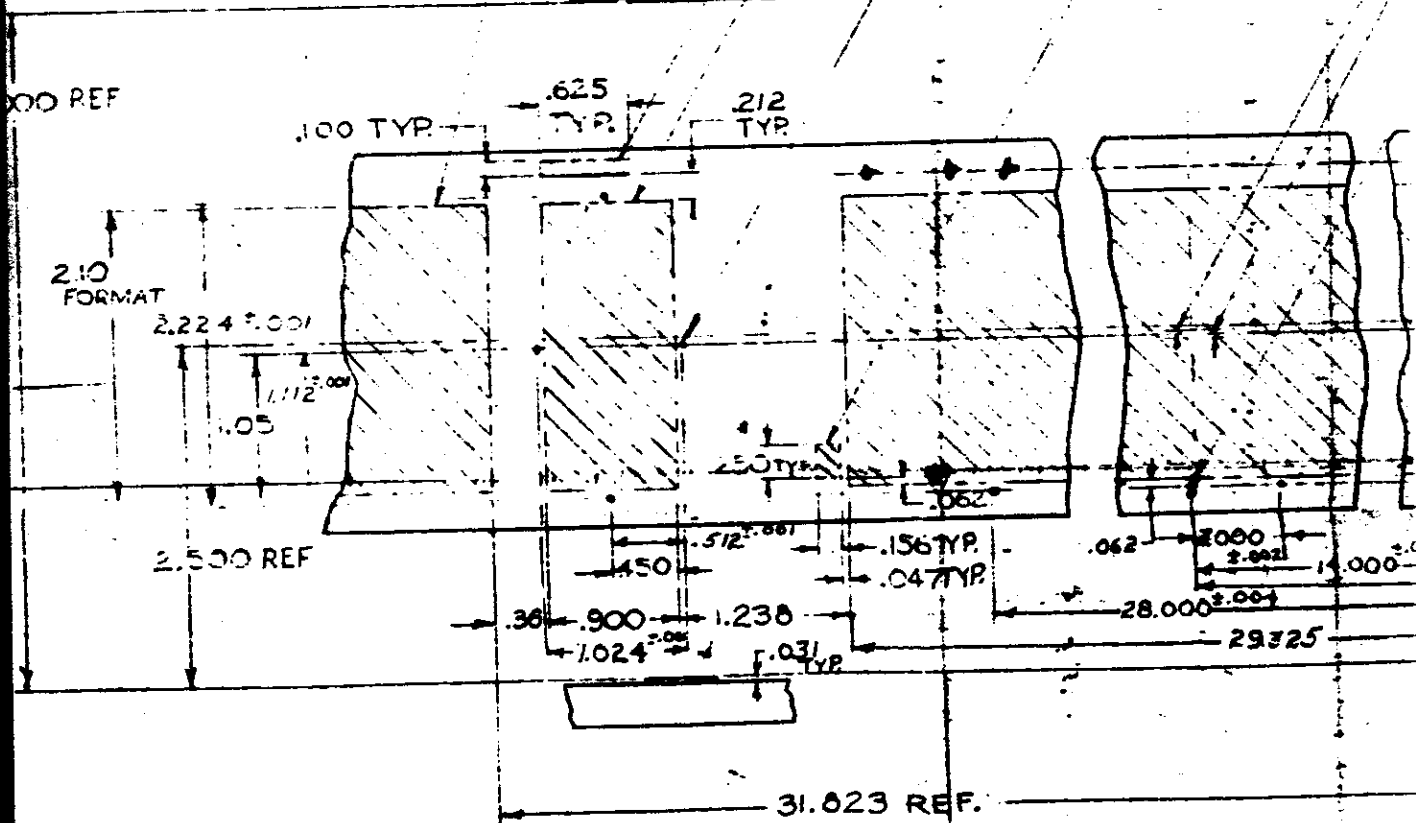
31.023 REF.

FILM  
TRANSPORT

FILM  
DIRECTION

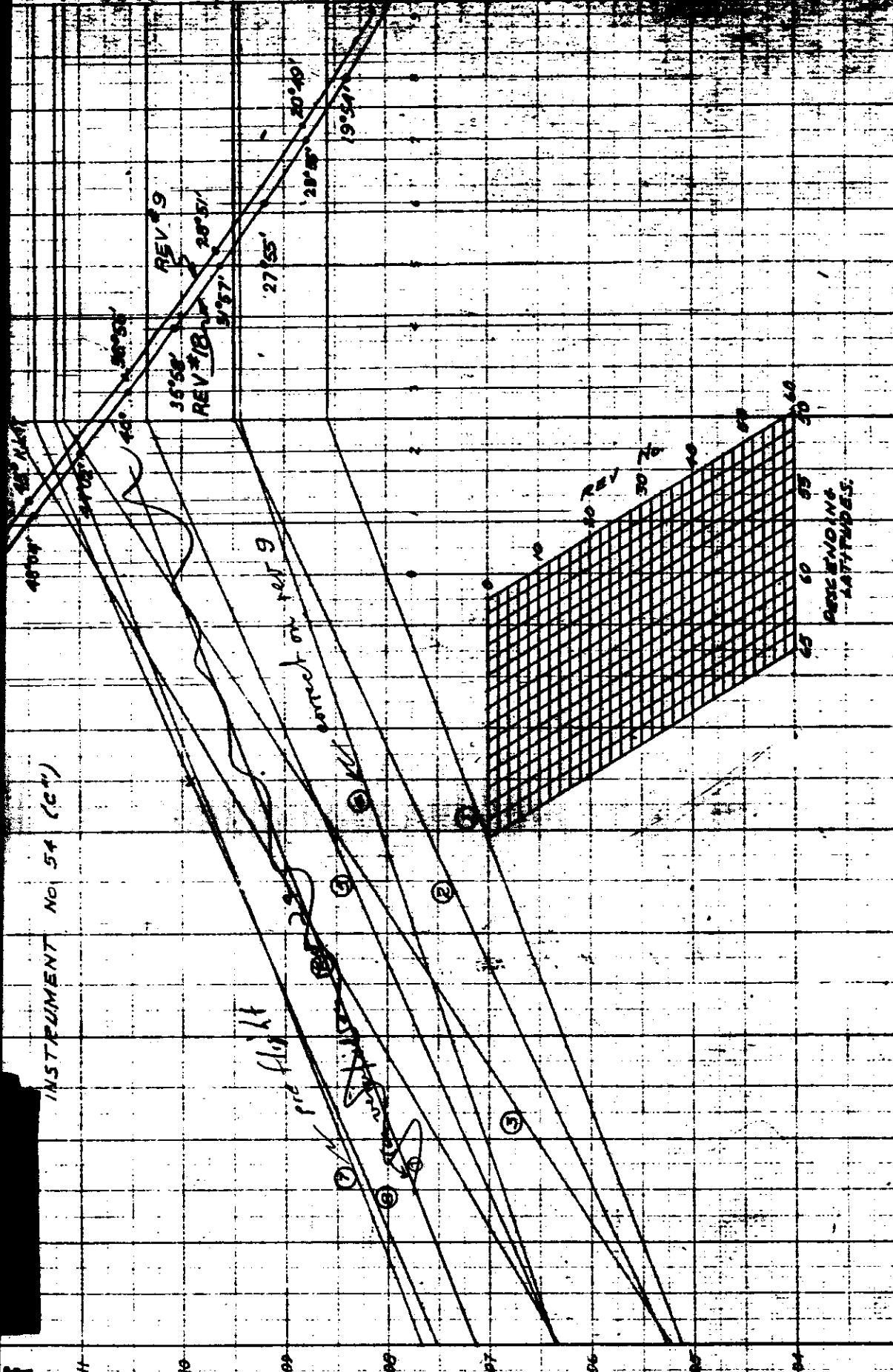
VIEW LOOKING

FOR



**SECRET**

INSTRUMENT NO 54 (C-4)



ELAPSED TIME (SEC)	ALTITUDE (ft/sec/yd)
0	0
100	0
200	0
300	0
400	0
500	0
600	0
700	0
800	0
900	0
1000	0
1100	0
1200	0

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$H = \frac{26357}{374} \approx 70.45$   
 07/13