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JSC-09674

NASA CR-

141859

(NASA-CR-141859) APOLLO SOYUZ TEST PROJECT  
PHOTOGRAPHIC PROCESSING CONTROL PLAN  
(Technicolor Graphic Services, Inc.) 45 p  
HC \$3.75 CSCL 14E

N75-25137

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APOLLO SOYUZ TEST PROJECT  
PHOTOGRAPHIC PROCESSING CONTROL PLAN

Prepared Under  
Contract NAS 9-11500  
Task Order HT-114

Prepared By  
Harold E. Lockwood  
Photoscientist

May 1975



Photographic Technology Division  
National Aeronautics and Space Administration  
Lyndon B. Johnson Space Center  
Houston, Texas 77058

*National Aeronautics and Space Administration*  
**LYNDON B. JOHNSON SPACE CENTER**  
*Houston, Texas*

APOLLO SOYUZ TEST PROJECT  
PHOTOGRAPHIC PROCESSING CONTROL PLAN

This report has been reviewed  
and is approved.

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Apollo Soyuz Test Project  
Photographic Processing Control Plan

INTRODUCTION

This document specifies the laboratory controls to be used within the Photographic Technology Division (PTD) for processing original space flight films exposed on the Apollo Soyuz Test Project (ASTP) mission. Specified in this document are the sensitometric exposures to be used by PTD for certifying processes, for exposing Houston Controls and for pre- and post-flight exposures on original films as well as procedures for film certification. Processing conditions used to achieve each control including processing machine operating parameters are included for reference.

## FILM CERTIFICATION PROCEDURES

The characteristics of each ASTP candidate film were checked by physical inspection and by sensitometric analysis of processed samples. Simulation rolls with exposures representative of ASTP conditions were processed to meet the standards established by PTD and evaluated to verify process-exposure compatibility.

### Physical Inspection

One roll of each film type randomly selected from the emulsion batch designated for ASTP use was inspected in its unprocessed condition. A visual inspection was made for dirt, scratches, coating imperfections, edge roughness and coating evenness on both the emulsion and backing side of each roll.

The inspected roll was appropriately labeled and stored intact by the Photographic Sciences Office(PSO)and will remain stored until the space flight film is processed and inspected.

### Sensitometric Parameters

The sensitometric characteristics of each film type, size, and emulsion are established by processing samples which have been exposed on the PTD I-B sensitometer. The condition for sensitometric exposure of each film type is specified as follows:

- a. Color temperature and intensity of the I-B sensitometer lamp (illuminant).
- b. Exposure duration required to place the density versus log exposure values in the correct range. (time)
- c. Filtration used to simulate ASTP exposing conditions for each film. (filter)

A summary of ASTP films with sensitometric exposure specifications is included as Table 1.

### Establishing Laboratory Process

A series of sensitometric exposures made on each film under consideration is processed to determine the machine and chemical operating conditions required for meeting PTD Quality Control chemical and sensitometric standards. If previous history is not available, an aim speed and acceptable color balance are achieved.

Once each standard is met, a series of five calibrated sensitometric strips of each film type and emulsion to be certified, are processed. The densitometric values of the processed strips are read, averaged, and plotted. When found acceptable by PSO, the curve is documented as the ASTP Control for certification of ASTP flight and simulation films.

As soon as the control strips are processed, chemical solutions are sampled and analyzed to maintain a record of the specific process conditions. These results are filed by PSO for reference.

Curves for each film type, emulsion and size to be used as control curves for certifying ASTP spaceflight original films are included here as Appendix A in order by PTD Code letter.

In addition to control curves, PTD accumulates a history for each film when processed under a variety of machine specifications. These results are filed by PSO for reference. PTD also conducts flight film processing simulations for each film type, some with simulated space imagery, and these results are evaluated.

#### Additional Testing

Additional tests are conducted by the PSO as required to meet space flight standards. These may include studies of the effects of

TABLE 1

## ASTP FILMS AND SENSITOMETER EXPOSURES

PTD CONTROL CODE	FILM	EMULSION	FILM WIDTH	PROCESSOR	CHEMISTRY	SENSITOMETER			EQUIVALENT ASA SPEED
						ILLUM.	TIME	FILTRA.	
A	QX-807	1-32	16mm	RAM	ME-4	2850°K	1/50	5500°K	64
B	SO-168	13-61	16mm	RAM	ME-4	2850°K	1/100	5500°K	320
C	SO-242	4301G	16mm	RAM	ME-4	2850°K	1/5	5500°K	10
D	QX-806	101R	16mm	RAM	ME-4	2850°K	1/100	80D	400
E	QX-807	1-32	70mm	1811	EA-5	2850°K	1/50	5500°K	64
F	SO-289	4-1	70mm	11C-M	MX-641	2850°K	4	5500°K + SCW + 87C	Y 1.4*
G	SO-242	43-1	70mm	1811	EA-5	2850°K	1/5	5500°K	10
H	2443	206-1	70mm	1811	EA-5	2850°K	1/50	5500°K + W12	55
I	3401	284-4	70mm	11C-M	MX-641	2850°K	1/50	5500°K	Y 1.4*
J	SO-168	13-62	35mm	Houston	ME-4	2850°K	1/100	5500°K	160
K	SO-168	13-62	35mm	Houston	ME-4	2850°K	1/100	5500°K	320
L	QX-807	1-32	35mm	Houston	ME-4	2850°K	1/50	5500°K	64
M	QX-806	1-1	35mm	Houston	ME-4	2850°K	1/100	5500°K	320

\* These films processed to achieve an aim gamma; speed not the major control factor.



radiation, heat, cold, relative humidity, and time on the latent image as determined by measuring speed, granularity, color balance, contrast, and resolution.

ASTP film type QX807-1-32 required such an extensive test series, because the film was manufactured with an equivalent 2A filter overcoat, a task not previously carried out with that film. Results of this testing were documented in technical report JSC-09621, "Evaluation of Film Type QX-807 (S0-36E, Kodak Ektachrome MS, Estar Base, with an Equivalent Wratten 2A Overcoat)".

APPENDIX A

CONTROL CURVES AND FILM DATA  
FOR ASTP FLIGHT FILMS

PTD ASTP CONTROL "A"

FILM: Kodak Ektachrome MS Recording Film QX-807  
EMULSION: 1-32  
BASE: Estar Thin Base (2.5 mil)  
WIDTH: 16mm  
EFFECTIVE SPEED: 64 Southard (ASA equivalent)

BRIEF

DESCRIPTION: Kodak Ektachrome MS Recording Film QX-807 is a near equivalent of Kodak Ektachrome MS Film Type SO-368 with a Wratten 2A (ultraviolet absorbing) filter overcoated. It is medium speed color reversal film with a high contrast (1000:1) target resolution of 80 lines per millimeter.

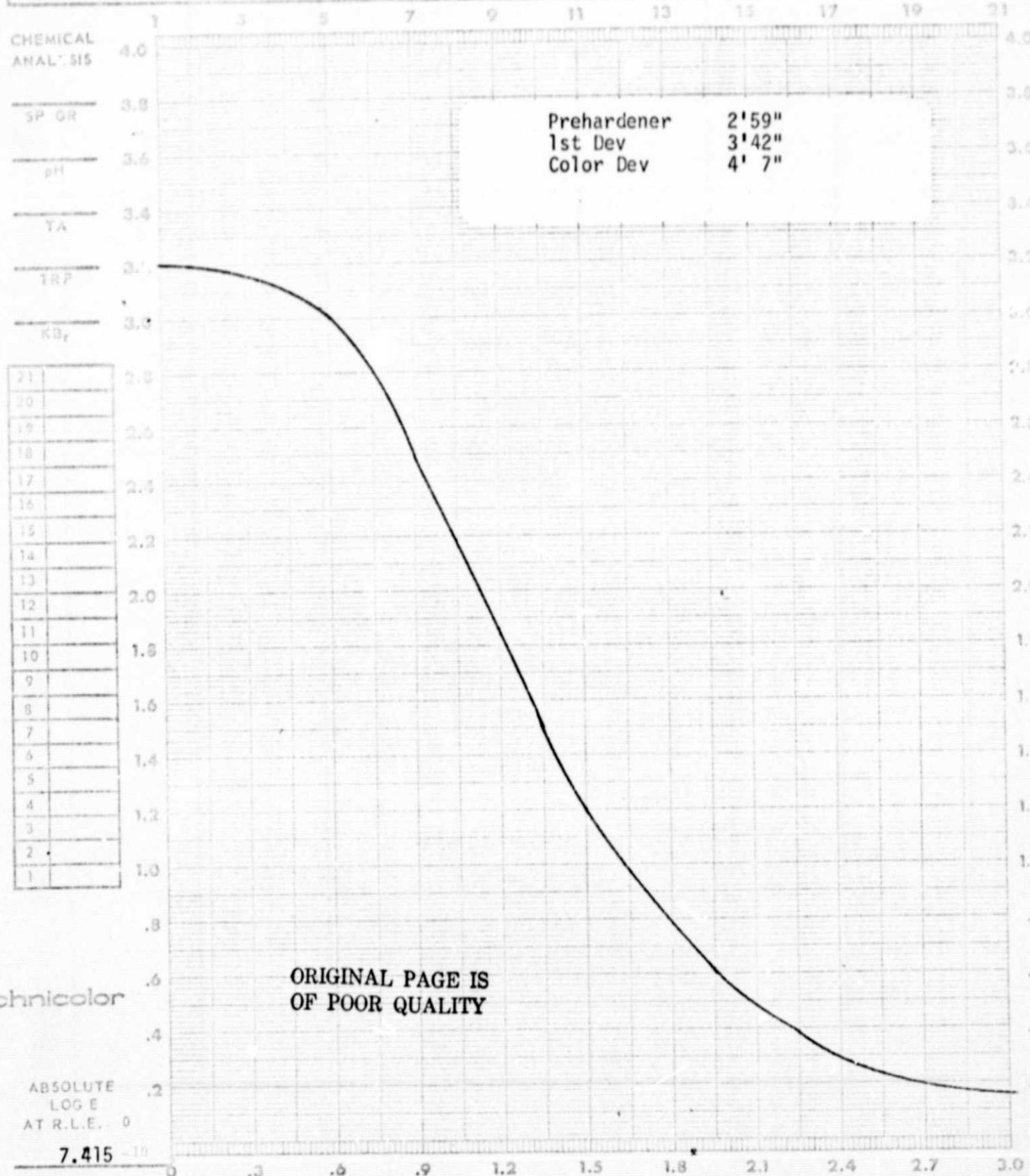
This film will be processed by PTD in the 16mm RAM processor with Kodak ME-4 chemistry.

CONTROL CURVES: Attached

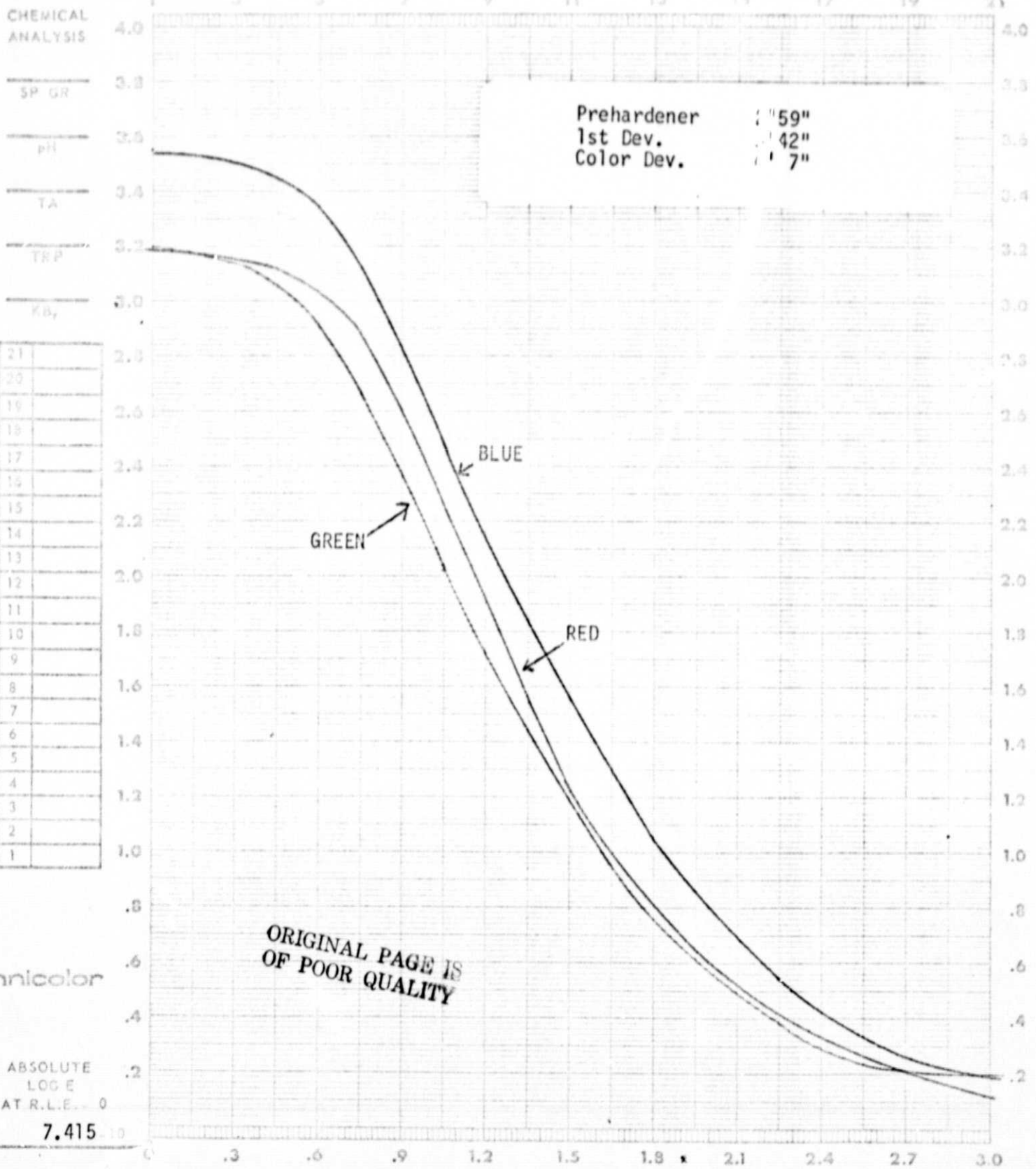
DATE 24 / 75 CONTROL # A TASK ASTP Control PREPARED BY \_\_\_\_\_

FILM QX-007 EMULSION # 1-32 (16mm) MFG EK EXPIRATION DATE \_\_\_\_\_

EXPOSURE DATA		PROCESSING DATA		DENSITOMETRY				
SENSITOMETER	<u>I-B</u>	PROCESSOR	<u>RAM</u>	INSTRUMENT	<u>MacBeth</u>	SPEED (	<u>64</u>	)
ILLUMINANT	<u>2850</u>	CHEMISTRY	<u>ME-4</u>	TYPE	<u>TD504</u>	D-MAX	_____	
TIME	<u>1/50</u>	SPEED	<u>80</u>	APERTURE SIZE	<u>3</u>	GAMMA	_____	
FILTER	<u>5500°K</u>	TEMP °F	<u>98</u>	FILTER	<u>Visual</u>	BASE + FOG	_____	



EXPOSURE DATA		PROCESSING DATA		SENSITOMETER	
SENSITOMETER	I-B	PROCESSOR	RAM	INSTRUMENT	MacBeth
ILLUMINANT	2850	CHEMISTRY	ME-4	TYPE	TD504
TIME	1/500	SPEED	80	APERTURE SIZE	3
FILTER	5500°K	TEMP °F	98	FILTER	Status A



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PTD ASTP CONTROL "B"

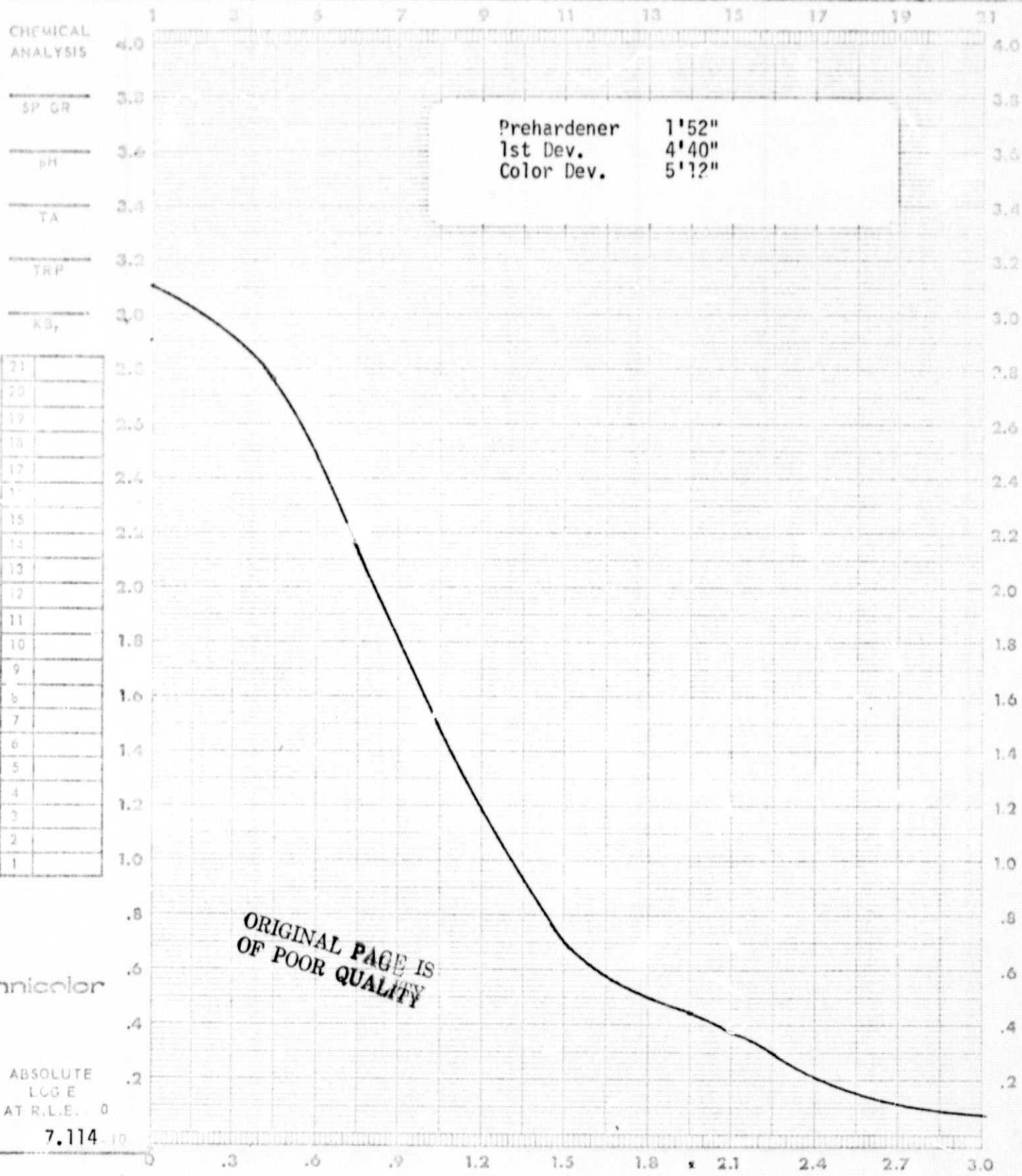
FILM: Kodak Ektachrome EF Film S0-168  
EMULSION: 1361G  
BASE: Estar thin base (2.5 m:1)  
WIDTH: 16mm  
EFFECTIVE SPEED: 320 Southard (ASA equivalent)

BRIEF DESCRIPTION: Kodak Ektachrome EF Film Type S0-168 is a high-speed color reversal film with a high contrast (1000:1) target resolution of 80 lines per millimeter.

This film will be processed by PTD in the RAM processor in ME-4 chemistry.

CONTROL CURVES: Attached.

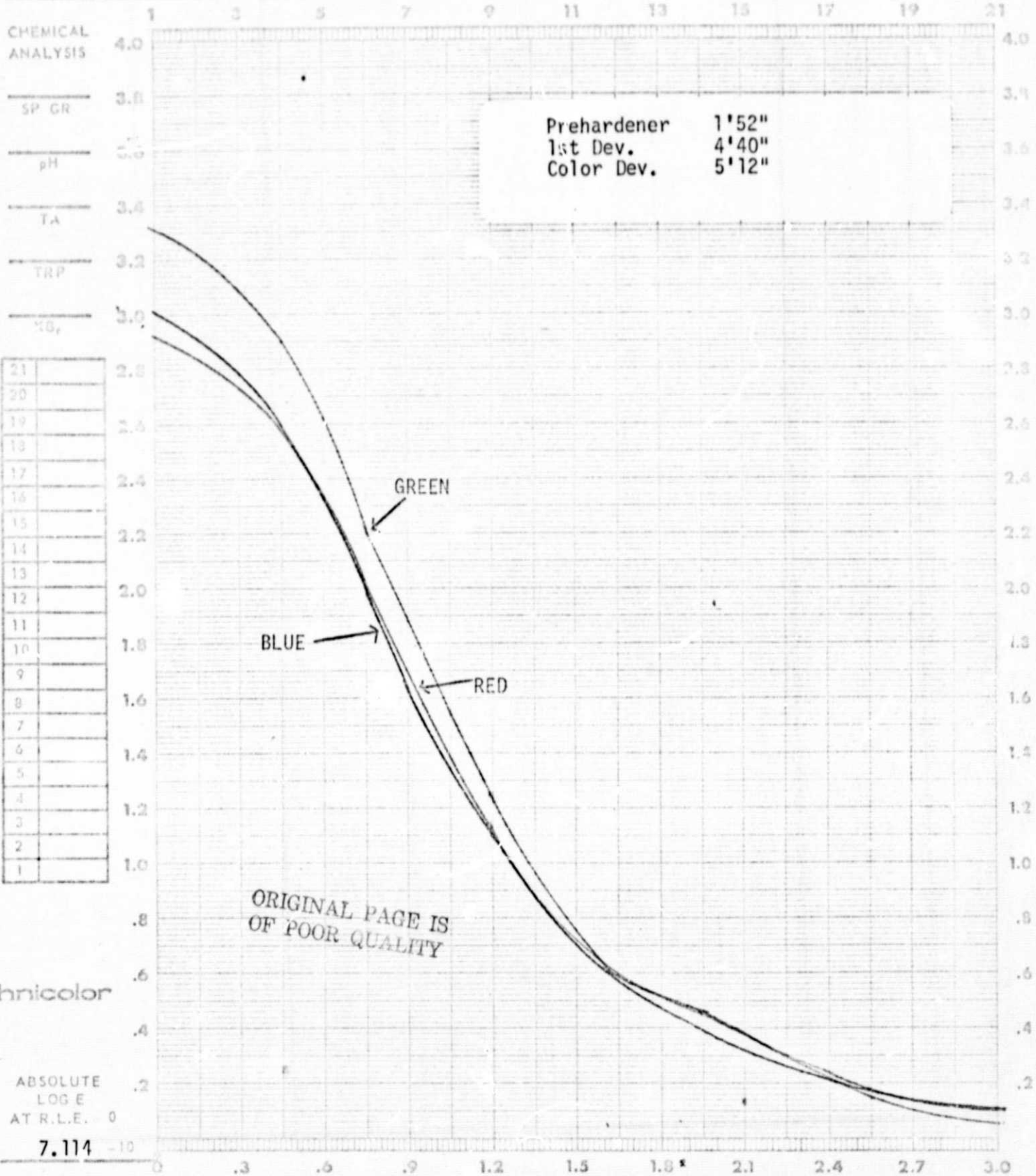
EXPOSURE DATA		PROCESSING DATA		DENSITOMETRY	
SENSITOMETER	I-B	PROCESSOR	RAM	INSTRUMENT	MacBeth
ILLUMINANT	2850	CHEMISTRY	ME-4	TYPE	TD504
TIME	1/100	SPEED	64	APERTURE SIZE	3
FILTER	5500°K	TEMP °F	98	FILTER	Visual
		TANKS			
		TIME			



DATE 24 Apr 75 CONTROL # B TASK ASTP Control PREPARED BY \_\_\_\_\_

FILM S0-168 EMULSION # 13-61 (16mm) MFG \_\_\_\_\_ EXPIRATION DATE \_\_\_\_\_

EXPOSURE DATA		PROCESSING DATA		DENSITOMETRY	
SENSITOMETER	<u>I-B</u>	PROCESSOR	<u>RAM</u>	INSTRUMENT	<u>MacBeth</u>
ILLUMINANT	<u>2850</u>	CHEMISTRY	<u>ME-4</u>	TYPE	<u>TD504</u>
TIME	<u>1/100</u>	SPEED	<u>64</u>	APERTURE SIZE	<u>3</u>
FILTER	<u>5500°K</u>	TEMP °F	<u>98</u>	FILTER	<u>Status A</u>
		TANKS			
		TIME			





PTD ASTP CONTROL "C"

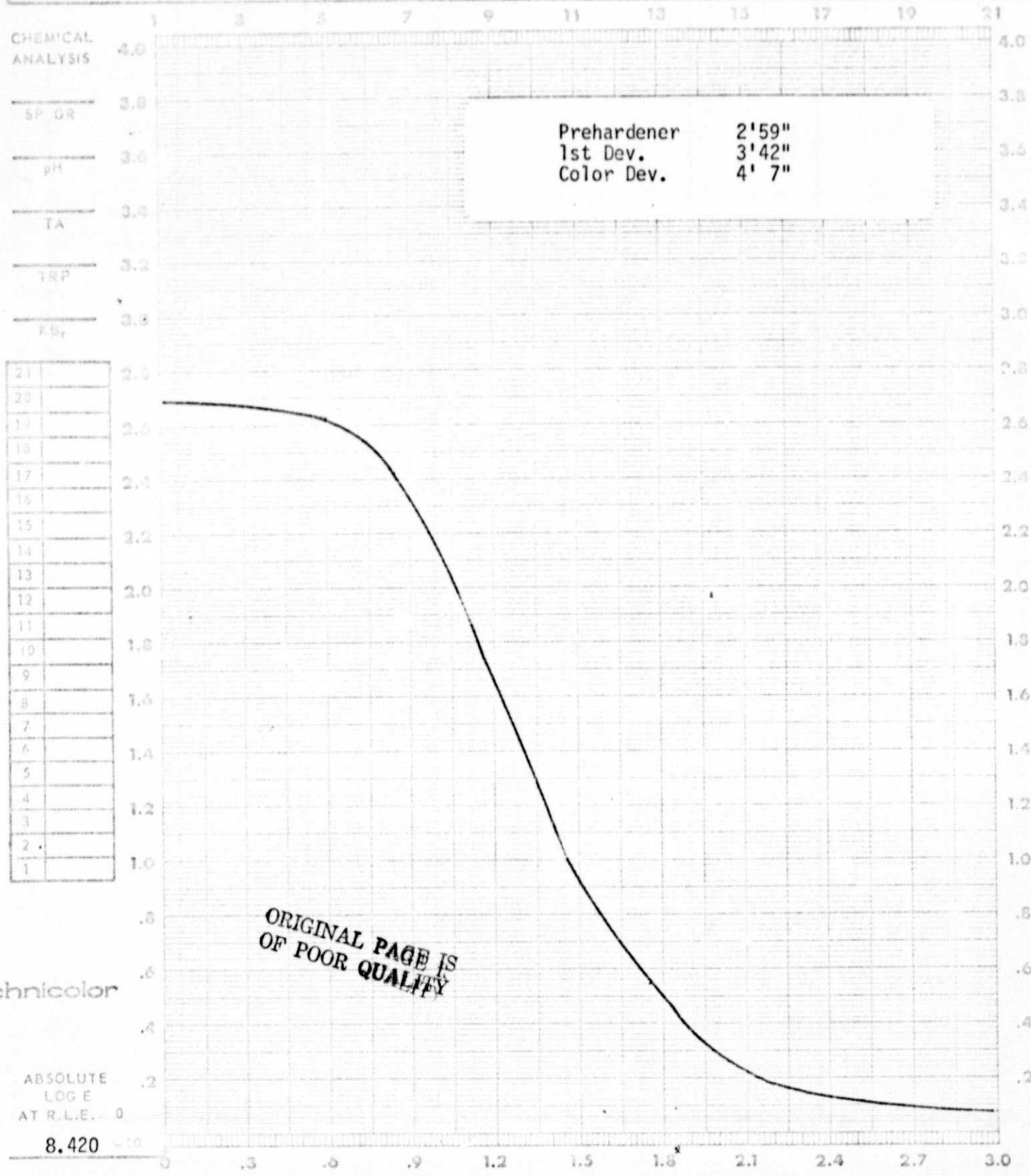
FILM: Kodak Aerial Color Film S0-242  
EMULSION: 4301G  
BASE: Estar thin base (2.5 mil)  
WIDTH: 16mm  
EFFECTIVE SPEED: 10 Southard (ASA equivalent)

BRIEF  
DESCRIPTION: Kodak Aerial Color Film Type S0-242 is an extremely fine grain, low speed, high definition aerial color reversal film with an equivalent Wratten 2A (ultraviolet absorber) coating. This film has a high contrast (1000:1) target resolution of 200 lines per millimeter.

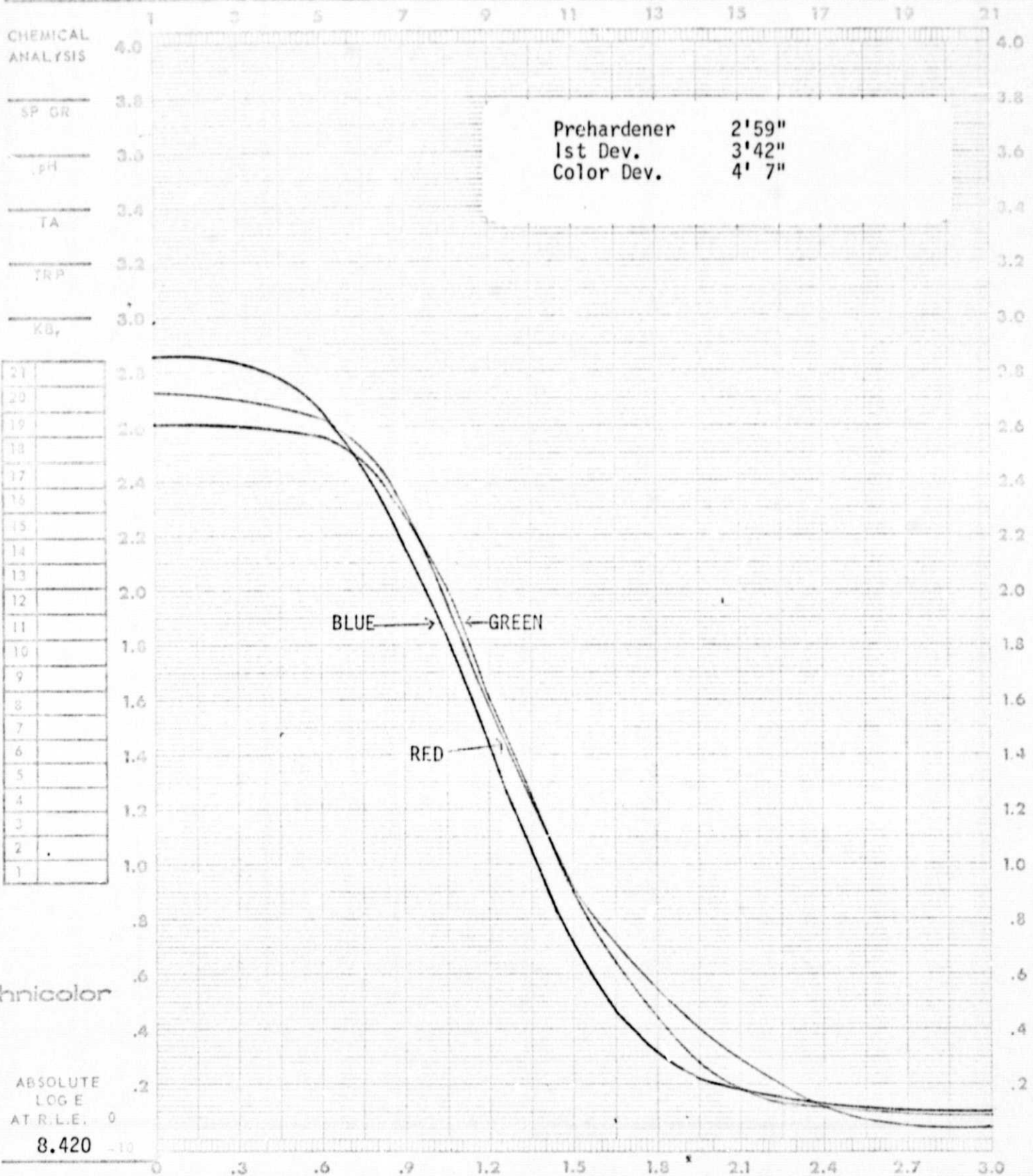
This film will be processed by PTD in the 16mm RAM processor with Kodak ME-4 chemistry.

CONTROL CURVES: Attached

EXPOSURE DATA		PROCESSING DATA		DENSITOMETRY	
SENSITOMETER	I-B	PROCESSOR	RAM	INSTRUMENT	MacBeth
ILLUMINANT	2850	CHEMISTRY	ME-4	TYPE	TD504
TIME	1/5	SPEED	80	APERTURE SIZE	3
FILTER	5500°K	TEMP °F	98	FILTER	Visual
		TANKS			
		TIME			



EXPOSURE DATA		PROCESSING DATA		DENSITOMETRY	
SENSITOMETER	<u>I-B</u>	PROCESSOR	<u>RAM</u>	INSTRUMENT	<u>MacBeth</u>
ILLUMINANT	<u>2850</u>	CHEMISTRY	<u>ME-4</u>	TYPE	<u>TD504</u>
TIME	<u>1/5</u>	SPEED	<u>80</u>	APERTURE SIZE	<u>3</u>
FILTER	<u>5500°K</u>	TEMP °F	<u>98</u>	FILTER	<u>Status A</u>
					SPEED ( ) _____
					D-MAX _____
					GAMMA _____
					BASE + FOG _____



PTD ASTP CONTROL "D"

FILM: Kodak Ektachrome EFB Recording Film QX-806  
EMULSION: 101R  
BASE: Estar thin base (2.5 mil)  
WIDTH: 16mm  
EFFECTIVE SPEED: 400 Southard (ASA equivalent)

BRIEF

DESCRIPTION: Kodak Ektachrome EFB Recording Film QX-806 is a high speed color reversal film with an equivalent filter overcoated to color balance the emulsion for tungsten illumination. This film has a high contrast (1000:1) target resolution of 80 lines per millimeter.

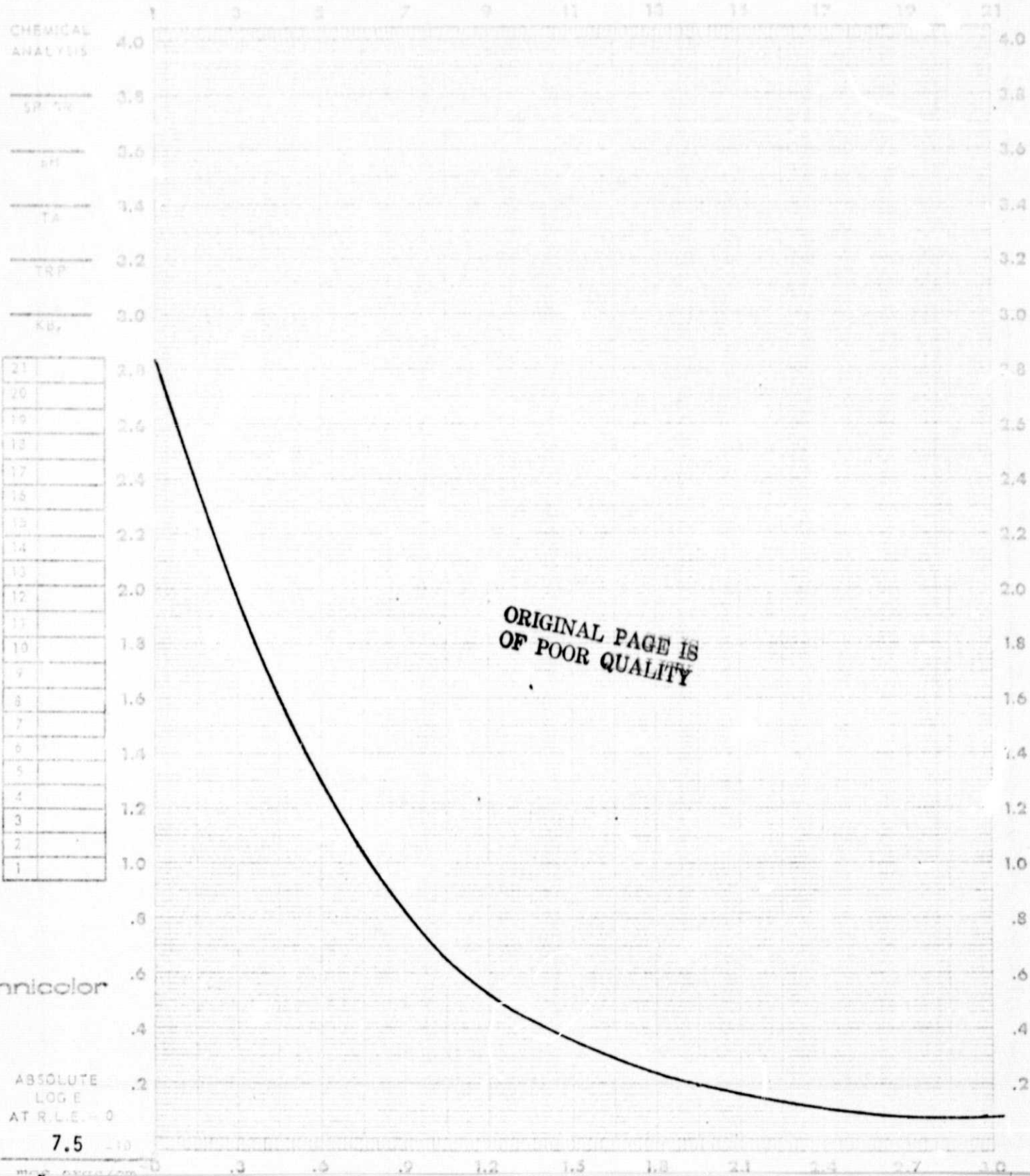
This film will be processed by PTD in the RAM processor in ME-4 chemistry.

CONTROL CURVES: Attached.

DATE 5/12/75 CONTROL # D ASTP TASK Control PREPARED BY

FILM QX 806 EMULSION # 101R MFG EXPIRATION DATE

EXPOSURE DATA		PROCESSING DATA		DENSITOMETRY	
SENSITOMETER	I-B	PROCESSOR	RAM	INSTRUMENT	MacBeth
ILLUMINATION	2850	CHEMISTRY	ME-4	TYPE	TD504
TIME	1/100	SPEED	64	APERTURE SIZE	3
FILTER	80D	TEMP °F	98	FILTER	Visual
					400
					D-MAX
					CAMERA
					FASS - FOS



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FILM Qx 806

101R

SENSITOMETER	I-B	RAM	MacBeth	400
ILLUMINATION	2850	ME-4	TD504	
TIME	1/100	64	3	
FILTER	80D	98	Status A	

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ABSOLUTE LOG E TABLE

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PTD ASTP CONTROL "E"

FILM: Kodak Ektachrome MS Recording Film QX-807  
EMULSION: 1-32  
BASE: Estar Thin Base (2.5 mil)  
WIDTH: 70mm  
EFFECTIVE SPEED: 64 Southard (ASA equivalent)

BRIEF

DESCRIPTION: Kodak Ektachrome MS Recording Film QX-807 is a near equivalent of Kodak Ektachrome MS Film Type SO-368 with a Wratten 2A (ultraviolet absorbing) filter overcoated. It is a medium speed color reversal film with a high contrast (1000:1) target resolution of 80 lines per millimeter.

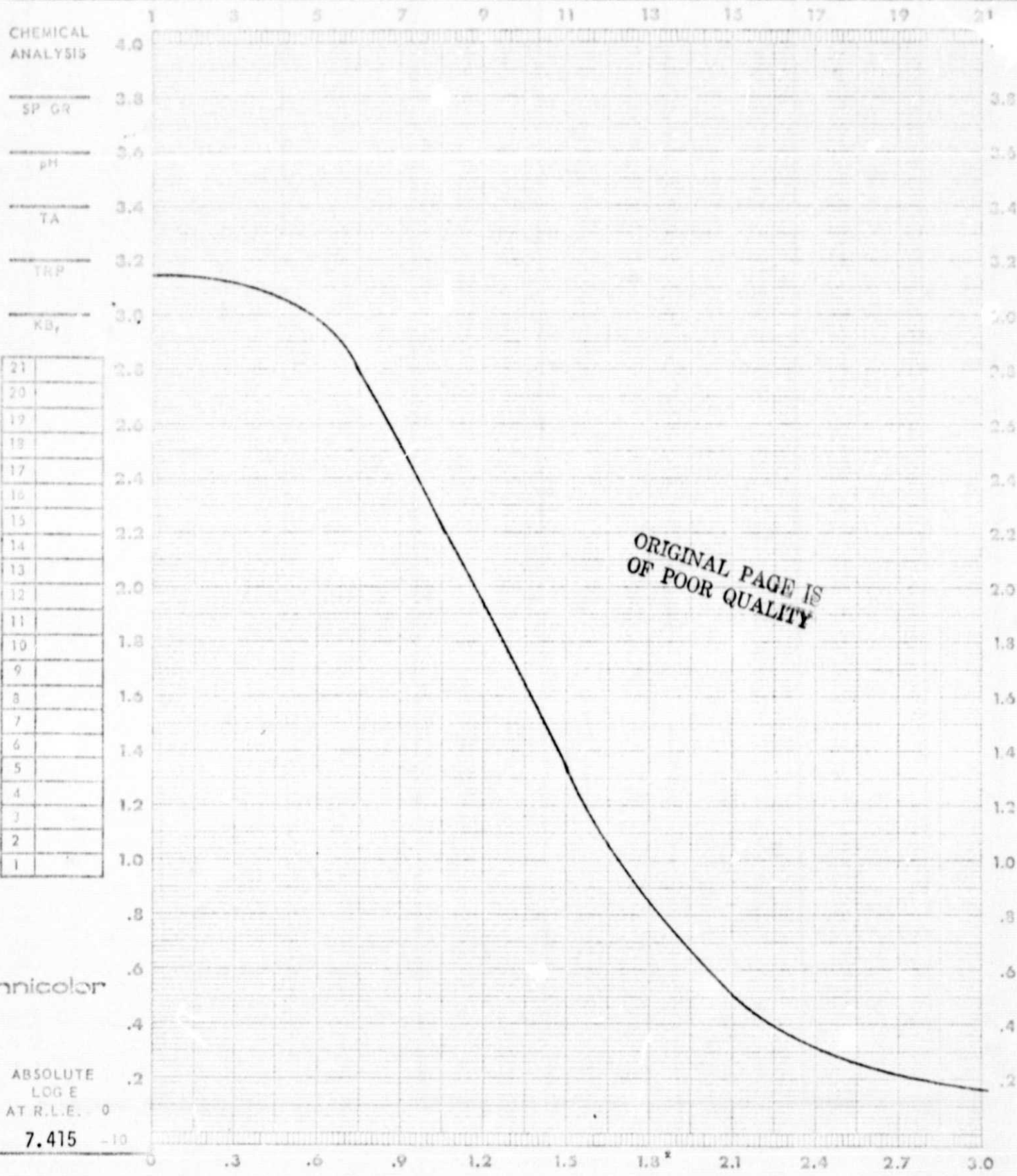
This film will be processed by PTD in the Versamat 1811 processor with Kodak EA-5 chemistry.

CONTROL CURVES: Attached.

DATE 28 Apr 75 CONTROL # E TASK ASTP Control PREPARED BY \_\_\_\_\_

FILM OX-807 EMULSION # 1-32 MFG EK EXPIRATION DATE \_\_\_\_\_

EXPOSURE DATA		PROCESSING DATA			DENSITOMETRY	
SENSITOMETER	<u>I-B</u>	PROCESSOR	<u>1811 #1</u>	INSTRUMENT	<u>MacBeth</u>	SPEED ( )
ILLUMINANT	<u>2850</u>	CHEMISTRY	<u>EA-5</u>	TYPE	<u>TD504</u>	D-MAX
TIME	<u>1/50</u>	SPEED	<u>8.5</u>	APERTURE SIZE	<u>3</u>	GAMMA
FILTER	<u>5500°K</u>	TEMP °F	<u>115</u>	FILTER	<u>Visual</u>	BASE + FOG



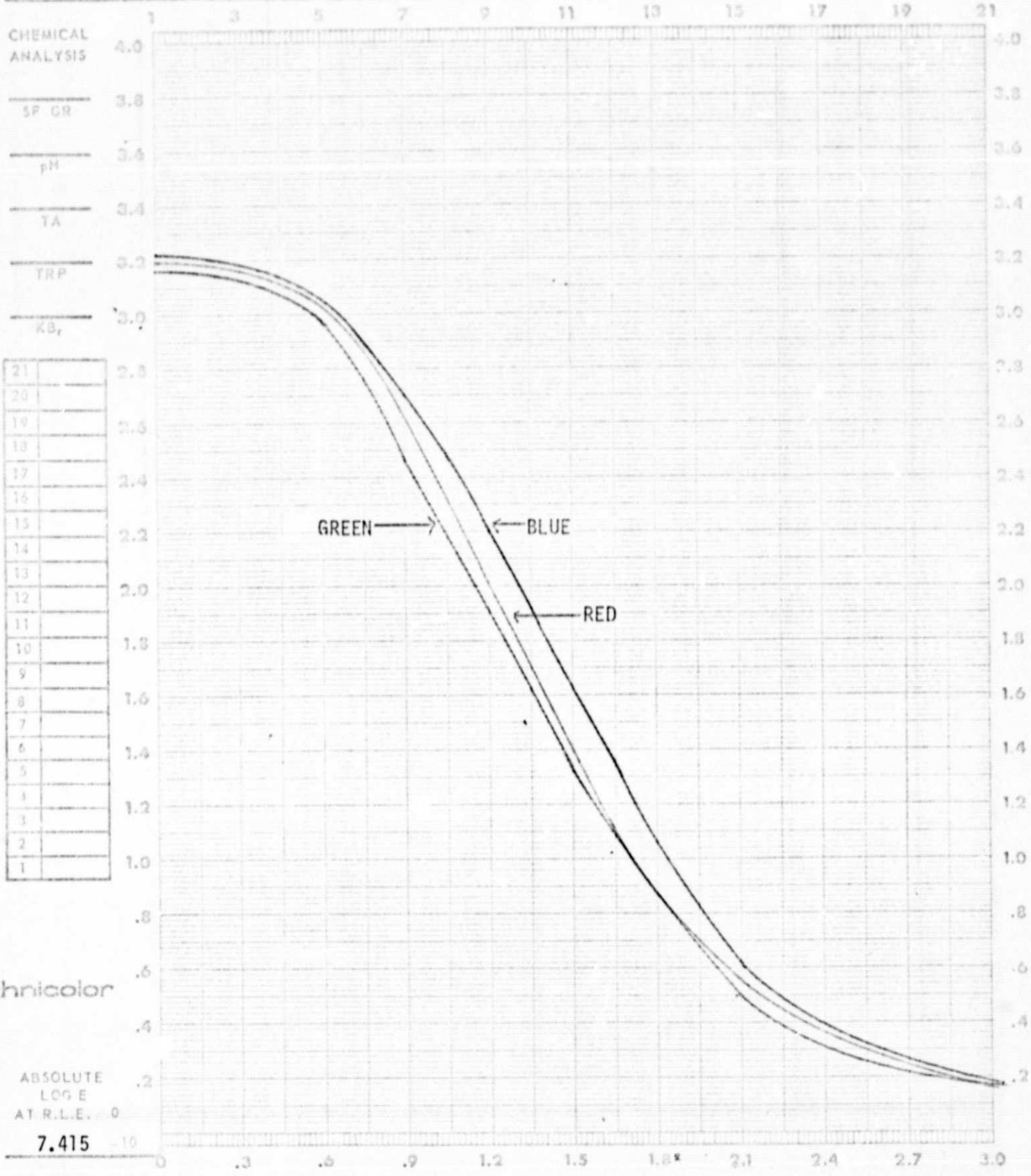
Technicolor



DATE 28 Apr 75 CONTROL # E TASK ASTP Control PREPARED BY \_\_\_\_\_

FILM QX-807 EMULSION # 1-32 MFG EK EXPIRATION DATE \_\_\_\_\_

EXPOSURE DATA		PROCESSING DATA		DENSITOMETRY	
SENSITOMETER	<u>I-B</u>	PROCESSOR	<u>1811 #2</u>	INSTRUMENT	<u>MacBeth</u>
ILLUMINANT	<u>2850</u>	CHEMISTRY	<u>EA-5</u>	TYPE	<u>TD504</u>
TIME	<u>1/50</u>	SPEED	<u>8.5</u>	APERTURE SIZE	<u>3</u>
FILTER	<u>5500°K</u>	TEMP °F	<u>115</u>	FILTER	<u>Status A</u>



Technicolor

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PTD ASTP CONTROL "F"

FILM: Kodak Multi-Spectral Infrared Aerial Film S0-289  
EMULSION: 4-1  
BASE: Estar-AH Base (4.0 mil)  
WIDTH: 70mm  
GAMMA: 1.4

BRIEF  
DESCRIPTION: Kodak Multi-Spectral Infrared Aerial Film S0-289  
is a very fine grain black-and-white negative  
film with sensitivity to the visible and near  
infrared radiation. It has a high contrast  
(1000:1) target resolution of 200 lines per millimeter.

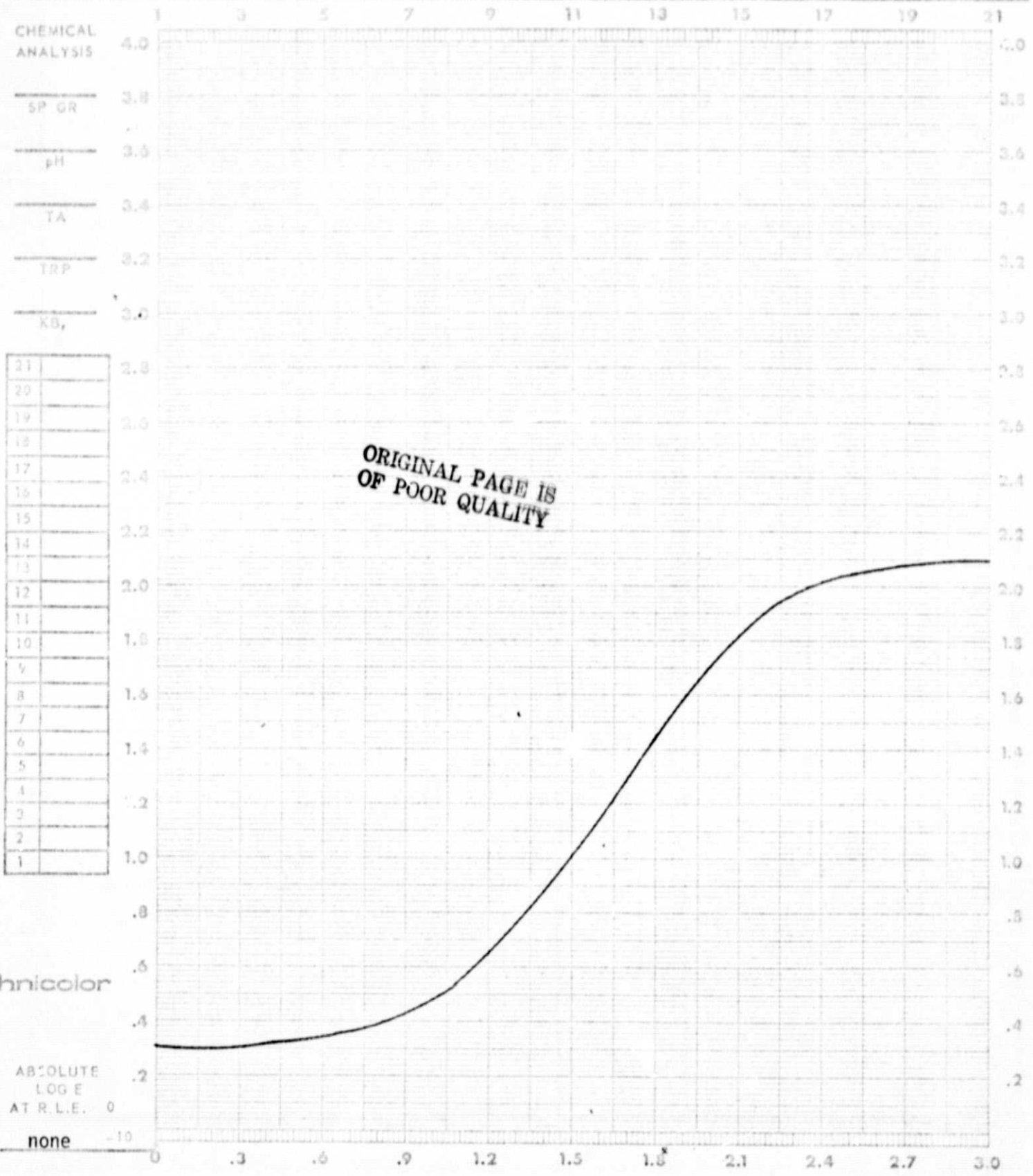
This film will be processed by PTD in the Versamat 11C-M  
in Kodak MX-641 chemistry.

CONTROL CURVE: Attached

DATE 30 Apr 75 CONTROL # F TASK ASTP Control PREPARED BY \_\_\_\_\_

FILM S0-281 EMULSION # 4-1 MFG EK EXPIRATION DATE \_\_\_\_\_

EXPOSURE DATA		PROCESSING DATA		DENSITOMETRY	
SENSITOMETER	<u>I-B</u>	PROCESSOR	<u>1411 VHT #1</u>	INSTRUMENT	<u>MacBeth</u>
ILLUMINANT	<u>2850</u>	CHEMISTRY	<u>MX-641</u>	TYPE	<u>TD504</u>
TIME	<u>4</u> SEC.	SPEED	<u>2</u>	APERTURE SIZE	<u>3</u> MM
FILTER	<u>5500°K+SCM+87C</u>	TEMP °F	<u>85</u>	FILTER	<u>Visual</u>
					DATE + FOG _____



PTD ASTP CONTROL "G"

FILM: Kodak Aerial Color Film S0-242  
EMULSION: 43-1  
BASE: Estar thin base (2.5 mil)  
WIDTH: 70mm  
EFFECTIVE SPEED: 10 Southard (ASA equivalent)

BRIEF

DESCRIPTION: Kodak Aerial Color Film Type S0-242 is an extremely fine grain, low speed, high definition aerial color reversal film with an equivalent Wratten 2A (ultra-violet absorber) coating. The film has a high contrast (1000:1) target resolution of 200 lines per millimeter.

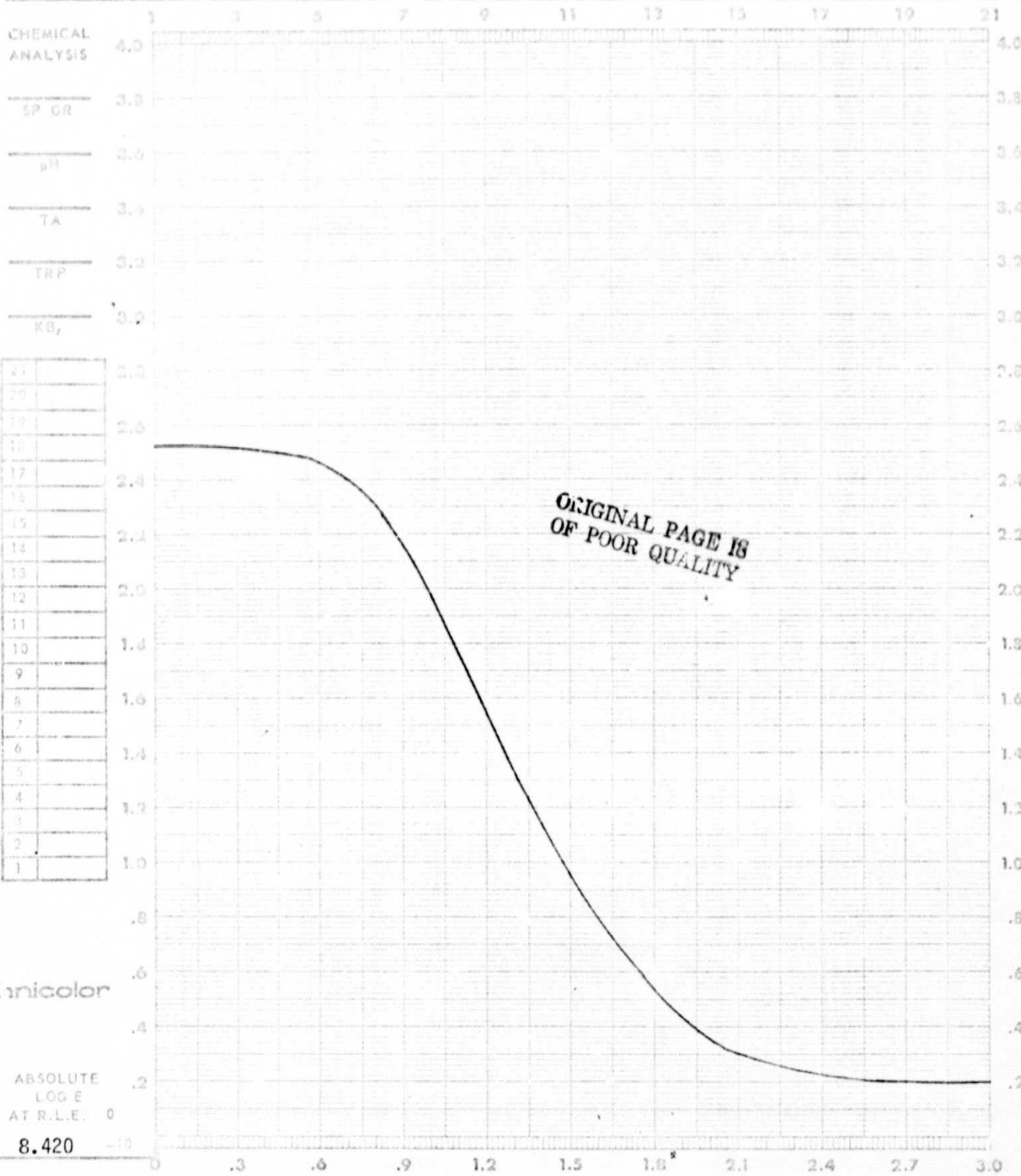
This film will be processed by PTD in the Versamat 1811 processor with Kodak EA-5 chemistry.

CONTROL CURVES: Attached.

DATE 29 Apr 75 CONTROL # G TASK ASTP Control PREPARED BY

FILM S0-242 EMULSION # 43-1 (70mm) MFG EK EXPIRATION DATE

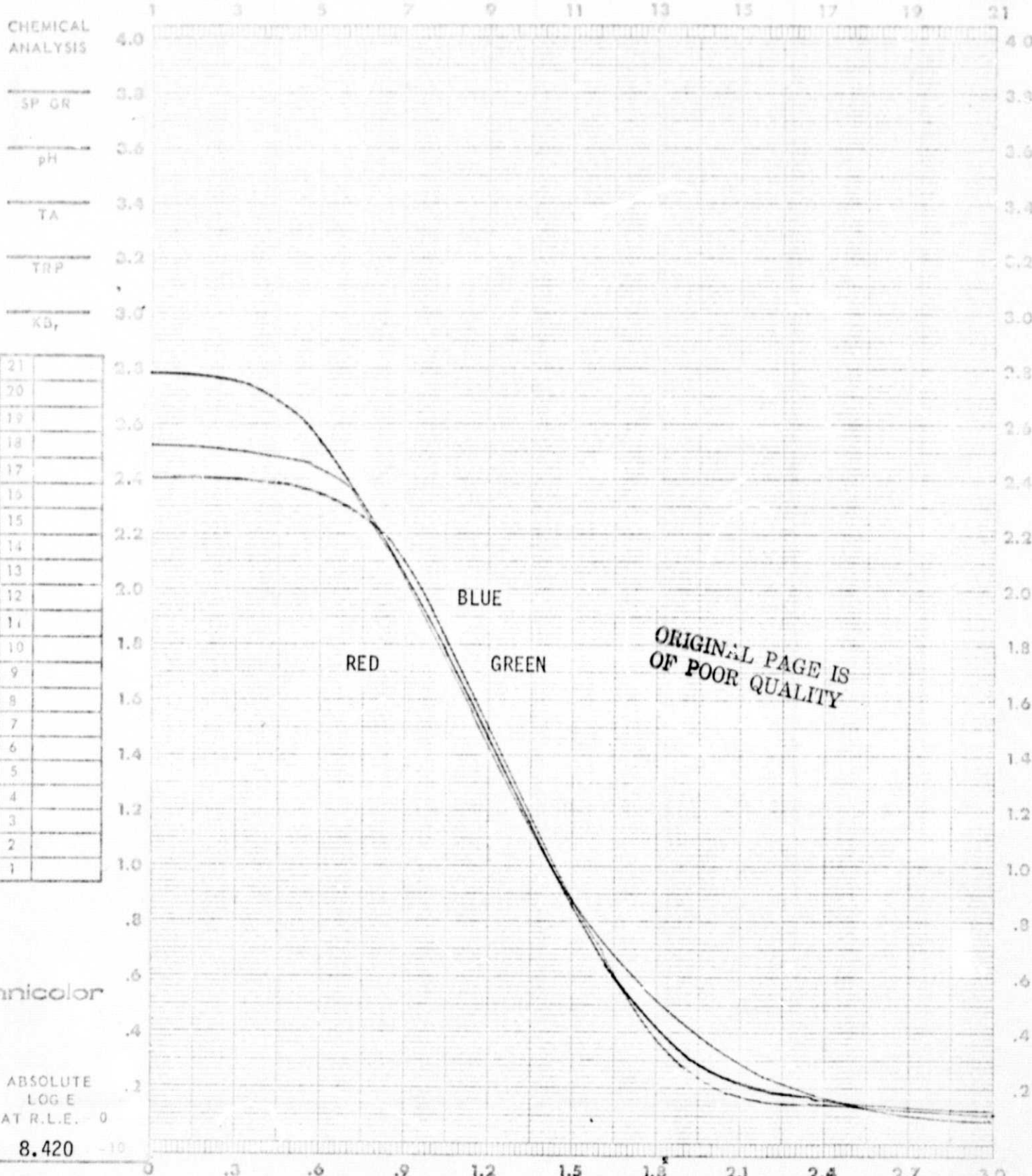
EXPOSURE DATA		PROCESSING DATA		DENSITOMETRY	
SENSITOMETER	I-B	PROCESSOR	1811 #2	INSTRUMENT	MacBeth
ILLUMINANT	2850	CHEMISTRY	EA-5	TYPE	TD504
TIME	1/5	SPEED	TANKS 7 FPM	APERTURE SIZE	3
FILTER	5500°K	TEMP °F	110	FILTER	Visual
					SPEED ( )
					D-MAX
					GAMMA
					BASE + FOG



DATE 29 Apr 75 CONTROL # G TASK ASTP Contro1 PREPARED BY

FILM S0-242 EMULSION # 43-1 (70mm) MFG EK EXPIRATION DATE

EXPOSURE DATA		PROCESSING DATA		DENSITOMETRY	
SENSITOMETER	I-B	PROCESSOR	1811 #2	INSTRUMENT	MacBeth
ILLUMINANT	2850	CHEMISTRY	EA-5	TYPE	TD504
TIME	1/5	SPEED	7	APERTURE SIZE	3
FILTER	5500°K	TEMP F	110	FILTER	Status A



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ABSOLUTE LOG E AT R.L.E. 0

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PTD ASTP CONTROL "H"

FILM: Kodak Aerochrome Infrared Film 2443  
EMULSION: 206-1  
BASE: Estar base (4.0 mil)  
WIDTH: 70mm  
EFFECTIVE SPEED: 55 Southard (ASA equivalent)

BRIEF

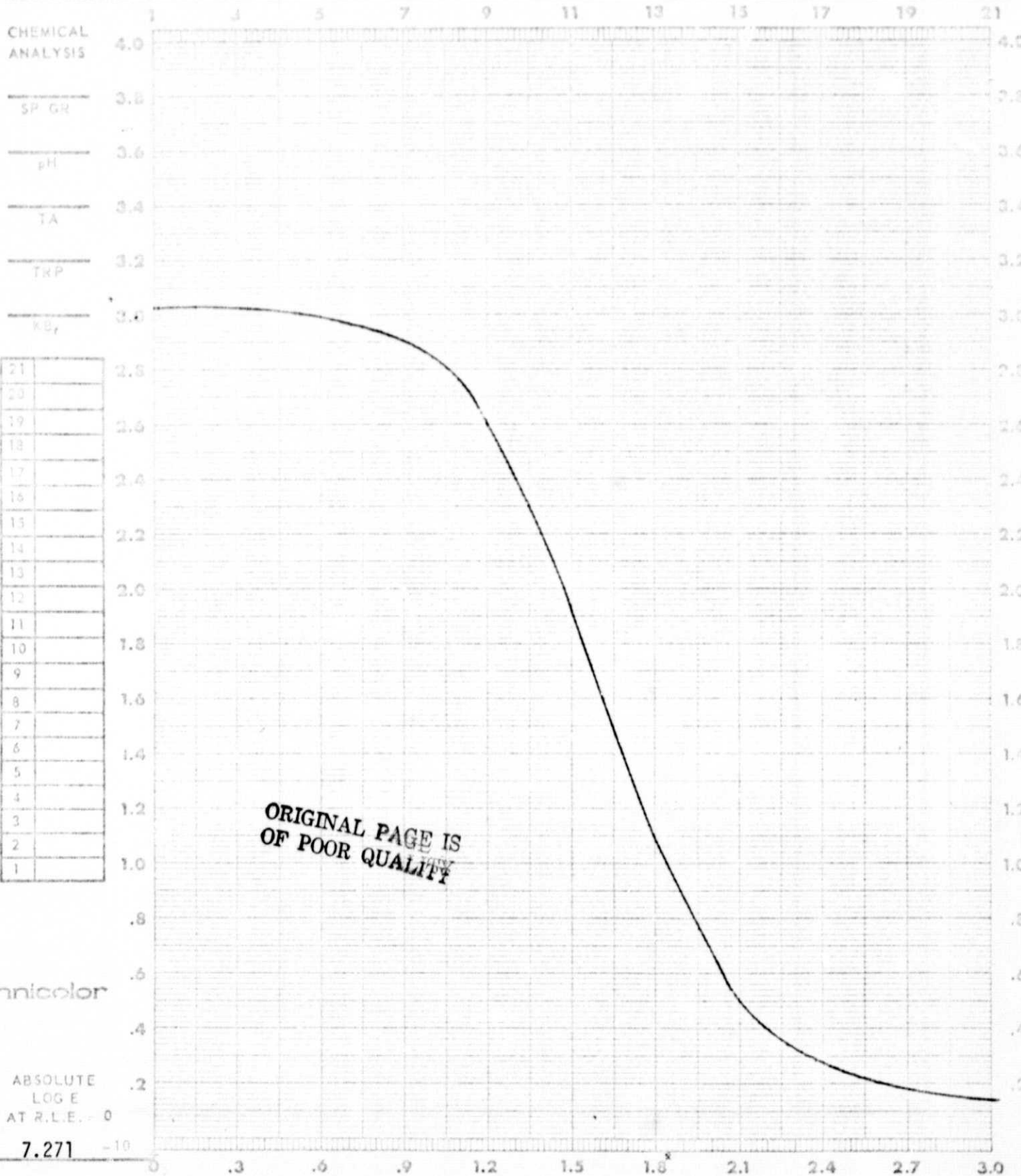
DESCRIPTION: Kodak Aerochrome Infrared Film 2443 is a medium speed, high contrast, color reversal film with sensitivity to the visible and near infrared radiation. Dye layers are false sensitized such that the dye produced does not necessarily represent the color of the subject as perceived by the human eye. This film has a high contrast (1000:1) target resolution of 63 lines per millimeter.

CONTROL CURVES: Attached.

DATE 28 Apr 75 CONTROL # H TASK ASTP Control PREPARED BY \_\_\_\_\_

FILM 2443 EMULSION # 206-1 MFG EK EXPIRATION DATE \_\_\_\_\_

EXPOSURE DATA		PROCESSING DATA		DENSITOMETRY	
SENSITOMETER	<u>I-B</u>	PROCESSOR	<u>1811 #2</u>	INSTRUMENT	<u>MacBeth</u>
ILLUMINANT	<u>2850</u>	CHEMISTRY	<u>EA-5</u>	TYPE	<u>TD504</u>
TIME	<u>1/50</u>	SPEED	<u>9</u>	APERTURE SIZE	<u>3</u>
FILTER	<u>5500K + W12</u>	TEMP °F	<u>115</u>	FILTER	<u>Visual</u>



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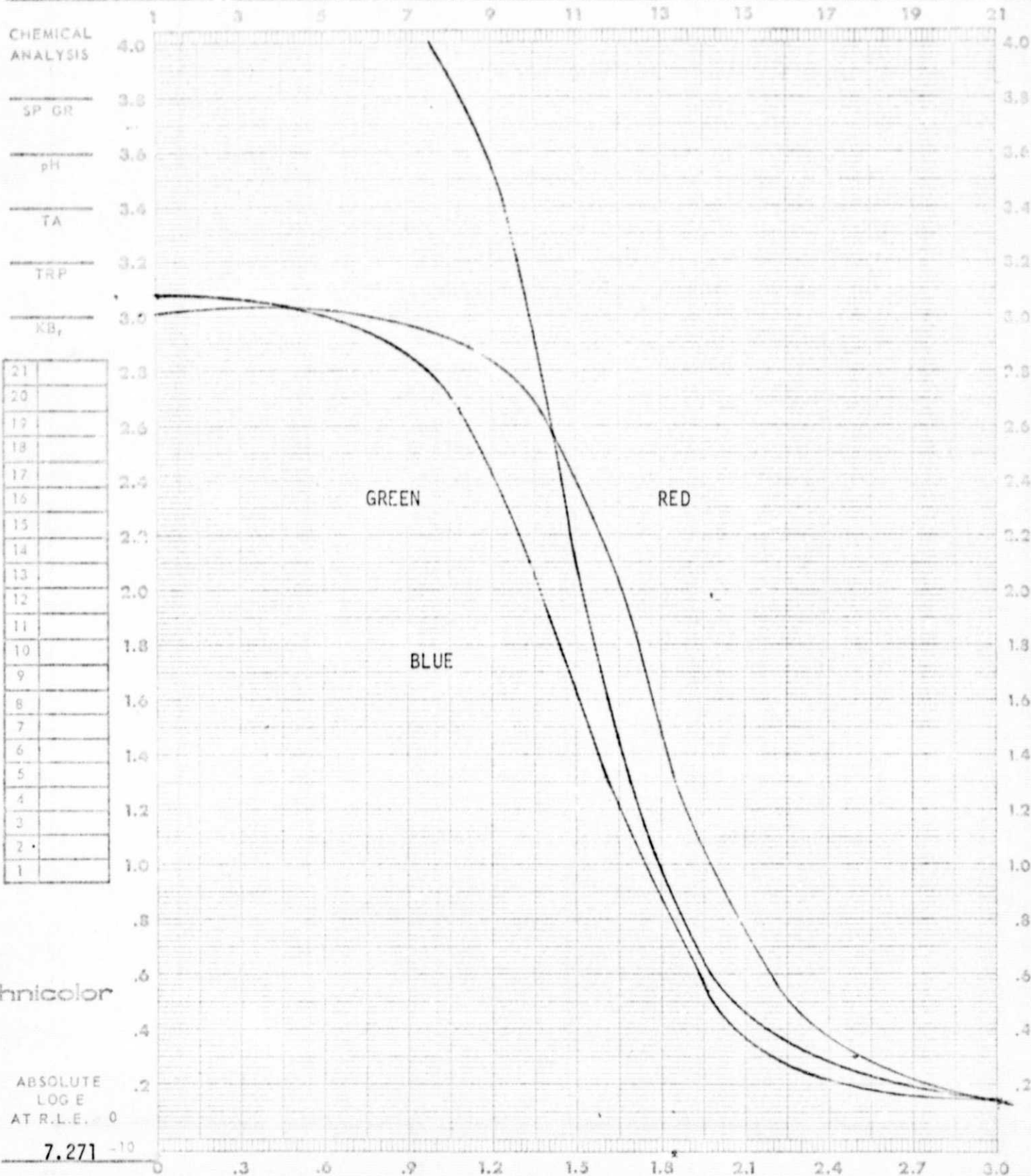
7.271 -10



DATE 28 Apr 75 CONTROL # H TASK ASTP Control PREPARED BY \_\_\_\_\_

FILM 2443 EMULSION # 206-1 MFG EK EXPIRATION DATE \_\_\_\_\_

EXPOSURE DATA		PROCESSING DATA		DENSITOMETRY	
SENSITOMETER	<u>I-B</u>	PROCESSOR	<u>1811 #2</u>	INSTRUMENT	<u>MacBeth</u>
ILLUMINANT	<u>2850</u> °K	CHEMISTRY	<u>EA-5</u>	TYPE	<u>TD504</u>
TIME	<u>1/50</u> SEC.	SPEED	<u>9</u> FPM	APERTURE SIZE	<u>3</u> MM
FILTER	<u>5500°K + W12</u>	TEMP °F	<u>115</u>	FILTER	<u>Status A</u>
					SPEED ( )
					D-MAX
					GAMMA
					BASE + FCG



PTD ASTP CONTROL "I"

FILM: Kodak Plus-X Aerial Film 3401  
EMULSION: 384-4  
BASE: Estar thin base (2.5 mil)  
WIDTH: 70mm  
GAMMA: 1.4

BRIEF

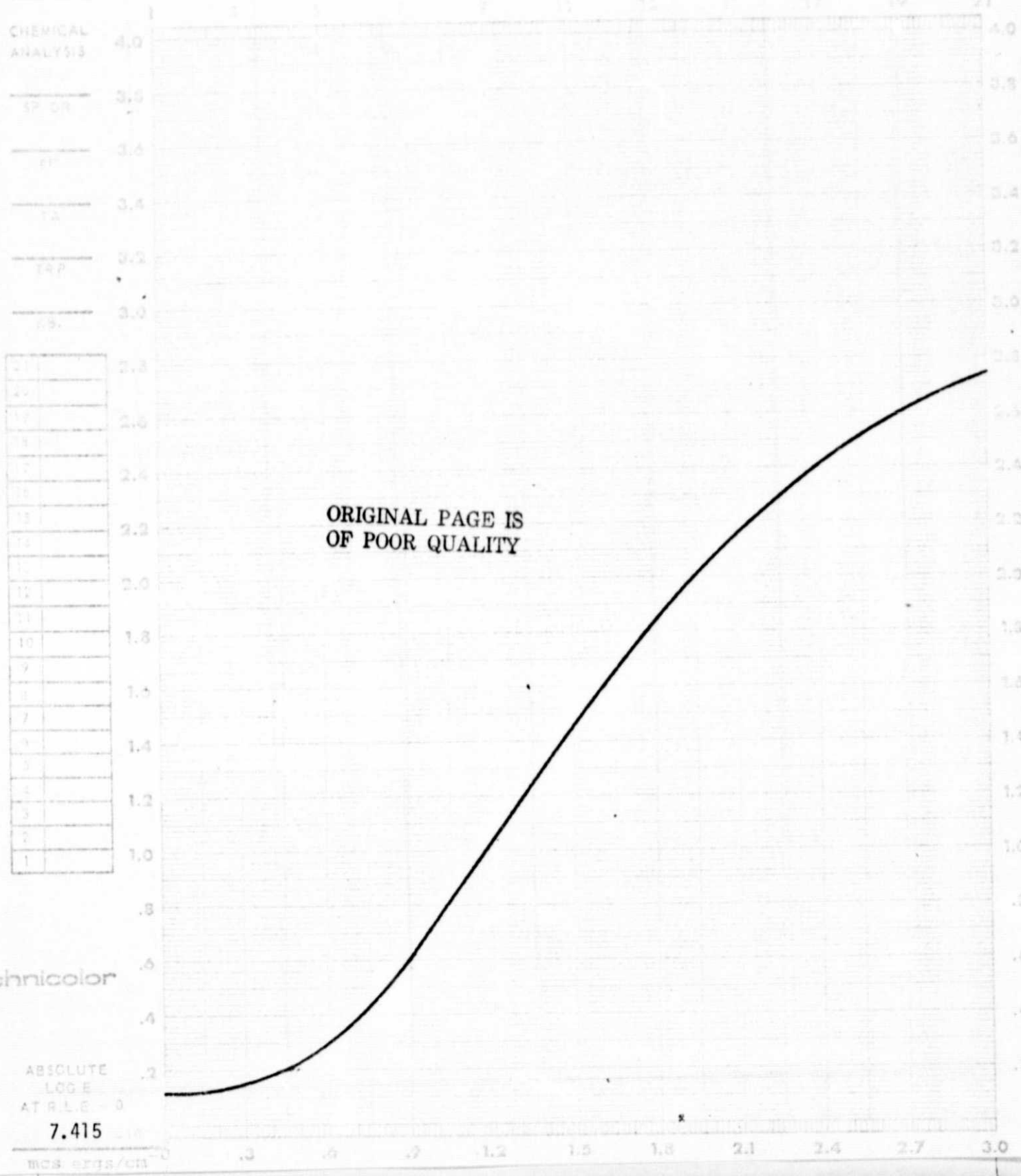
DESCRIPTION: Kodak Plus-X Aerial Film 3401 is a medium speed high contrast panchromatic negative film with extended red sensitivity. It has a high contrast (1000:1) target resolution of 160 lines per millimeter.

CONTROL CURVES: Attached.

DATE 30 Apr 75 CONTROL # I TASK ASTP Control PREPARED BY

FILM 3401 EMULSION # 384-4 MFG EK7 EXPIRATION DATE

EXPOSURE DATA		PROCESSING DATA		INSTRUMENT		GEOMETRY	
SENSITOMETER	I-B	PROCESSOR	11C-M	INSTRUMENT	MacBeth	SPEED	
ILLUMINANT	2850	CHEMISTRY	MX-641	TYPE	TD504	MAX	
TIME	1/50	TEMP	1	APERTURE SIZE	3	MIN	
FILTER	5500°K		85	FILTER	Visual	FOG	



PTD ASTP CONTROL "J"

FILM: Kodak Ektachrome EF Film S0-168  
EMULSION: 13-62  
BASE: Estar Thin Base (2.5 mil)  
WIDTH: 35mm  
EFFECTIVE SPEED: 160 Southard (ASA equivalent)

BRIEF

DESCRIPTION: Kodak Ektachrome EF Film type S0-168 is a high speed color reversal film with a high contrast (1000:1) target resolution of 80 lines per millimeter.

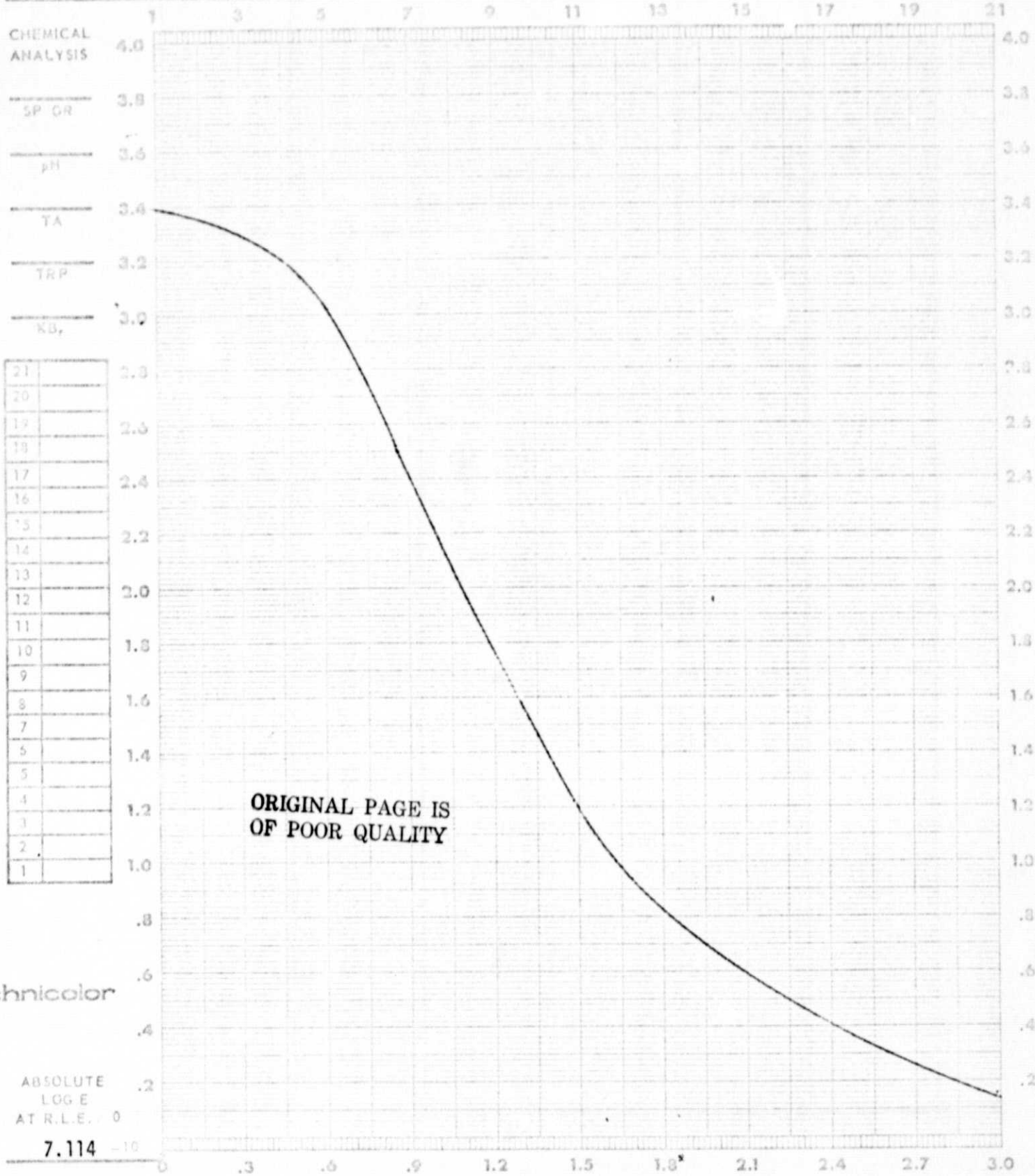
This film will be processed by PTD in the Houston processor in ME-4 chemistry.

CONTROL CURVES: Attached.

DATE 9 Apr 75 CONTROL # J TASK ASTP Control PREPARED BY \_\_\_\_\_

FILM 50-168 EMULSION # 13-62 MFG EK EXPIRATION DATE \_\_\_\_\_

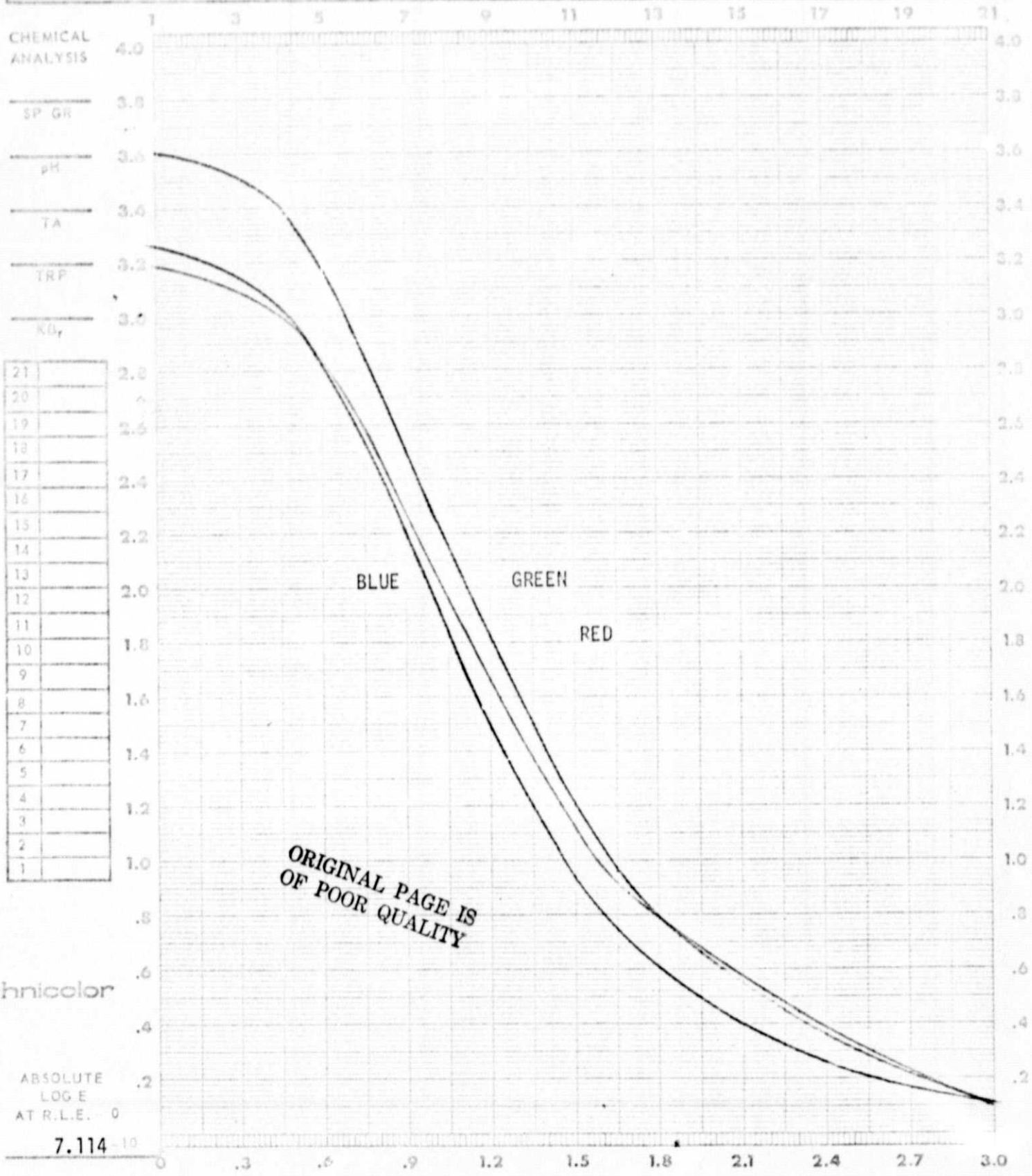
EXPOSURE DATA		PROCESSING DATA		DENSITOMETRY	
SENSITOMETER	<u>I-B</u>	PROCESSOR	<u>Houston</u>	INSTRUMENT	<u>MacBeth</u>
ILLUMINANT	<u>2850</u>	CHEMISTRY	<u>ME-4</u>	TYPE	<u>TD504</u>
TIME	<u>1/100</u>	SPEED	<u>11.5</u>	APERTURE SIZE	<u>3</u>
FILTER	<u>5500K</u>	TEMP °F	<u>98</u>	FILTER	<u>Visu</u>



DATE 9 Apr 75 CONTROL # J TASK ASTP Control PREPARED BY

FILM 50-168 EMULSION # 13-62 MFG EK EXPIRATION DATE

EXPOSURE DATA		PROCESSING DATA		DENSITOMETRY	
SENSITOMETER	I-B	PROCESSOR	Houston	INSTRUMENT	MacBeth
ILLUMINANT	2850	CHEMISTRY	ME-4	TYPE	TD504
TIME	1/100	SPEED	TANKS 11.5	APERTURE SIZE	3
FILTER	5500 <sup>o</sup> K	TEMP °F	98	FILTER	Status A
					SPEED ( )
					D-MAX
					GAMMA
					BASE + FOG



Technicolor

PTD ASTP CONTROL "K"

FILM: Kodak Ektachrome EF Film S0-168  
EMULSION: 13-62  
BASE: Estar thin base (2.5 mil)  
WIDTH: 35mm  
EFFECTIVE SPEED: 320 Southard (ASA equivalent)

BRIEF

DESCRIPTION: Kodak Ektachrome EF Film type S0-168 is a high-speed color reversal film with a high contrast (1000:1) target resolution of 80 lines per millimeter.

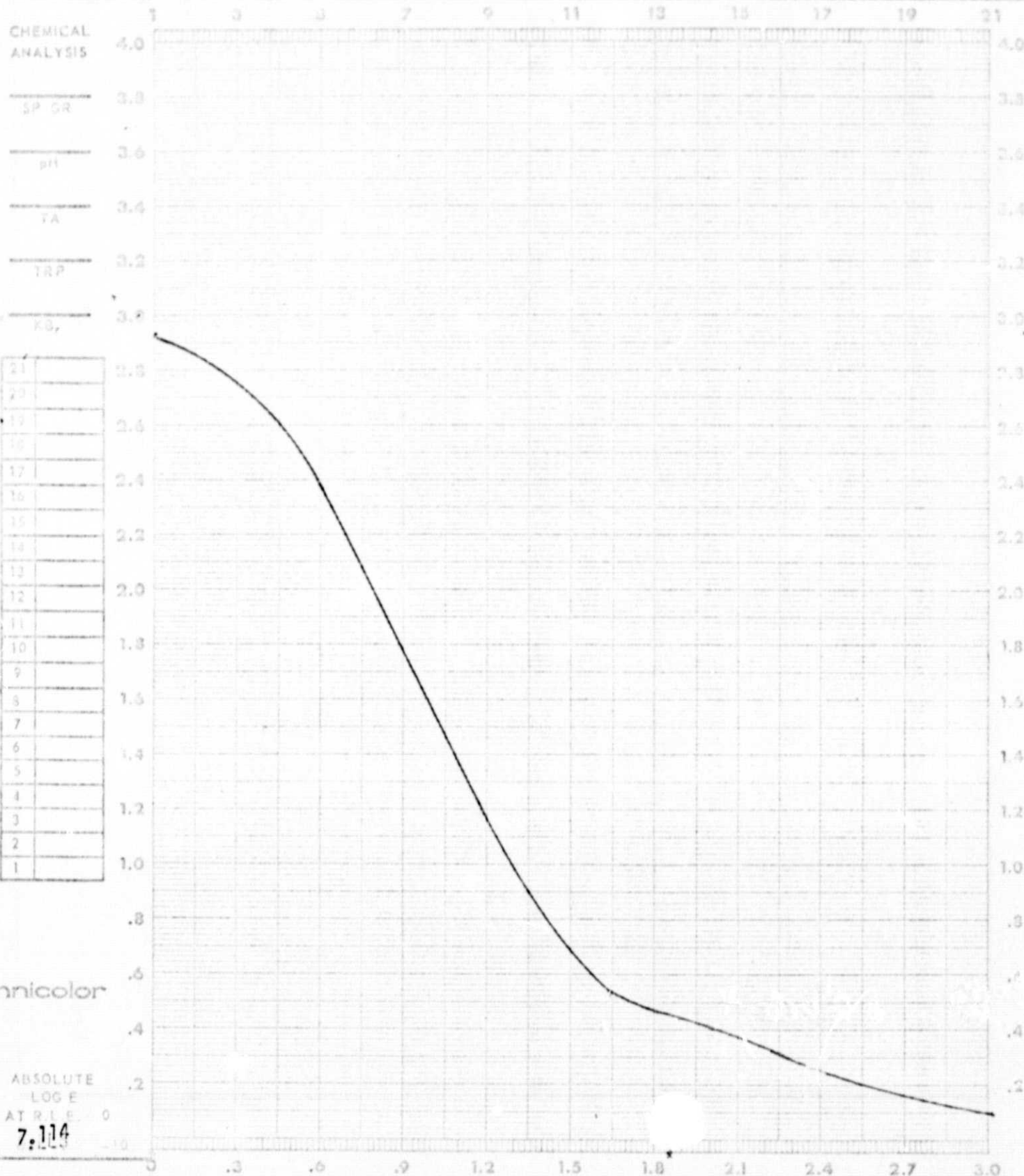
This film will be processed by PTD in the Houston processor in ME-4 chemistry.

CONTROL CURVES: Attached.

DATE April 1975 CONTROL # K TASK \_\_\_\_\_ PREPARED BY \_\_\_\_\_

FILM S0-168 EMULSION # 13-62 MFG \_\_\_\_\_ EXPIRATION DATE \_\_\_\_\_

EXPOSURE DATA		PROCESSING DATA		DENSITOMETRY	
SENSITOMETER	<b>I-B</b>	PROCESSOR	<b>Houston</b>	INSTRUMENT	<b>MacBeth</b>
ILLUMINANT	<b>2850</b>	CHEMISTRY	<b>ME-4</b>	TYPE	<b>TD504</b>
TIME	<b>1/100</b>	SPEED	<b>A11</b>	APERTURE SIZE	<b>3</b>
FILTER	<b>5500°K</b>	TEMP °F	<b>98</b>	FILTER	<b>Visual</b>
		TANKS	<b>13</b>		
		TIME			

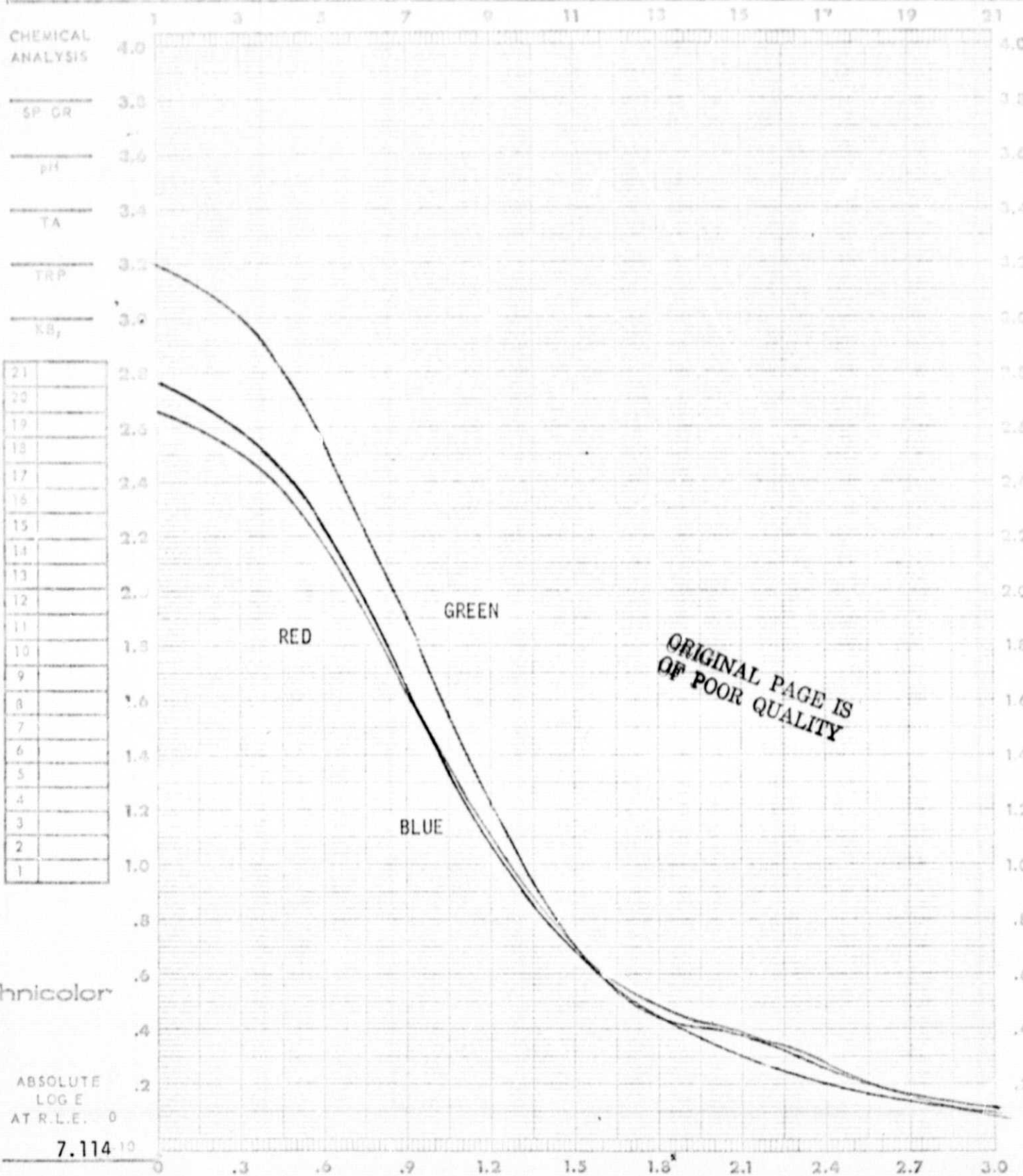




DATE April 1975 CONTROL # K TASK \_\_\_\_\_ PREPARED BY \_\_\_\_\_

FILM SO-168 EMULSION # \_\_\_\_\_ 13-62 MFG \_\_\_\_\_ EXPIRATION DATE \_\_\_\_\_

EXPOSURE DATA		PROCESSING DATA		DENSITOMETRY	
SENSITOMETER	<u>I-B</u>	PROCESSOR	<u>Houston</u>	INSTRUMENT	<u>MacBeth</u>
ILLUMINANT	<u>2850</u>	CHEMISTRY	<u>ME-4</u>	TYPE	<u>TD504</u>
TIME	<u>1/100</u> SEC	SPEED	<u>A11</u>	APERTURE SIZE	<u>3</u> MM
FILTER	<u>5500°K</u>	TEMP °F	<u>98</u>	FILTER	



PTD ASTP CONTROL "L"

FILM: Kodak Ektachrome MS Recording Film QX-807  
EMULSION: 1-32  
BASE: Estar Thin Base (2.5 mil)  
WIDTH: 35mm  
EFFECTIVE SPEED: 64 Southard (ASA equivalent)

BRIEF

DESCRIPTION: Kodak Ektachrome MS Recording Film QX-807 is a near equivalent of Kodak Ektachrome MS Film Type S0-368 with a Wratten 2A (ultraviolet absorbing) filter overcoated. It is a medium speed color reversal film with a high contrast (1000:1) target resolution of 80 lines per millimeter.

This film will be processed by PTD in the 35mm Houston processor with Kodak ME-4 chemistry.

CONTROL CURVES: Attached.

DATE 30 Apr 75

L

ASTP Control

FILM QX 807

1-32 (35mm)

EK

I-B  
2850

Houston  
ME-4

MacBeth  
TD504

1/50

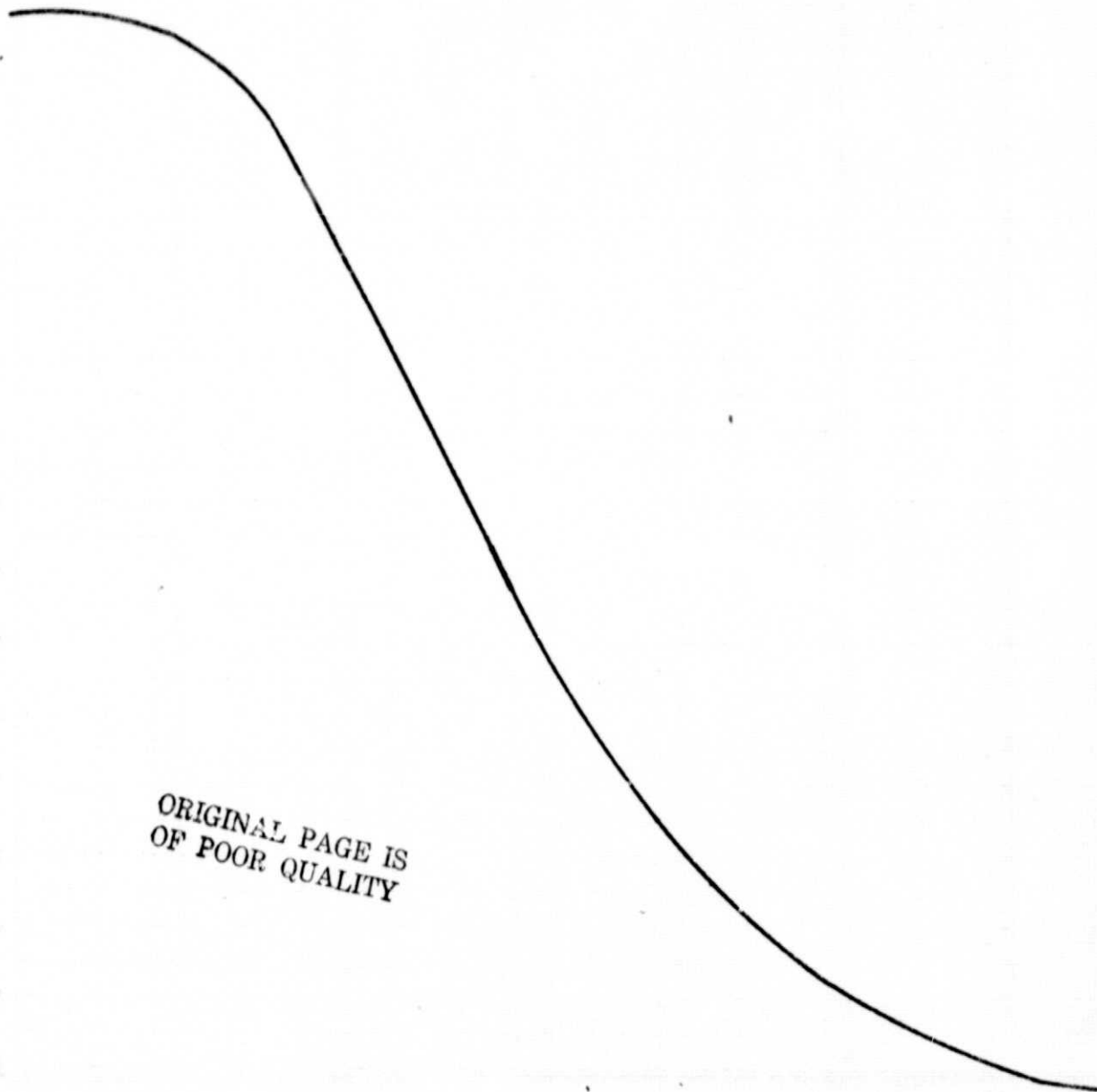
11

3

5500°K

98

Visual



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OF POOR QUALITY

DATE 30 Apr 75

CONTROL #

L

ASTP Control

FILM QX 807

EXPOSURE

1-32 (35mm)

EK

EXPOSURE	I-B	Houston	MacBeth
WIND NUMBER	2850	ME-4	TD504
SHUTTER	1/50	11	3
TEMPERATURE	5500°K	98	Status A

CHEMICAL ANALYSIS

DATE

TIME

BY

REMARKS

TEST

RESULTS

CONCLUSION

REMARKS

TEST

RESULTS

CONCLUSION

REMARKS

TEST

RESULTS

CONCLUSION

REMARKS

TEST

RESULTS

CONCLUSION

REMARKS

GREEN

BLUE

RED"

Technicolor

ABSOLUTE

7.415

PTD ASTP CONTROL "M"

FILM: Kodak Ektachrome EFB Recording Film QX-806  
EMULSION: 1-1  
BASE: Estar thin base (2.5 mil)  
WIDTH: 35mm  
EFFECTIVE SPEED: 320 Southard (ASA equivalent)

BRIEF

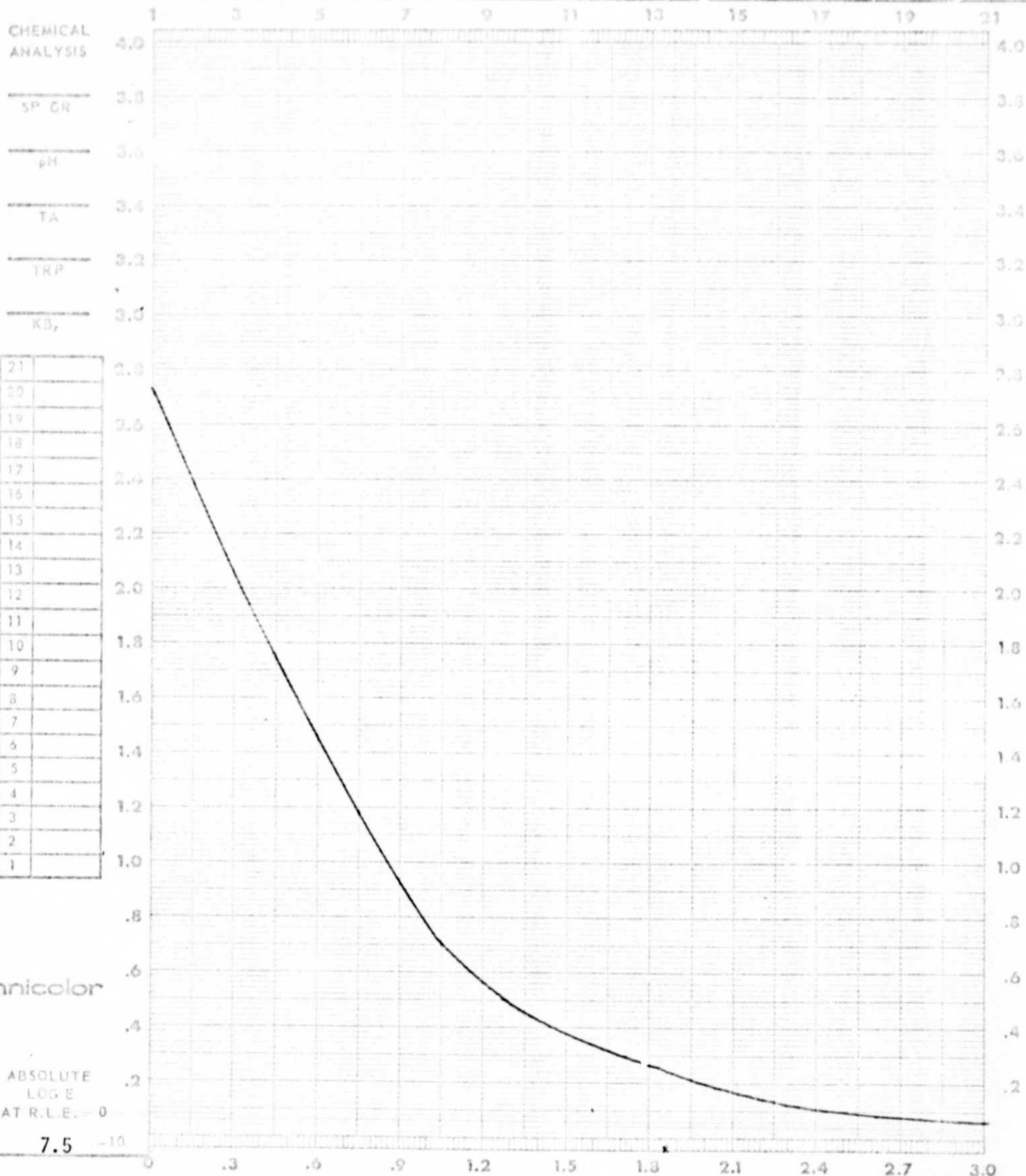
DESCRIPTION: Kodak Ektachrome EFB Recording Film QX-806 is a high-speed color reversal film with an equivalent filter overcoated to color balance the emulsion for tungsten illumination. This film has a high contrast (1000:1) target resolution of 80 lines per millimeter.

CONTROL CURVES: Attached.

DATE 31 Apr 75 CONTROL # M ASTP TASK ASTP Control PREPARED BY \_\_\_\_\_

FILM QX-806 EMULSION # 1-1 (35mm) MFG \_\_\_\_\_ EXPIRATION DATE \_\_\_\_\_

EXPOSURE DATA		PROCESSING DATA		DENSITOMETRY	
SENSITOMETER	<u>I-B</u>	PROCESSOR	<u>Houston</u>	INSTRUMENT	_____
ILLUMINANT	<u>2850</u>	CHEMISTRY	<u>ME-4</u>	TYPE	_____
TIME	<u>1/100</u>	SPEED	<u>14</u>	APERTURE SIZE	_____
FILTER	<u>80D</u>	TEMP °F	<u>98</u>	FILTER	_____
		TANKS	_____		
		TIME	_____		



EXPOSURE DATA		PROCESSING DATA		DENSITOMETRY	
SENSITOMETER	<b>I-B</b>	PROCESSOR	<b>Houston</b>	INSTRUMENT	_____
ILLUMINANT	<b>2850</b>	CHEMISTRY	<b>ME-4</b>	TYPE	_____
TIME	<b>1/100</b>	SPEED	<b>14</b>	APERTURE SIZE	_____
FILTER	<b>80D</b>	TEMP °F	<b>98</b>	FILTER	_____

