

DATE : 05/13/92

HPMS SAMPLE SECTIONS  
HIGHWAY INFORMATION SERVICES DIVISION

Howard

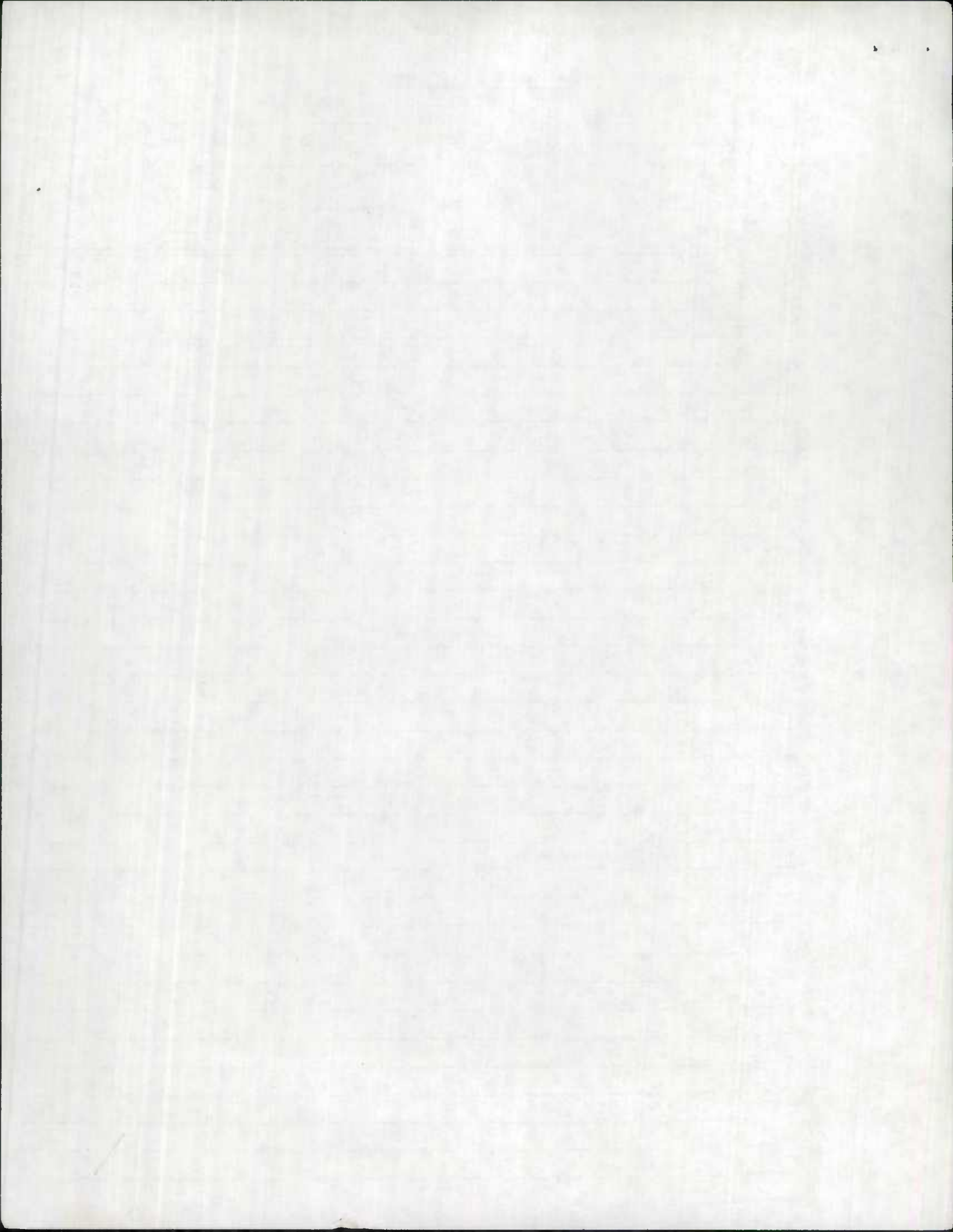
CO	ROUTE	BEGIN	SECT LENGTH	END	MAP	COORD
✓ 1	13 CO 0015 SENNING CHAPEL RD	00.00	03.15	03.15	D10 D11	770-536 776-526
✓ 2	13 CO 0046 RIDGE RD	00.22	00.07	00.29	D12A	852-526
✓ 3	13 CO 0046	00.29	00.16 .23	00.45	"	"
✓ 4	13 CO 0128 ONCLAND MILLS RD	01.45	00.08	01.53	D12C	849-496
✓ 5	13 CO 0128	01.53	00.30	01.83	"	"
✓ 6	13 CO 0128	01.83	00.10	01.93	"	"
✓ 7	13 CO 0128	01.93	00.03	01.96	"	"
✓ 8	13 CO 0128	02.65	00.25	02.90	E-12	849-491
✓ 9	13 CO 0128	02.90	00.21 .11	03.11	"	"
✓ 10	13 CO 0416 GORMAN RD	03.79	00.21	04.00	E-11	838-480
✓ 11	13 CO 0416	04.00	00.08	04.08	"	"
✓ 12	13 CO 0416	04.08	00.08	04.16	"	"
✓ 13	13 CO 0416	04.16	00.34 .71	04.50	"	"
✓ 14	13 CO 1214 N. LAUREL RD	00.00	00.41	00.41	E-11	842-468
✓ 15	13 CO 2066	00.00	00.19	00.19	D12A	850-535
✓ 16	13 CO 2066	00.19	00.04	00.23	"	"
✓ 17	13 CO 2066	00.23	00.12	00.35	"	"
✓ 18	13 CO 2066	00.35	00.09	00.44	"	"
✓ 19	13 CO 2066	00.44	00.14	00.58	"	"
✓ 20	13 CO 2066	00.58	00.05	00.63	"	"

TOTAL miles 5.69

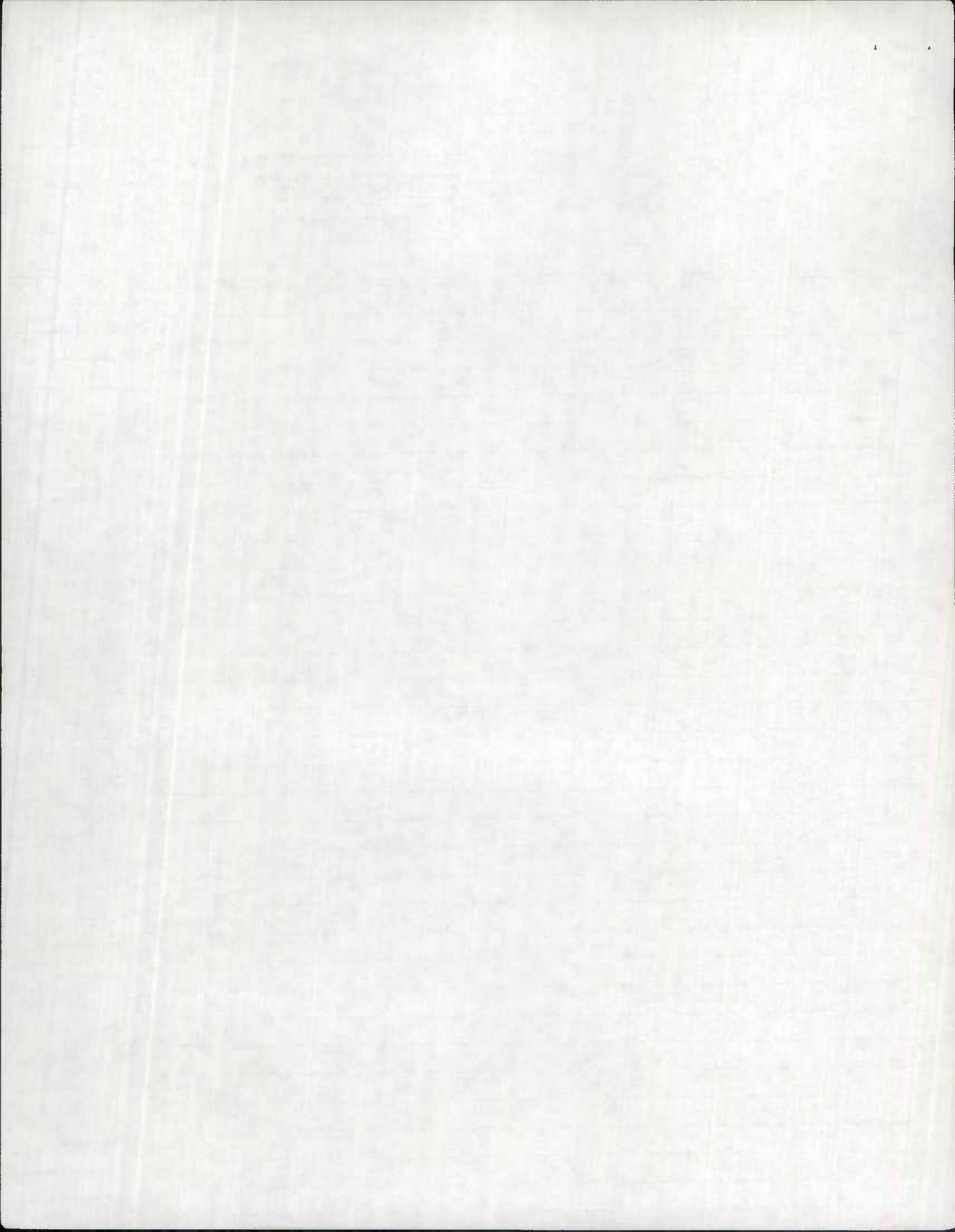






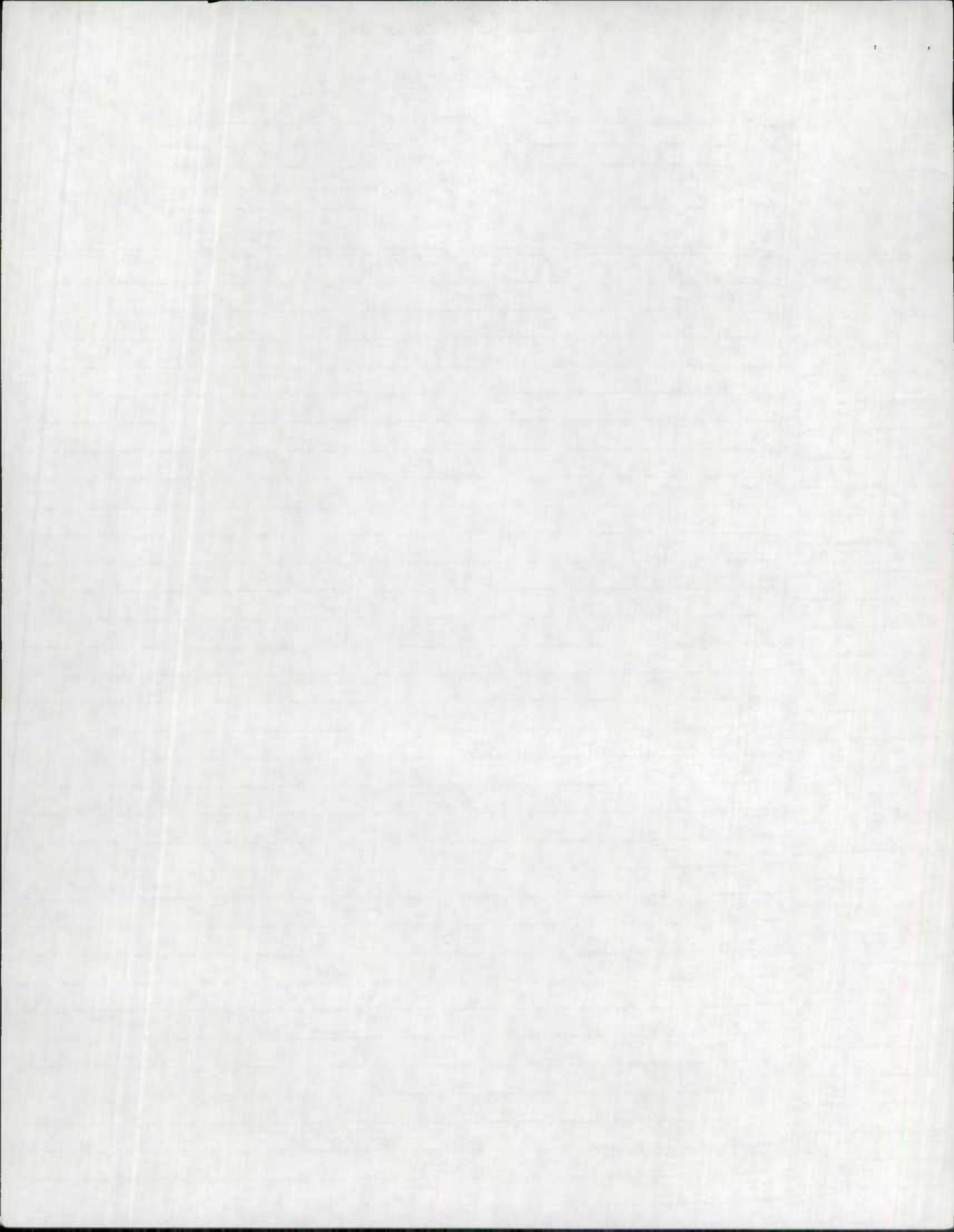














ROAD INVENTORY SHEET

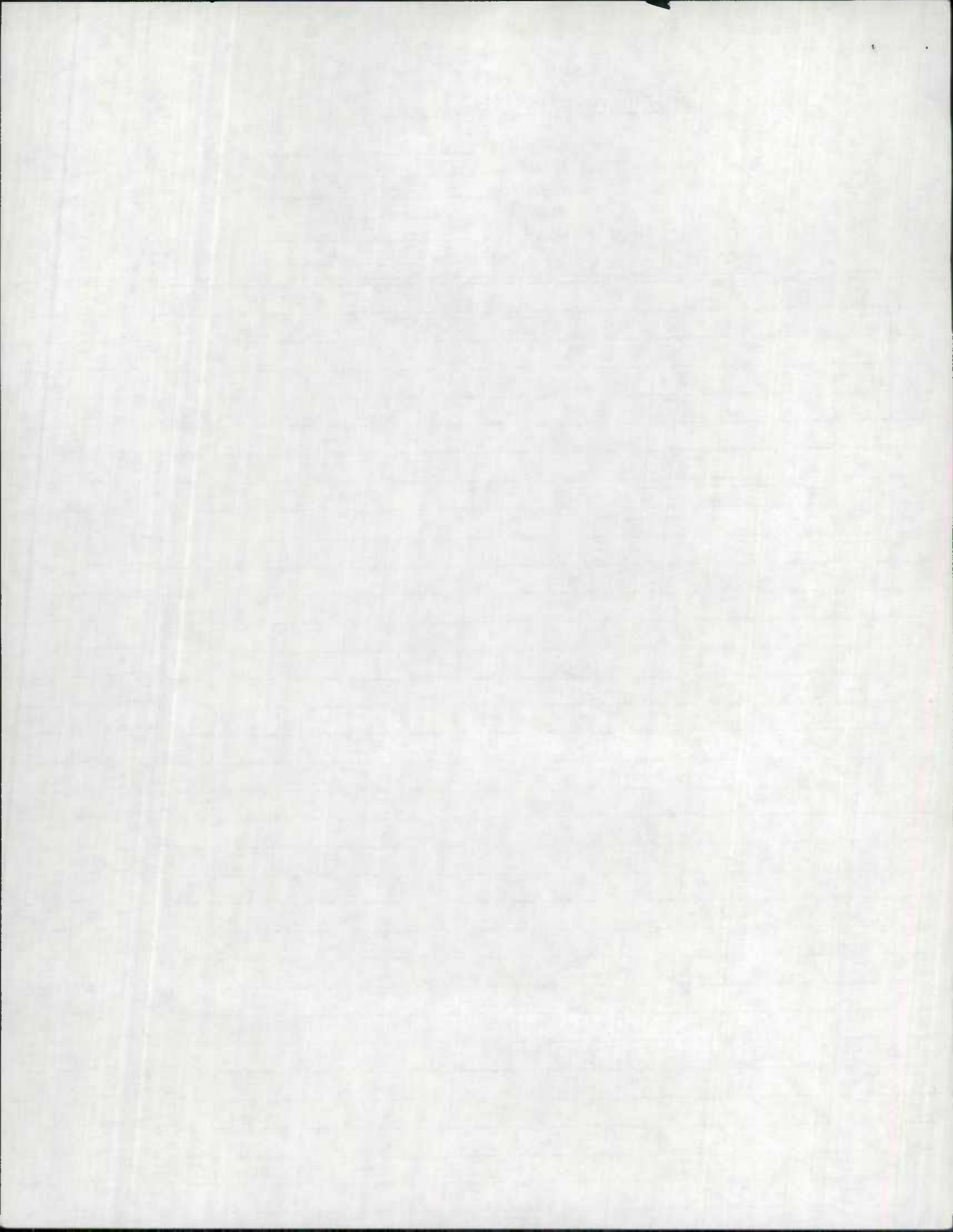
Road No. Co 15  
 Road Name \_\_\_\_\_  
 Sheet No. 4 OF 5  
 Date \_\_\_\_\_  
 County \_\_\_\_\_  
 State Coordinates \_\_\_\_\_

City Chief \_\_\_\_\_  
 Order \_\_\_\_\_  
 per \_\_\_\_\_  
 Map No. \_\_\_\_\_

Station	Description	Notes
	HOWARD CHAPEL RD	
451	Co 31	PC
436	200' F	
408	DR	
401	GATE	9' F, 0.50
375	OP 2	
371		
368	PT	80°
364	PC	
357	1000' F	9' E
349		PT 40°
344		PC
339		PT 35°
335		PC
323	DR	
315	DAISY RD	145°
300	CO 24	300' H

FA  
 278  
 NON  
 THIS  
 COLLECTOR  
 R-MINOR

200  
 20  
 10  
 5  
 R-D



ROAD INVENTORY SHEET

2+3 Co 90Ex

Chief BB  
BB  
No./Dir. D-12A/NW  
Coordinates 854-526

Road No. Co 46  
Road Name RIDGE Rd  
County HOWARD  
Date 2-15-91  
Sheet No. 1 OF 3

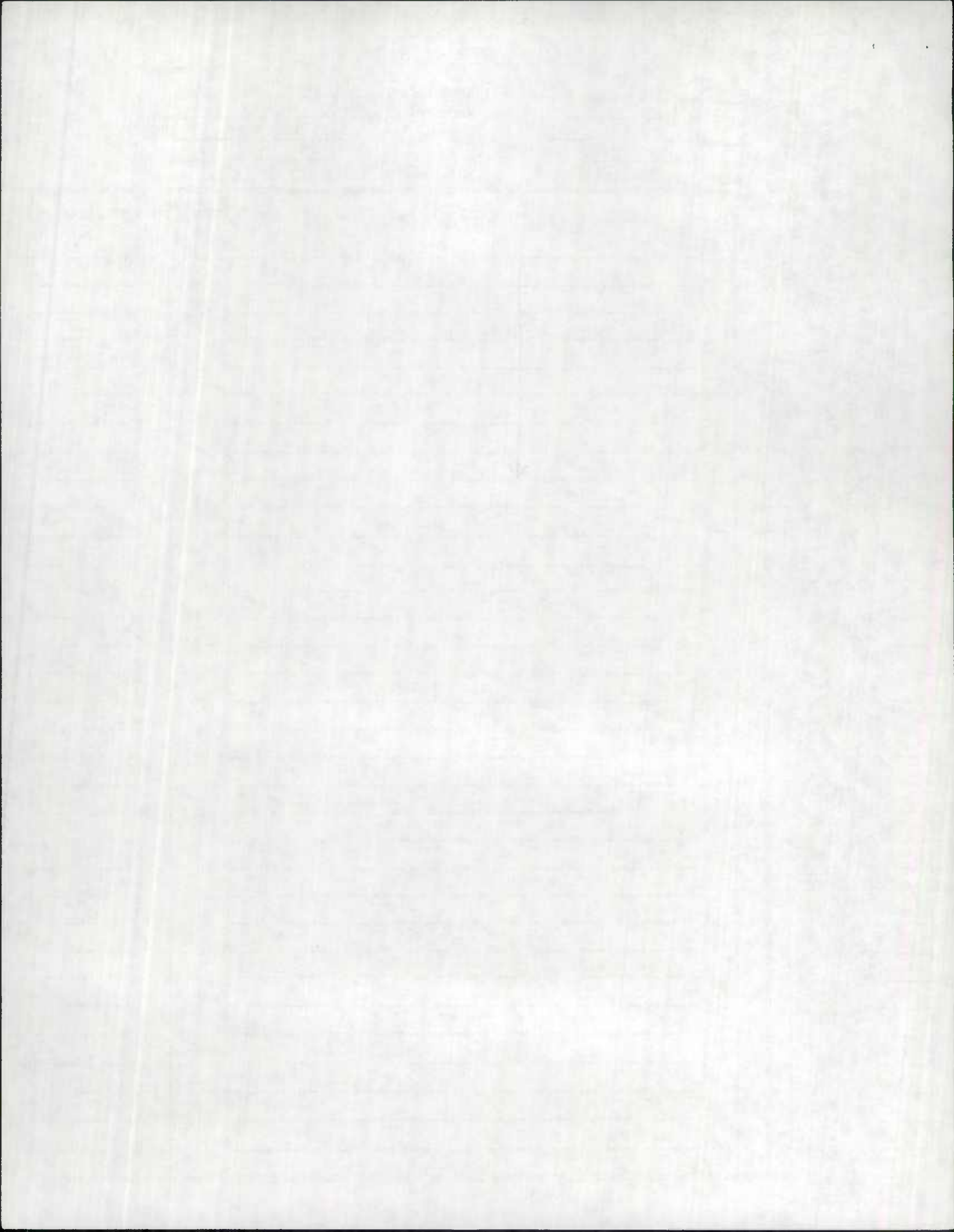
91-45 A/T  
3-2-92  
AL/RJ

TRAFFIC	LINE DIAGRAM		TRAFFIC		PAVEMENT DATA
	PRKG. REST. COM/IND. ACCESS		CONTROL	PRKG. REST.	
		PATAPSCO River Rd			
		0+00 SAC			
		0+26			
					24'I on top
					44' Jc-LT
					2ML
		0+22			X
E		To T.H. 0+21			24'I
					Jc-LT
					2ML
		0+16			X
					18'I
					2ML
		0+05			X
		0+02			20'I
					Jc-C
					2ML
		CUL 0+00 SAC			✓
		D E			
		10'			
		Ave			
		1312			
		Rogers			
		CO			

K 300410000026

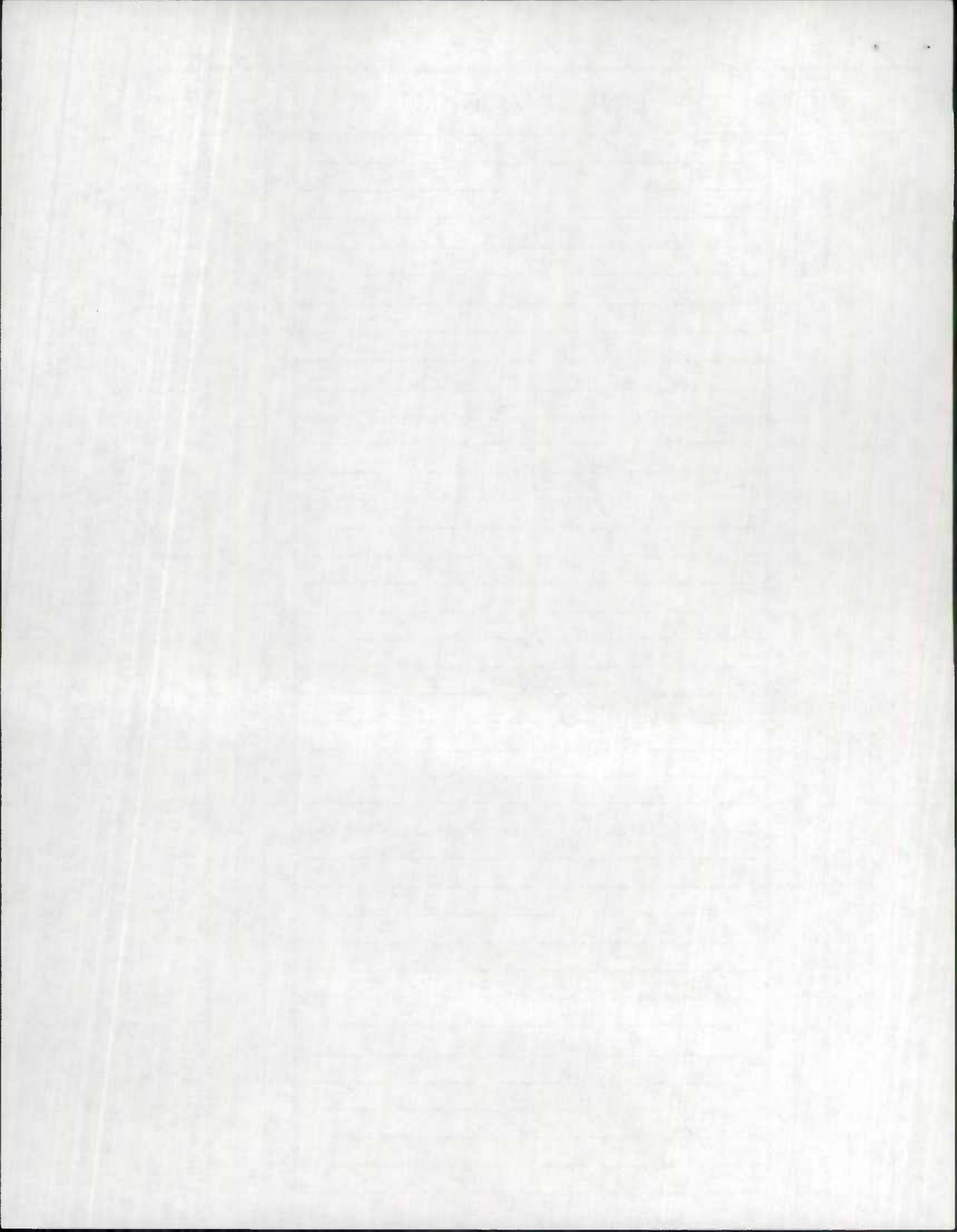
same



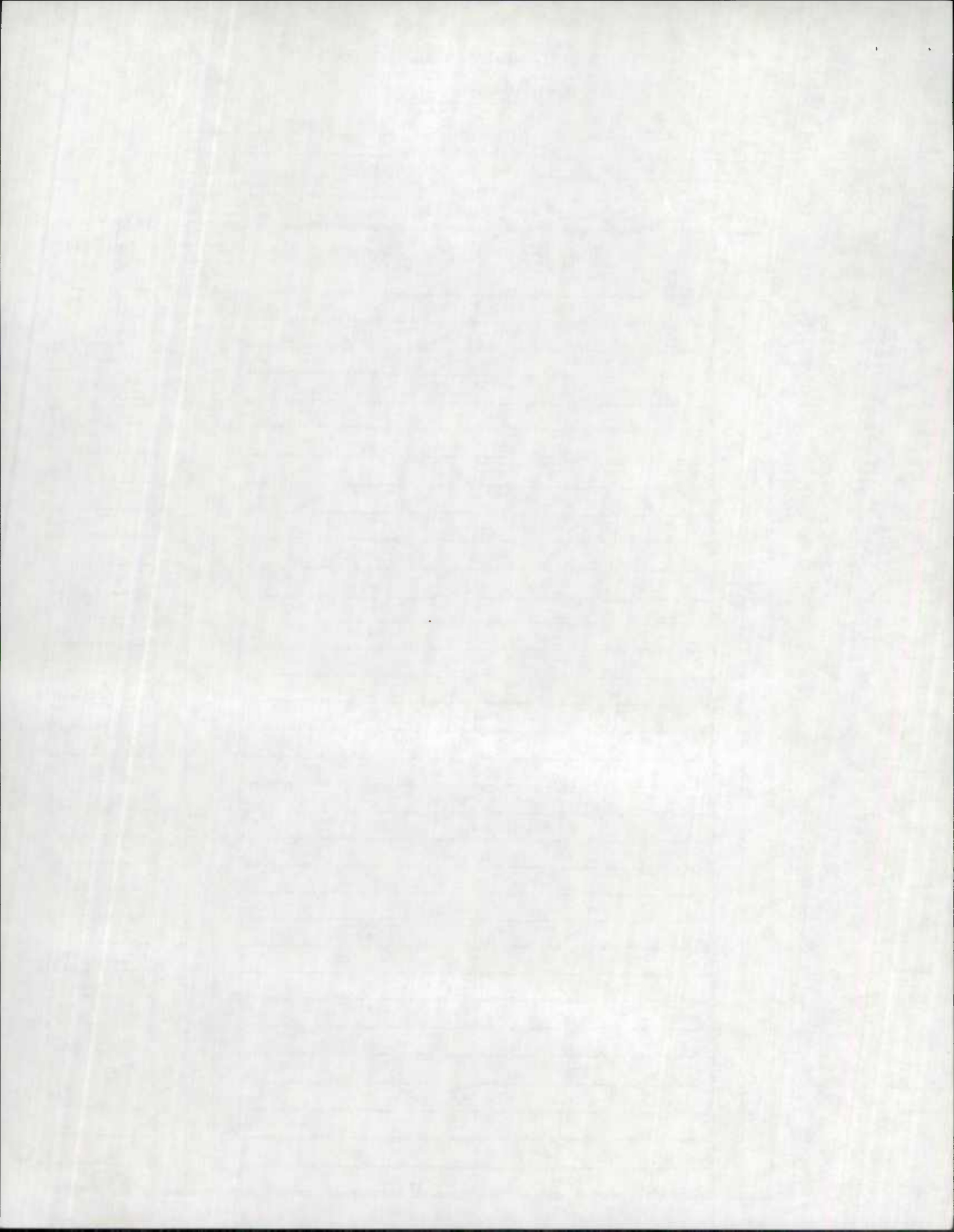






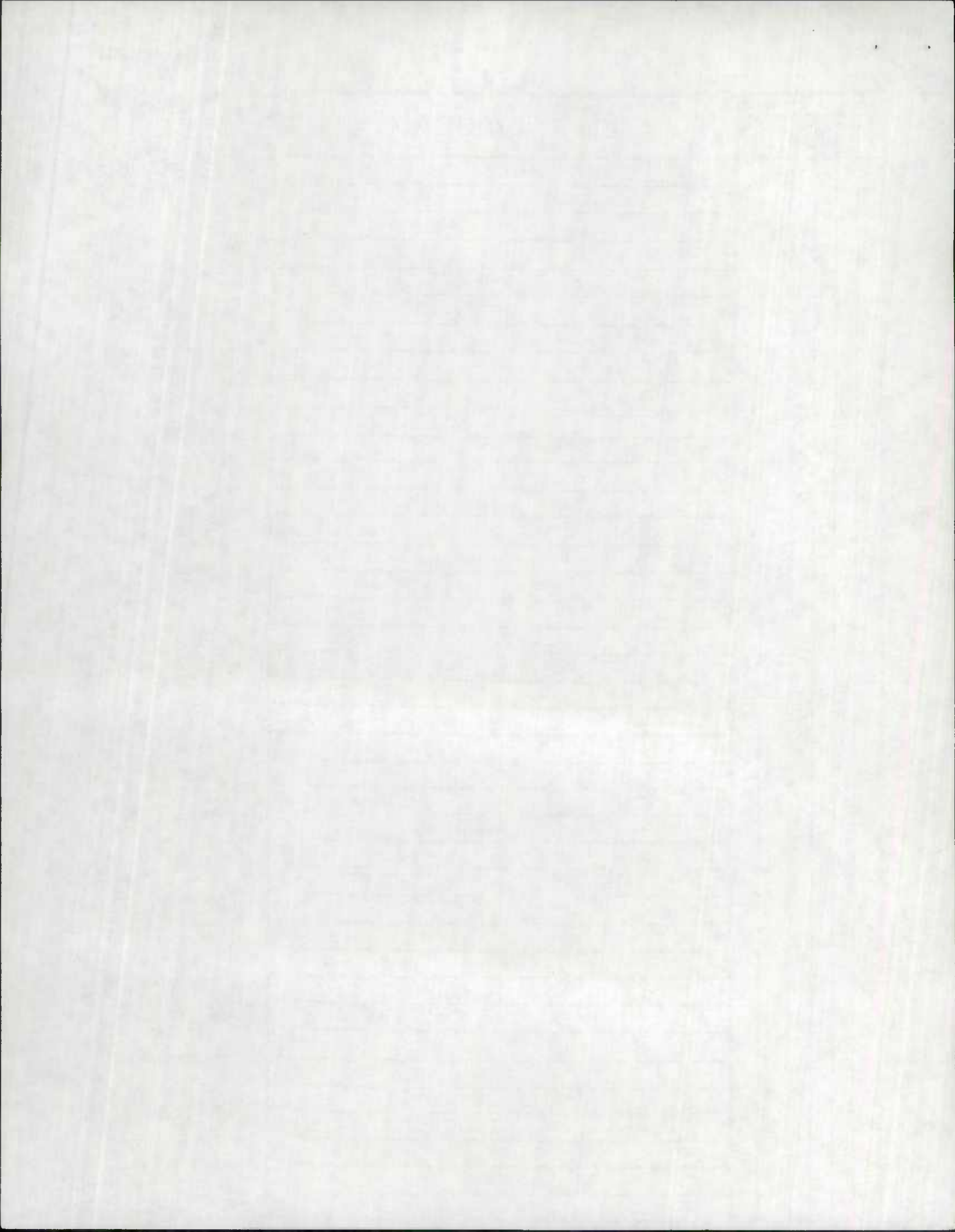












MARYLAND STATE HIGHWAY ADMINISTRATION

849

ROAD INVENTORY SHEET

Chief W. Dombrowski  
M. Zalanski  
 Res. Hen 4-18-90 T.L.  
 No./Dir. D12C / S  
 Coordinates 846-496

Road No. Co 128  
 Road Name Oakland Mills Rd  
 County Howard  
 Date 1-20-77  
 Sheet No. 3 OF 5

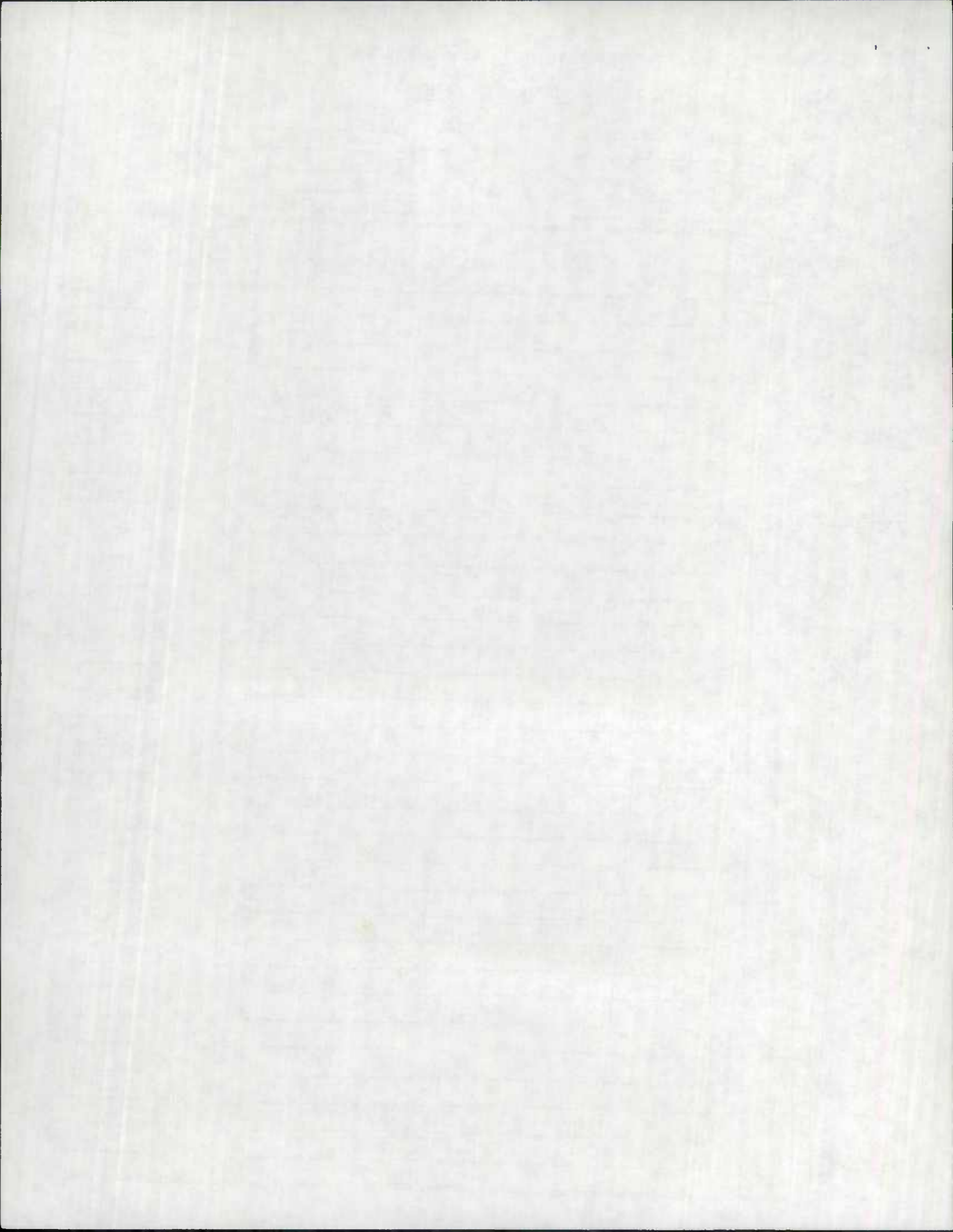
LINE DIAGRAM

PAVEMENT DATA
35'±
J-c-c
35'±
J-c-c
44'±
I-c-c
2-1
44'±
J-c-c
2-1
24'±
J-c-c
10'±
29'±
J-c-c
I-c-c

MILEAGE	TRAFFIC	LINE DIAGRAM		TRAFFIC	PAVEMENT DATA
		CONTROL	COM/ING ACCESS		
		342	(PK)		45'±
		332			J-c-c 2-1
			Person Rd		* 40'±
		327	Co 929		J-c-c 45'±
			Witchamere Est		43'±
		318			J-c-c
			Shawson Pkwy		2-1
		311	1140	PT ↗	* 40'±
			103		J-c-c
		307		65°	2-1
			Deerpasture Dr		43'±
		295	Co 1405	PC	J-c-c
		290			2-1
		286			* 43'±
			Oak Hall Ln		J-c-c
		279	Co 1409	85°	2-1
		270		PC	* 43'±
			SPUR		55'±
		265			J-c-c
			Dobbin Dr		2-1
		264	Co 1317		* 35'±
		263		HISTORICAL SIGN	J-c-c
		262		CH + CEM	2-1
		259			* 35'±
			Downdale Place		J-c-c
		246	Co 1400		

301238000265  
 301238000265  
 301238000265







91-266, 267  
AL/RJ  
2-24-92  
AT

10, 11, 12, 13

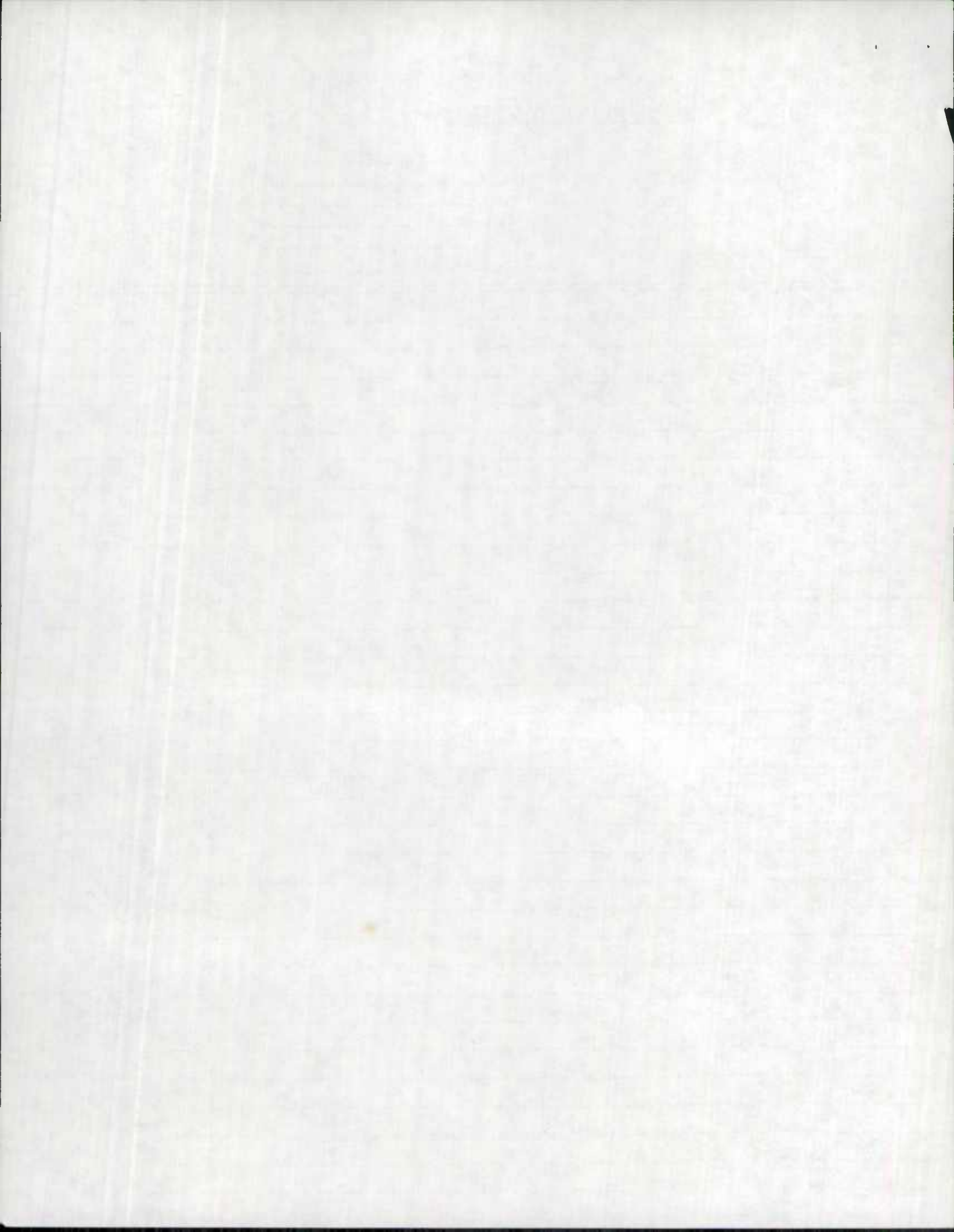
ROAD INVENTORY SHEET

Road No. Co 416  
 Road Name \_\_\_\_\_  
 Sheet No. 4 OF 5  
 Date \_\_\_\_\_  
 County \_\_\_\_\_  
 State Coordinates \_\_\_\_\_

Party Chief \_\_\_\_\_  
 Recorder \_\_\_\_\_  
 Helper \_\_\_\_\_  
 Map No. \_\_\_\_\_

Classification	Road Name	County	Length	Width	Notes	Other
	Co 899					
	ANFRED DR	4	44	600'	H	
	H	4	33			
	Co 680					
	HELMART DR	4	31			
FA			4	29		20' I
FA			4	23	H	20' I
287	ANTOR	9	H			
			4	18	H	
			4	16		X 20' I
			4	13		5' I
	Co 613					
FA	ALADDIN DR	4	11	CO 2024	H	
	Co 658		4	08		X
	SMARTOWN RD	4	00			X
N			3	94		2-4' I
N			3	89	H	22' I
	LEISHEAR RD	3	88			20' I
X	Co 91	3	79	CO 2005		X
4			3	77	H	
360			3	75	DERBY De H	
367			3	67	Proposed	895.2422
A			3	59		SAM

Vertical scale with arrows and handwritten numbers: 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260, 270, 280, 290, 300, 310, 320, 330, 340, 350, 360, 370, 380, 390, 400, 410, 420, 430, 440, 450, 460, 470, 480, 490, 500, 510, 520, 530, 540, 550, 560, 570, 580, 590, 600, 610, 620, 630, 640, 650, 660, 670, 680, 690, 700, 710, 720, 730, 740, 750, 760, 770, 780, 790, 800, 810, 820, 830, 840, 850, 860, 870, 880, 890, 900, 910, 920, 930, 940, 950, 960, 970, 980, 990.



ROAD INVENTORY SHEET

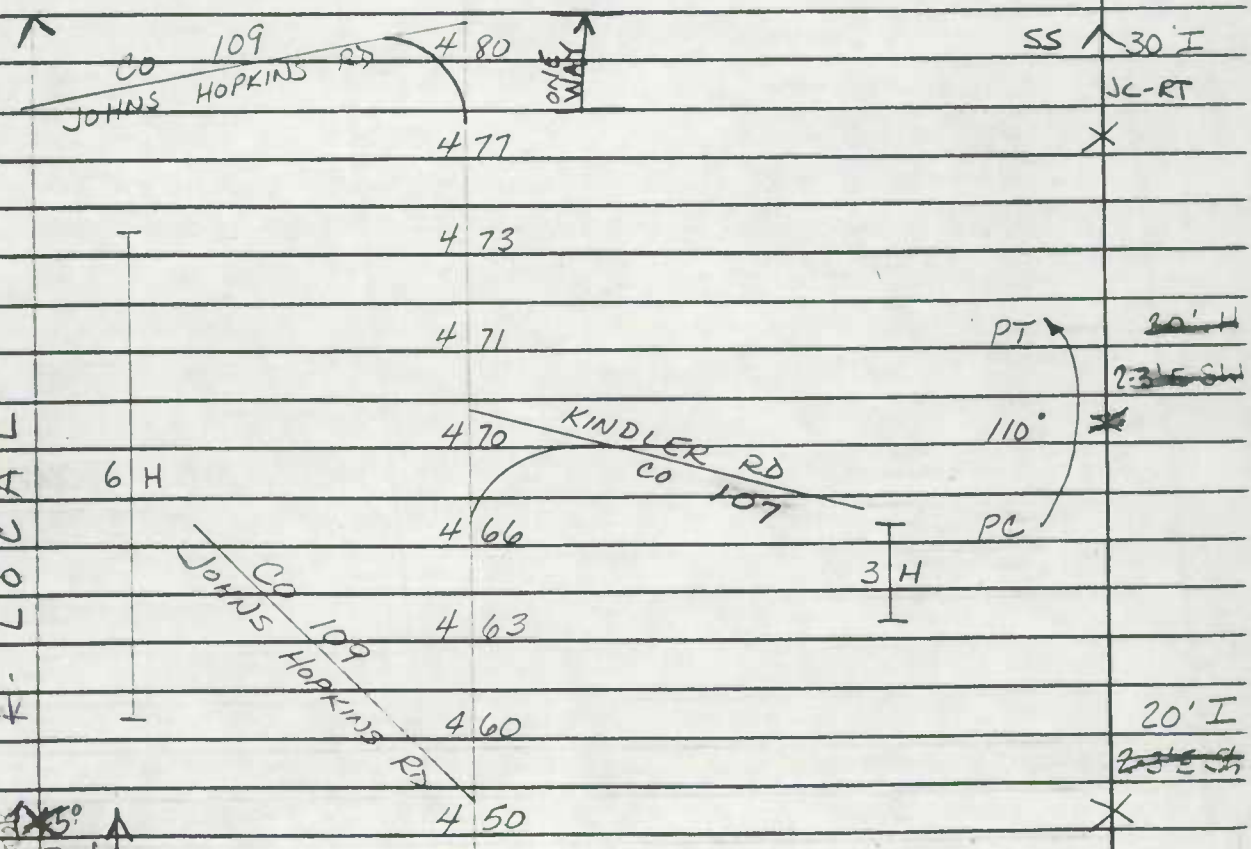
13

City Chief \_\_\_\_\_  
 Order \_\_\_\_\_  
 per \_\_\_\_\_

Map No. \_\_\_\_\_

Road No. Co 416  
 Road Name \_\_\_\_\_  
 Sheet No. 5 OF 5  
 Date \_\_\_\_\_  
 County \_\_\_\_\_  
 State Coordinates \_\_\_\_\_

20' D  
 I  
 2  
 X 20'  
 5' I  
 6'  
 X  
 X  
 20'  
 23'  
 22'  
 2-7'  
 72'  
 20'  
 2-3'  
 X  
 422  
 X  
 R-1100  
 COLLECTOR  
 WORK  
 H/PS

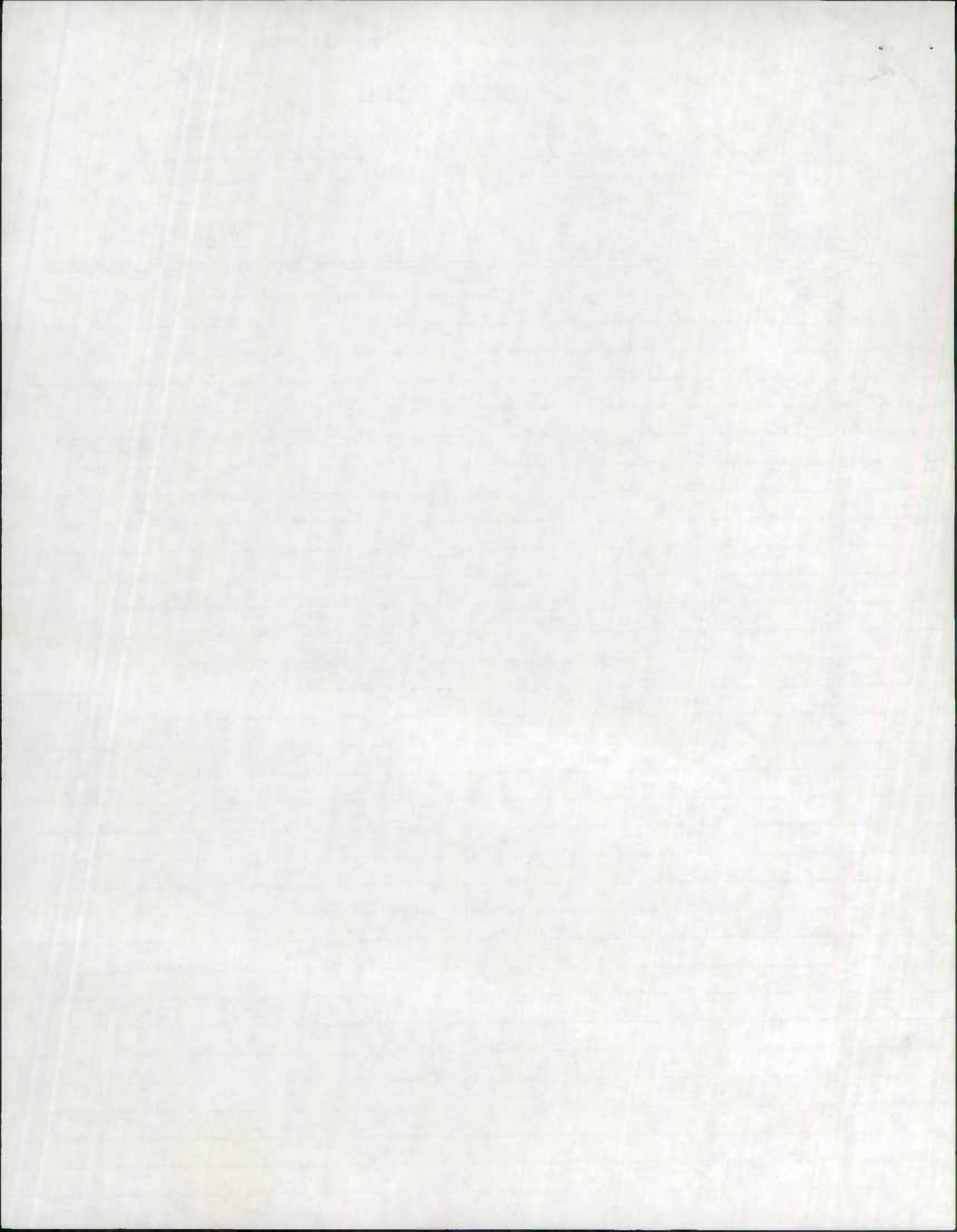


FA  
 R-1100  
 COLLECTOR  
 WORK  
 H/PS



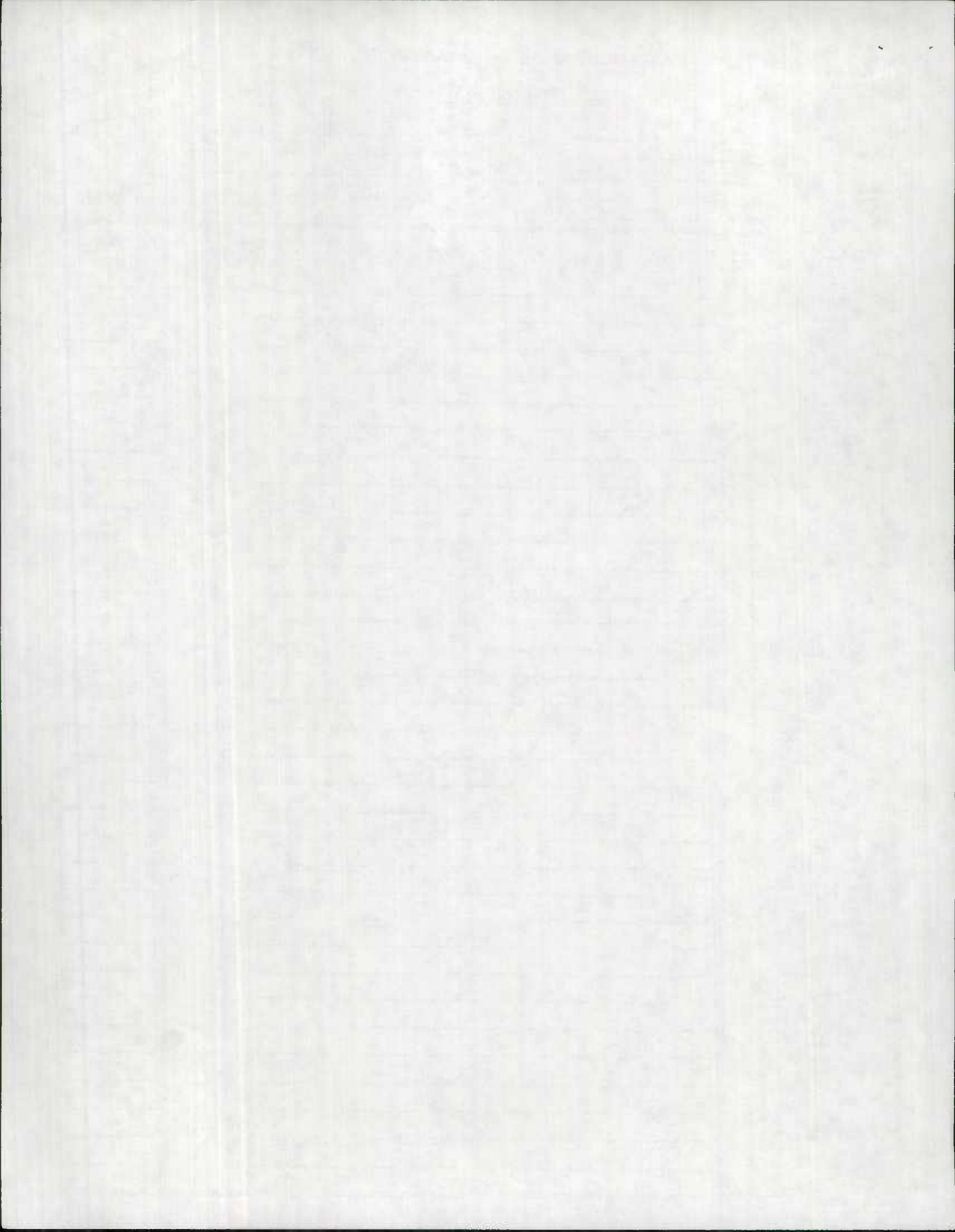






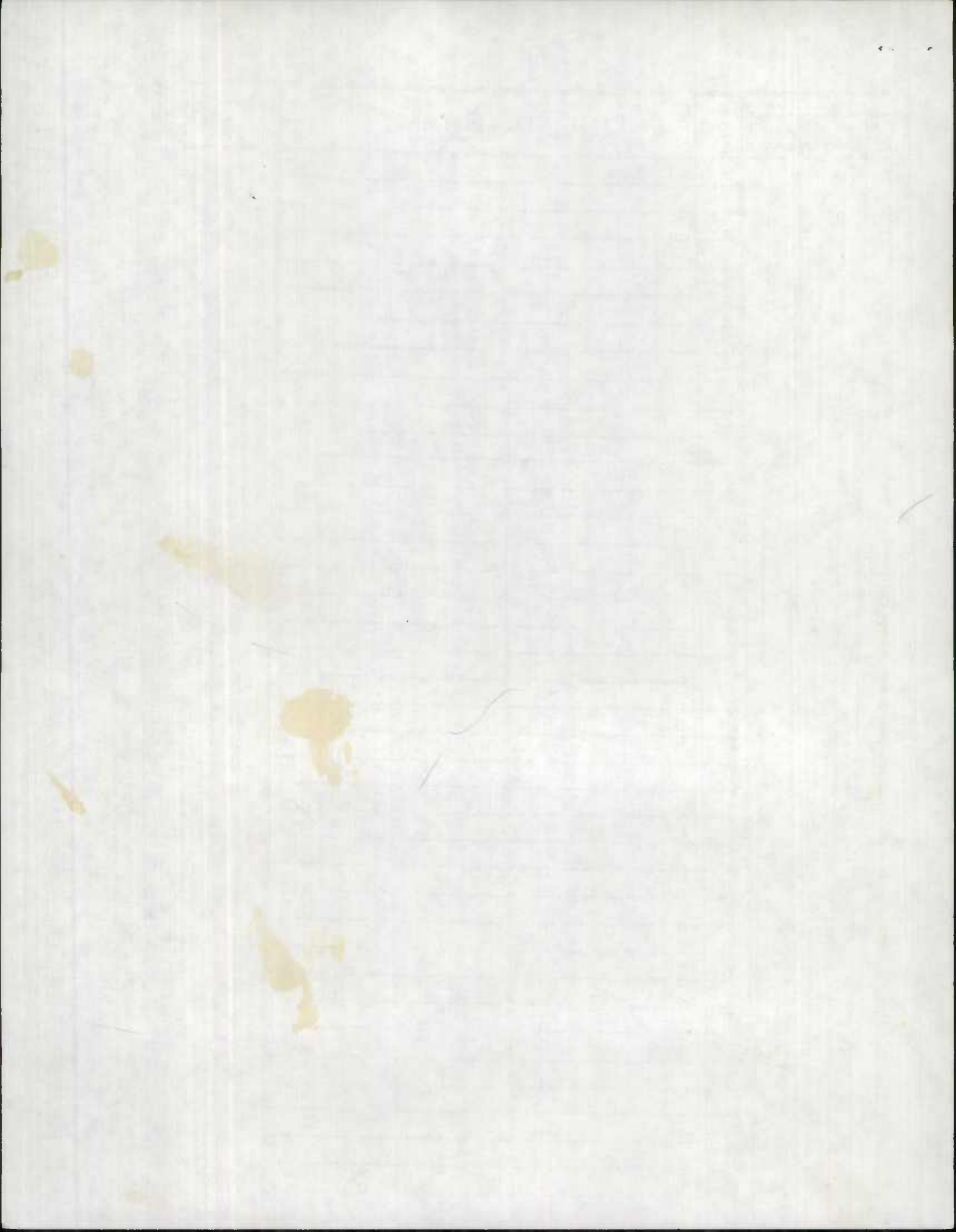












CURVE - GRADE DATA COLLECTION  
NON - STATE ROADS - FY - 1992

Route No: CO 0015  
Sample No: 1  
County: Haward

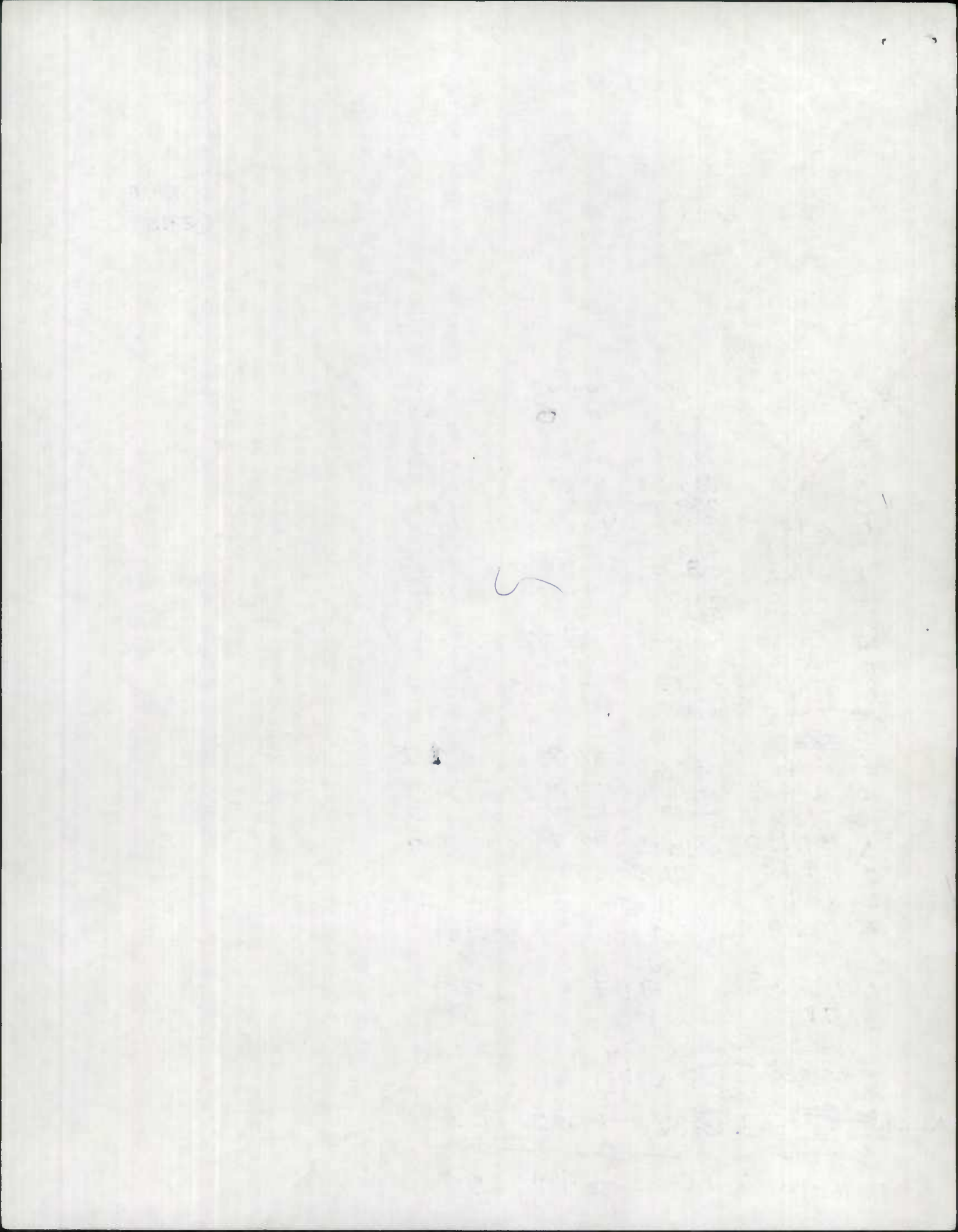
Starting Mile Pt: 00.00  
Ending Mile Pt: 03.15  
**(3.15)**

Horizontal Curve Section

<u>Start Pt.</u> (in ft.)	<u>End Pt.</u> (in ft.)	<u>Chord</u> <u>length</u> (/100ft)	<u>Central</u> <u>Ordi. Length</u> (/100ft)	<u>Length of Total</u> <u>Curve in(x.xxmile)</u>
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L	0	189	99.9	1.9	
R	189	617	99.6	3.8	
	617	921	100	0	
L	921	1380	99.0	6.0	
R	1380	1840	99.3	1.7	
O	1840	2590	100	0	
L	2590	2901	99.8	1.8	
S	2901	4107	100	0	
R	4107	4320	99.85	1.4	
L	4320	5119	99.85	1.4	
S	5119	5329	100	0	
L	5329	6018	99.80	2.4	
R	6018	6410	99.9	1.1	
L	6410	7097	99.85	1.7	
Curve Classes					Length of Curves
by Degree of Curvature					in Class
					(Implied Decimal)
					(xx.xxx miles)
S	7097	8066	0	1.5	
L	8066	8066	99.85	1.5	

*R	8066	9364	99.9	1.0	11 - 1.48
S	9364	1112	100	0	
R	1112	11493	99.7	2.9	
S	11493	12143	100		
L	12143	99.85		1.7	
R	12640	99.85		1.5	2 - 0.18
S	13053	100		0	5 - 0.45
L	13235	99.7		2.9	4 - 0.40
S	13712	100		0	1 - 0.09
L	14659	99.9		1.0	3 - 0.20
S	15263	100		0	1 - 0.08
R	15493	99.85		1.5	2 - 0.23
S	15867	100		0	
R	16393	16623	99.1	5.8	





Vertical Curve Section

<u>Start Pt.</u> (in ft.)	<u>End Pt.</u> (in ft.)	<u>Gradient Percent</u>	<u>Length of Curve</u> (in x.xx miles)
0	189	- 4.6	
189	402	+ 3.2	
402	921	- 6.2	
921	1680	0	
1680	2255	- 2.6	
2255	2590	+ 5.8	
2590	2901	- 1.4	
2901	3727	0	
3727	3899	+ 1.4	
3899	5119	- 3.8	
5119	6410	+ 3.6	
6410	7097	- 7.2	
7097	8066	0	
8066	8686	+ 0.4	
8686	9043	- 2.6	
9043	9695	+ 3.6	
9695	<del>10244</del>	- 2.6	
<del>10244</del>	Grade Classes → 11493	Number of Grades (Right Justified)	Length of Grades in Class (Implied Decimal) (xx.xxx miles)
11493	12143	0	
12143	Gradient (Percent)	-	
12640		+ 3.2	1.18
13710	0-0.4	0	0.12
1387	1.5-2.4	- 0.8	1.42
14659	2.5-4.4	0	2.22
15263	4.5-6.4	- 4.2	
e. 6.5-8.4	16623		
f. 8.5-			



CURVE - GRADE DATA COLLECTION  
NON - STATE ROADS - FY - 1992

Route No: Co 0046  
 Sample No: 2  
 County: Howard

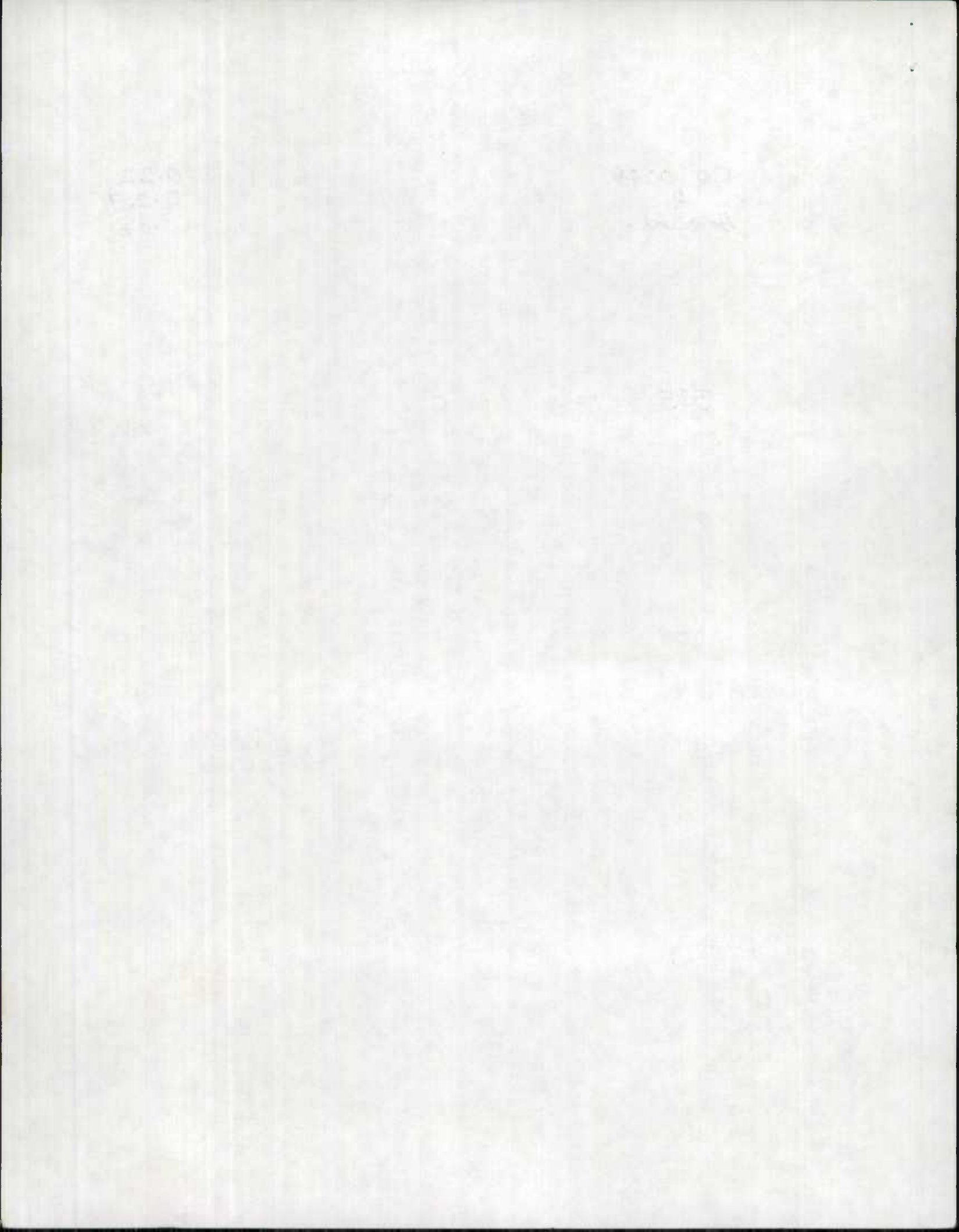
Starting Mile Pt: 0.22  
 Ending Mile Pt: 0.29  
(0.07)

Horizontal Curve Section

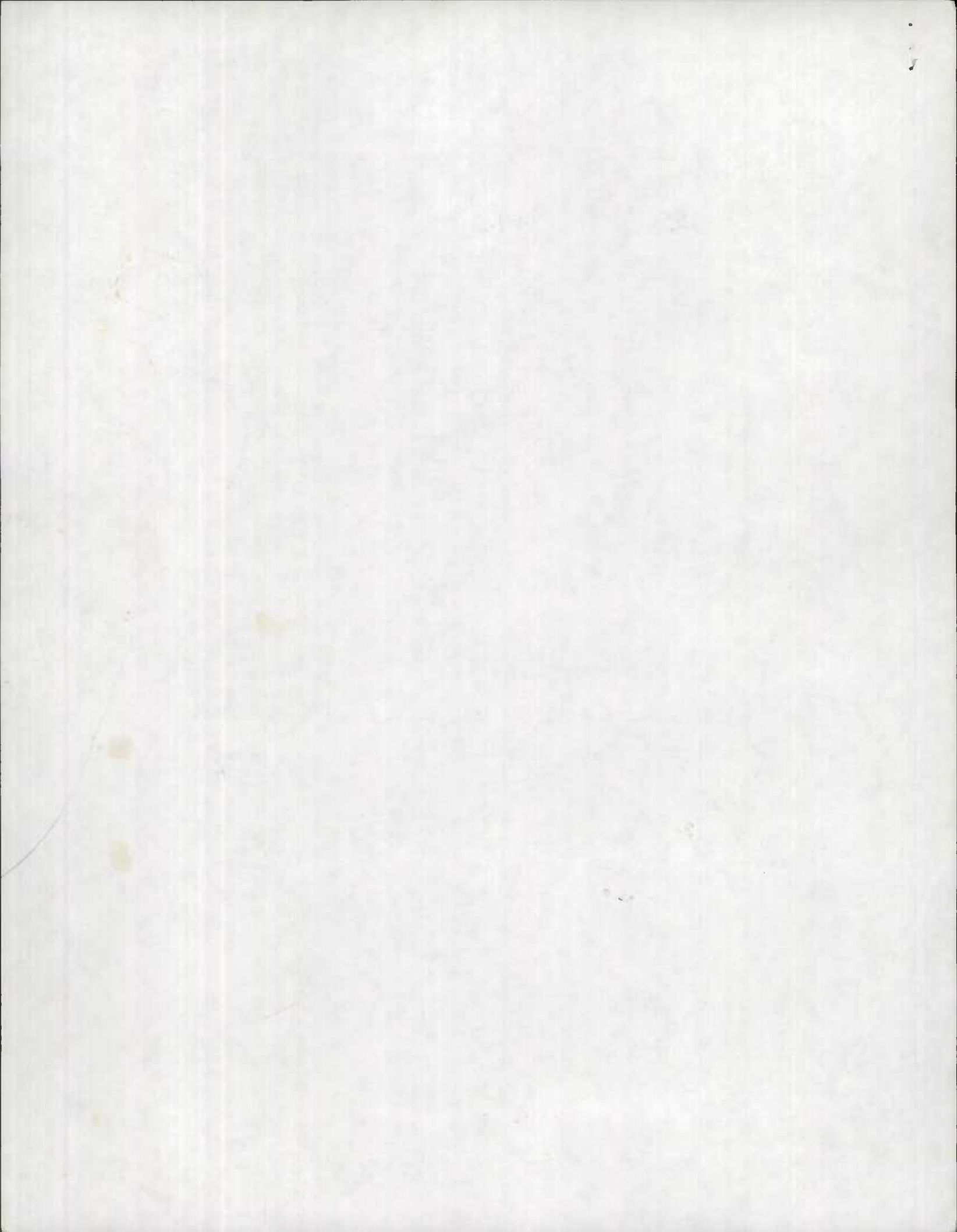
<u>Start Pt.</u> <u>(in ft.)</u>	<u>End Pt.</u> <u>(in ft.)</u>	<u>Chord</u> <u>length</u> <u>(/100ft)</u>	<u>Central</u> <u>Ord1. Length</u> <u>(/100ft)</u>	<u>Length of Total</u> <u>Curve in(x.xxmile)</u>
<u>0</u>	<u>355</u>	<u>100</u>	<u>0</u>	
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	<u>Curve</u> <u>Classes</u> <u>by</u> <u>Degree of</u> <u>Curvature</u>	<u>Number of</u> <u>Curves</u> <u>(Right-</u> <u>Justified)</u>	<u>Length</u> <u>of Curves</u> <u>in Class</u> <u>(Implied Decimal)</u> <u>(xx.xxx miles)</u>
a.	0.0-0.4	<u>1</u>	<u>0.07</u>
b.	0.5-1.4	-----	-----
c.	1.5-2.4	-----	-----
d.	2.5-3.4	-----	-----
e.	3.5-4.4	-----	-----
f.	4.5-5.4	-----	-----
g.	5.5-6.9	-----	-----
h.	7.0-8.4	-----	-----
i.	8.5-10.9	-----	-----
j.	11.0-13.9	-----	-----
k.	14.0-19.4	-----	-----
l.	19.5-27.9	-----	-----
m.	28+	-----	-----



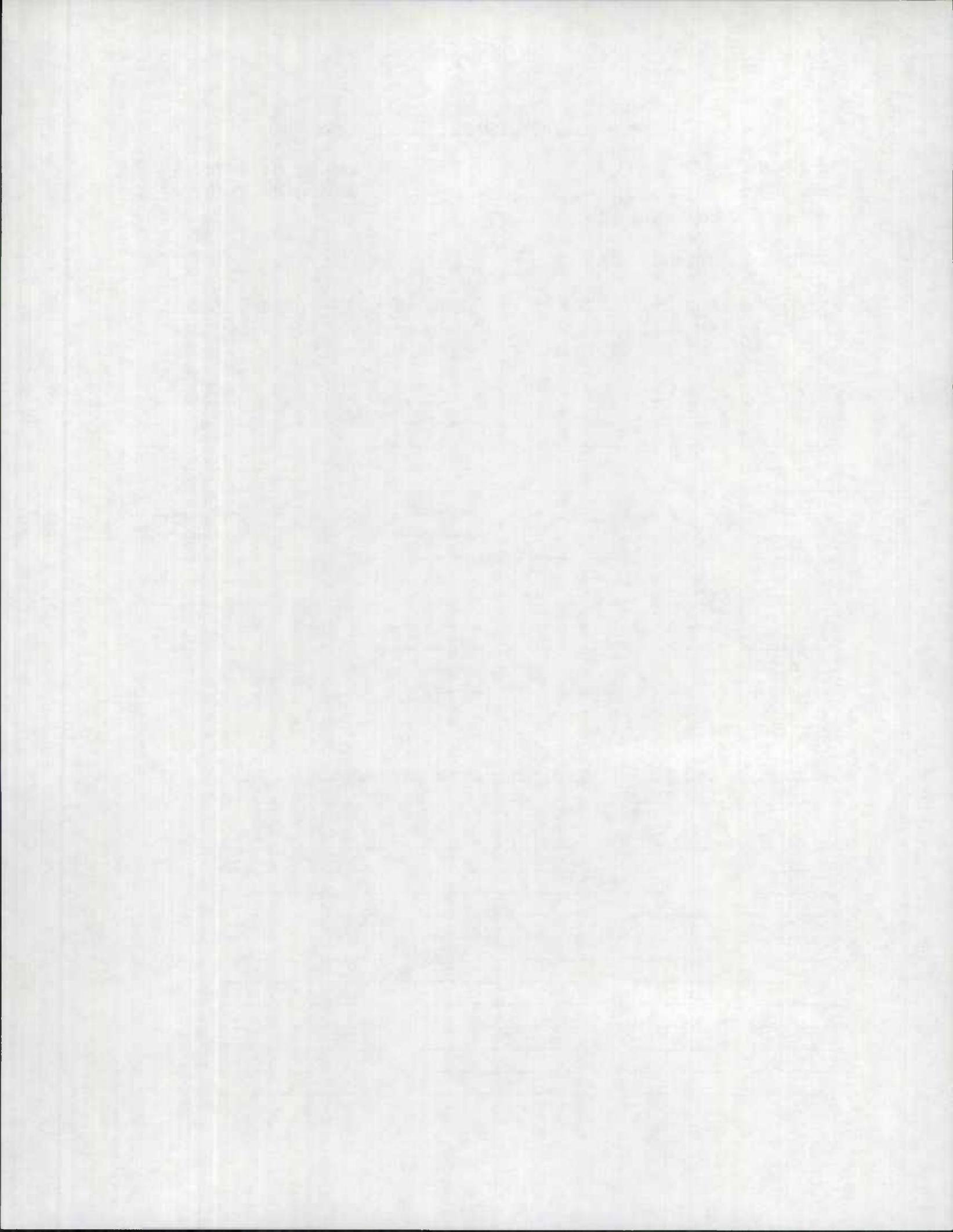






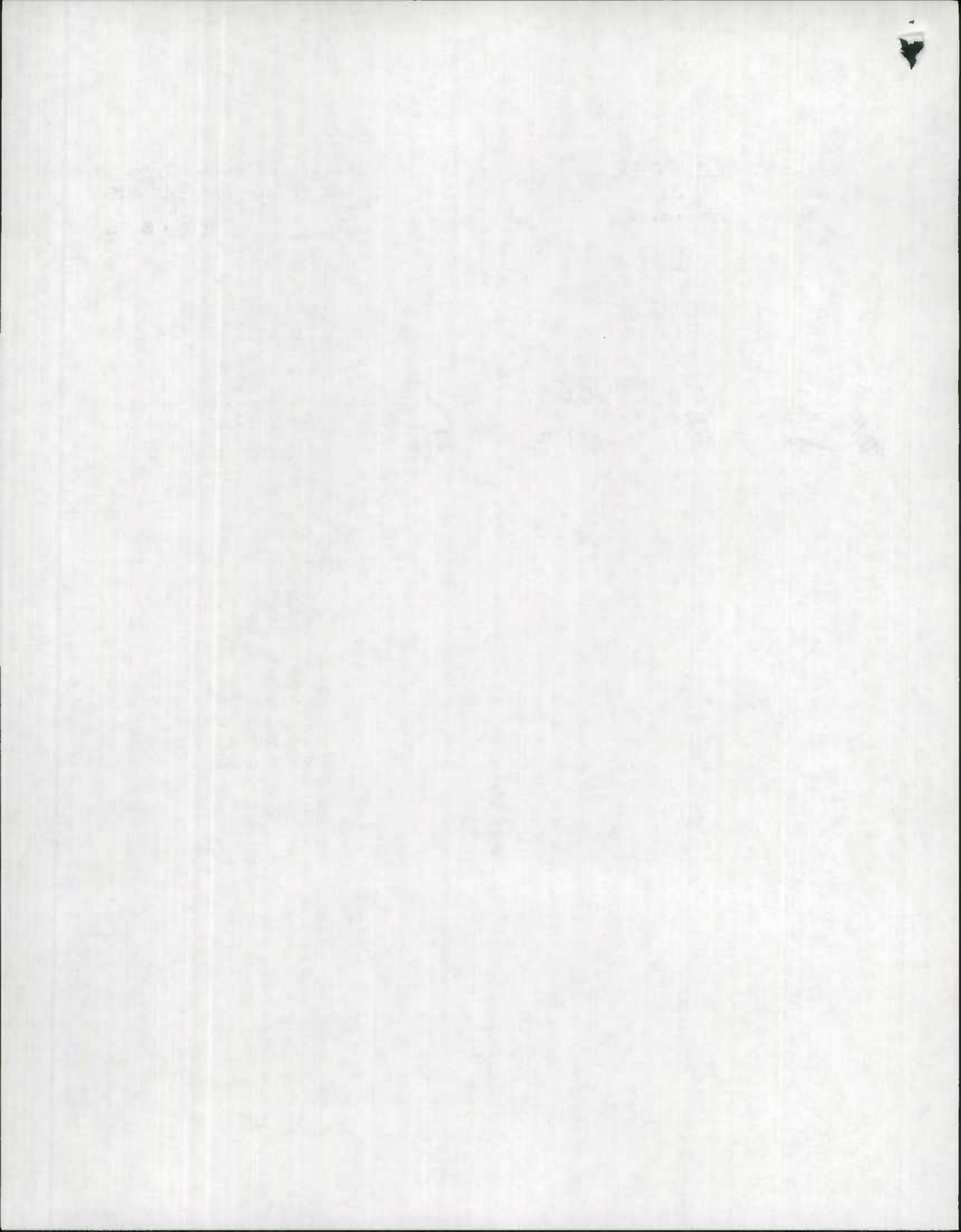












### Vertical Curve Section

<u>Start Pt.</u> (in ft.)	<u>End Pt.</u> (in ft.)	<u>Gradient Percent</u>	<u>Length of Curve</u> (in x.xx miles)
0	139	+1.2	-----
139	478	-3.4	-----
478	841	+1.4	-----
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	<u>Grade Classes by Gradient (Percent)</u>	<u>Number of Grades (Right- Justified)</u>	<u>Length of Grades in Class (Implied Decimal) (xx.xxx miles)</u>
a.	0.0-0.4	-----	-----
b.	0.5-2.4	<u>2</u>	<u>0.10</u>
c.	2.5-4.4	<u>1</u>	<u>0.16</u>
d.	4.5-6.4	-----	-----
e.	6.5-8.4	-----	-----
f.	8.5-	-----	-----





**CURVE - GRADE DATA COLLECTION**

**UPDATE FORM - 1993**

Route No: CD 128  
 Sample No: 4  
 County: (18) HOWARD

Starting Mile Pt: 1.45  
 Ending Mile Pt: 1.96  
.51 = 2693-ft

**Horizontal Curve Section**

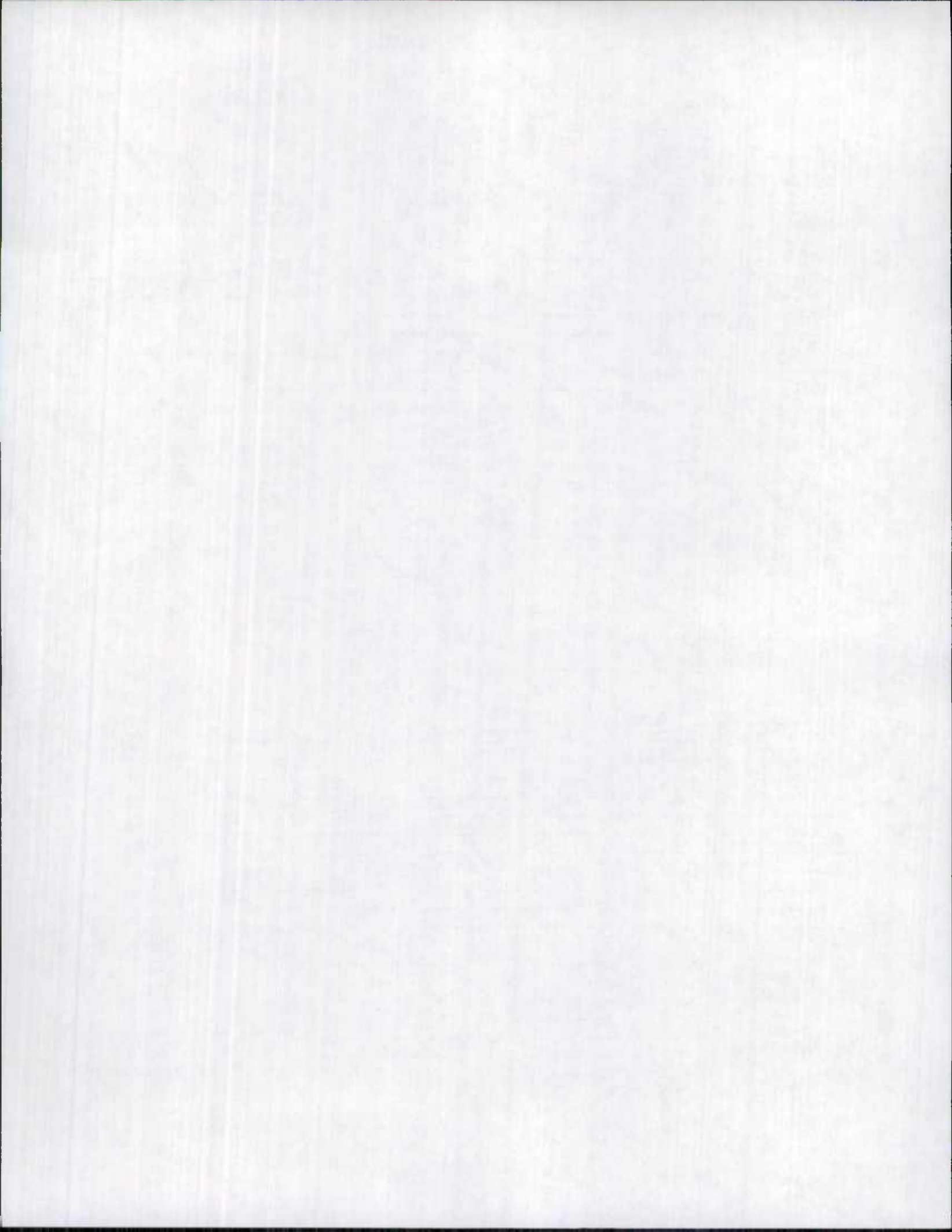
Start Pt. (in ft.)	End Pt. (in ft.)	Chord length (/100ft)	Central Ordi. Length (/100ft)	Length of Total Curve in(x.xxmile)
0	1417	100	0	
1417	1996	98.85	1.5	
1996	2693	100	0	

- A. 0.0 - 0.4 2 .40
- B. 0.5 - 1.4
- C. 1.5 - 2.4
- D. 2.5 - 3.4
- E. 3.5 - 4.4
- F. 4.5 - 5.4
- G. 5.5 - 6.9 1 .11
- H. 7.0 - 8.4
- I. 8.5 - 10.9
- J. 11.0 - 13.9

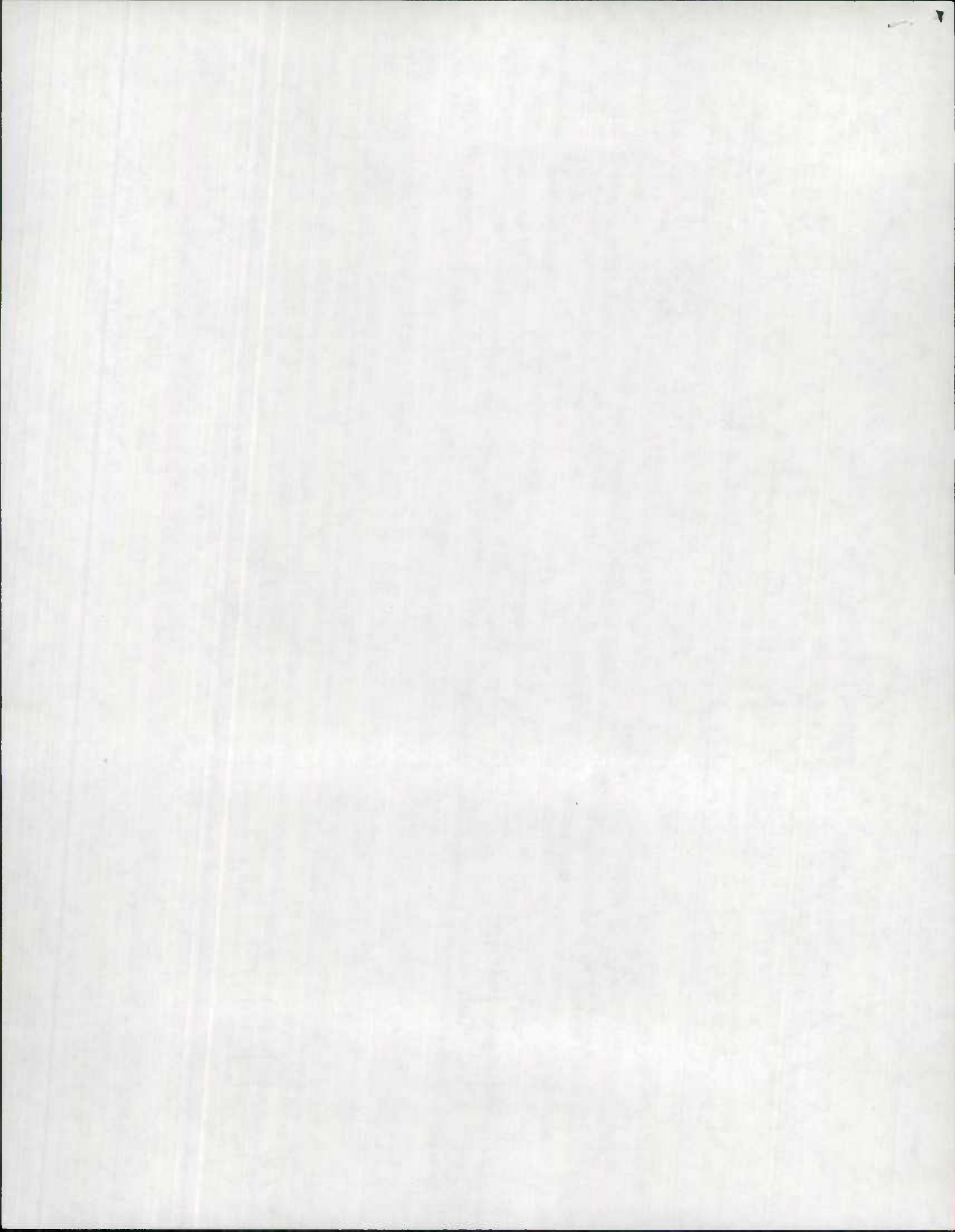
**Vertical Curve Section**

Start Pt. (in ft.)	End Pt. (in ft.)	Gradient Percent	Length of Curve (in x.xx miles)
0	259	0.0	
259	415	.2	
415	819	.2	
819	1624	2.8	
1624	1996	.2	
1996	2693	3.2	

- A. 0.0 - 0.4 4 .22
- B. 0.5 - 2.4
- C. 2.5 - 4.4 2 .28
- D. 4.5 - 6.4
- E. 6.5 - 8.4 1 .01
- F. 8.5 -

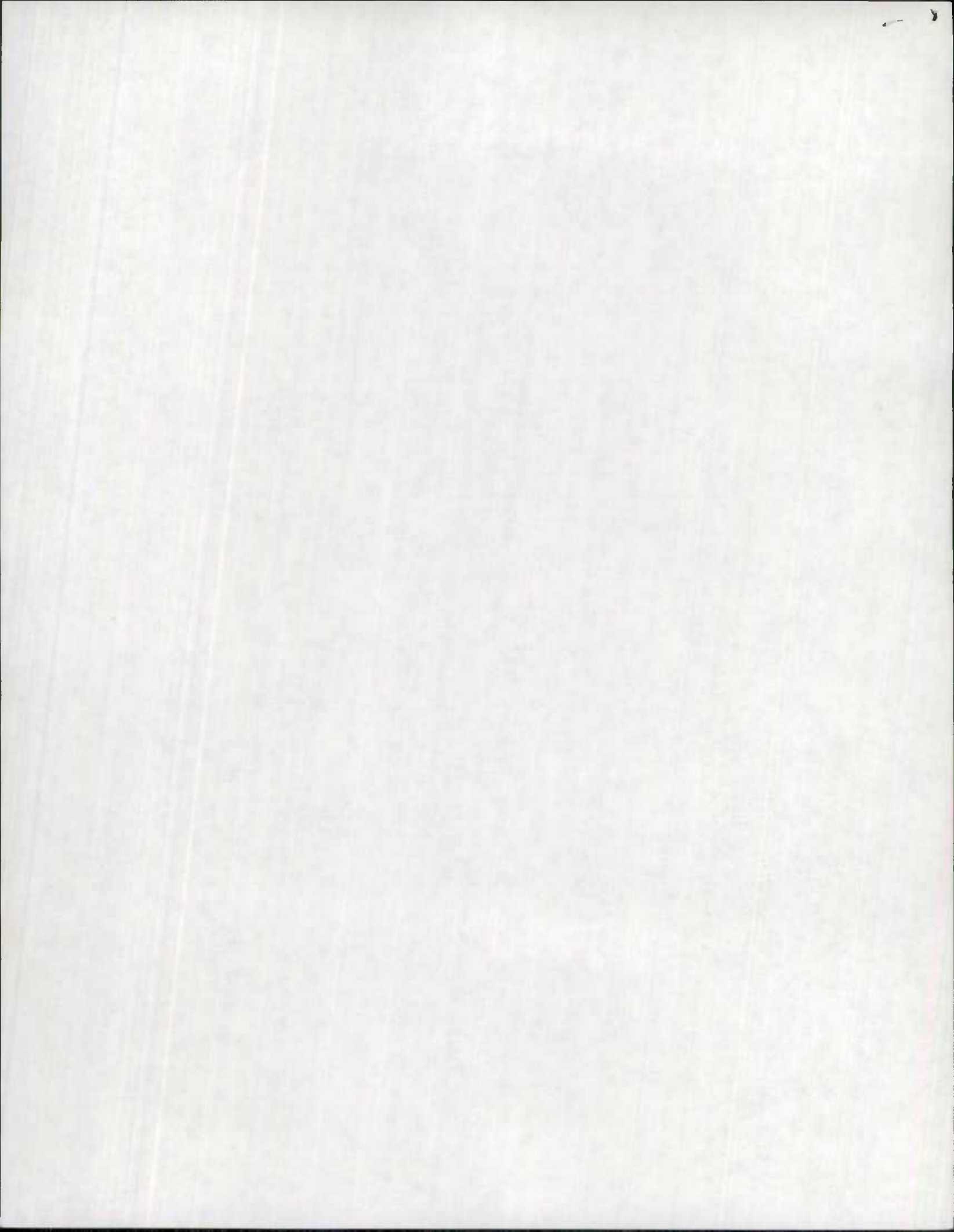




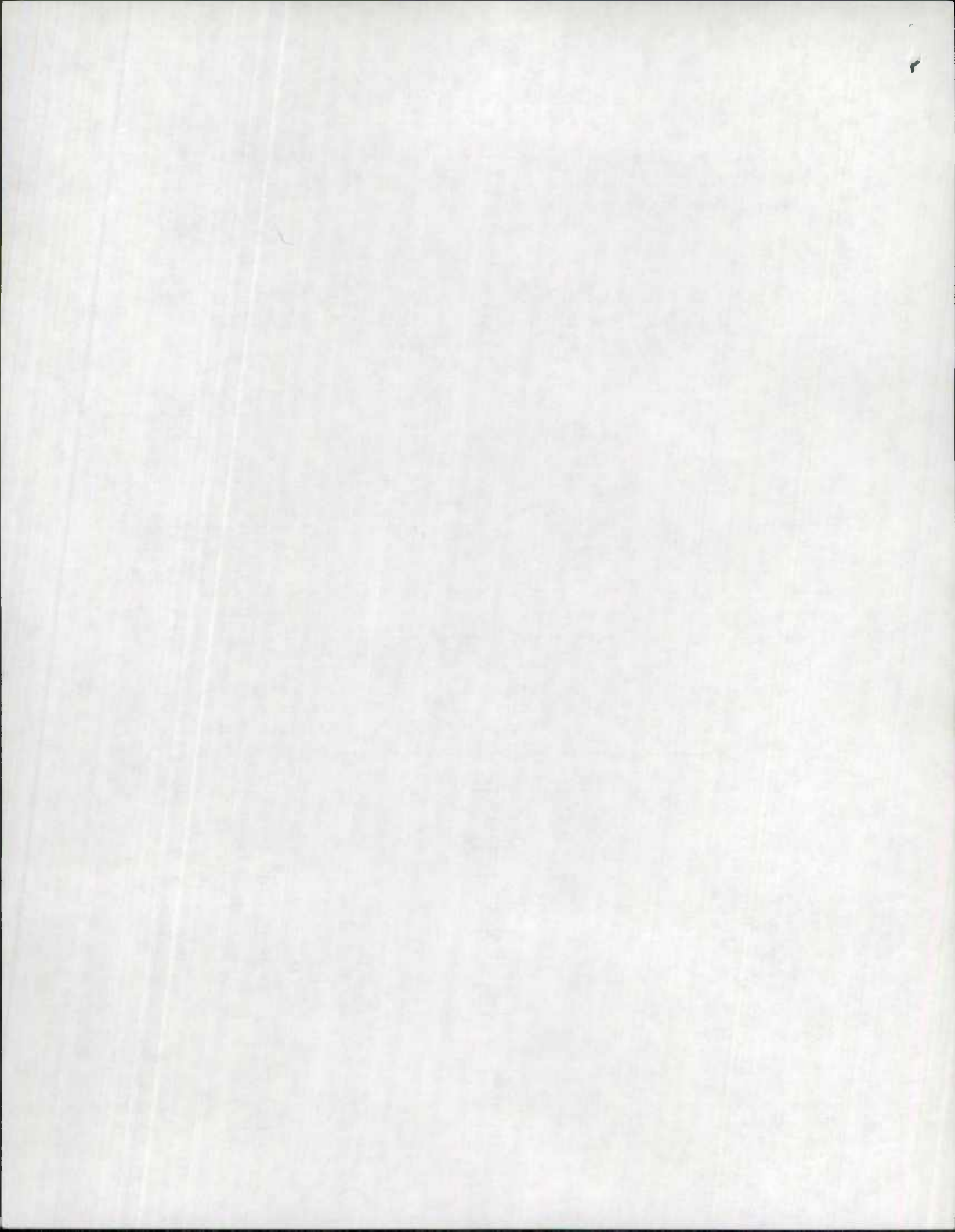






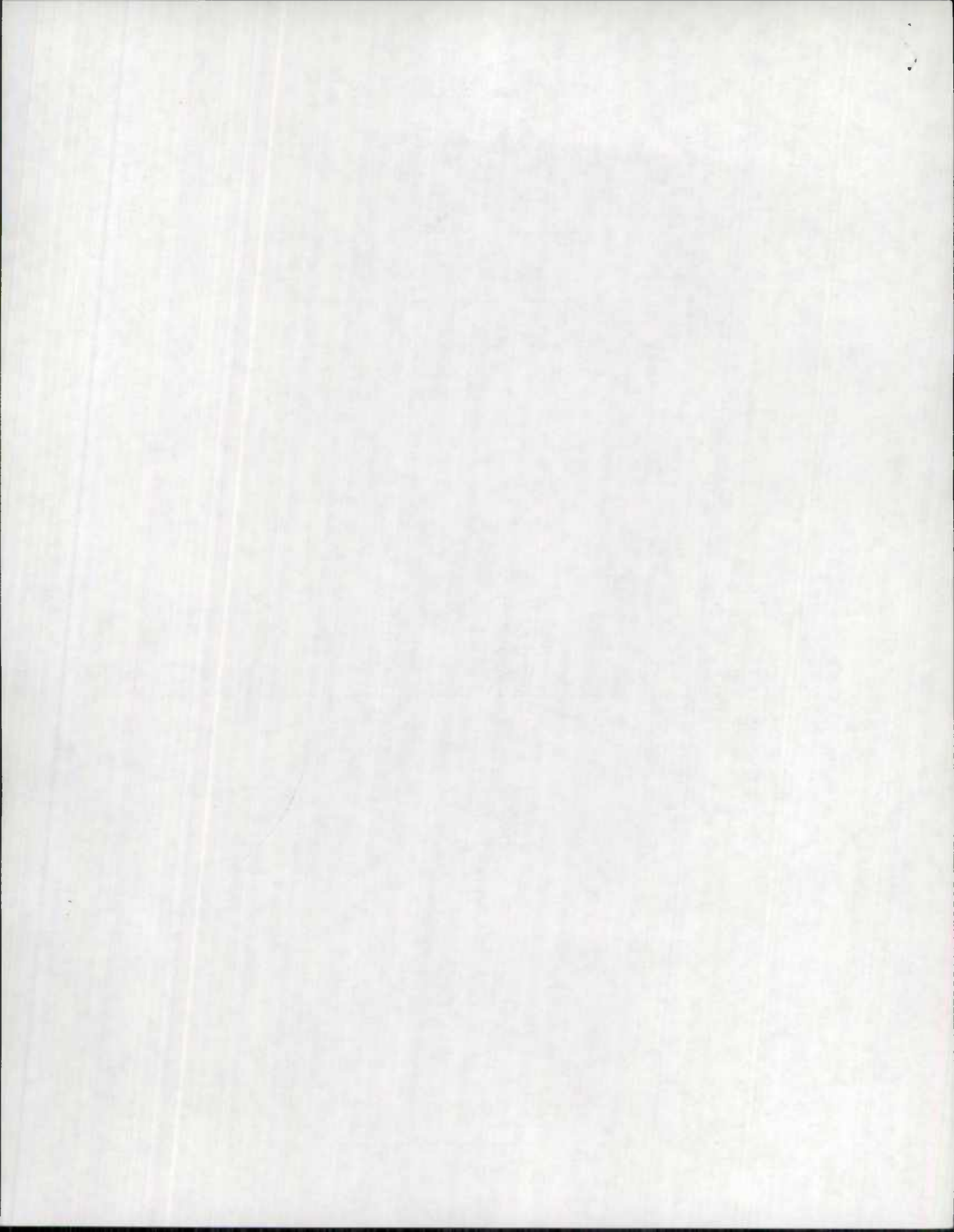




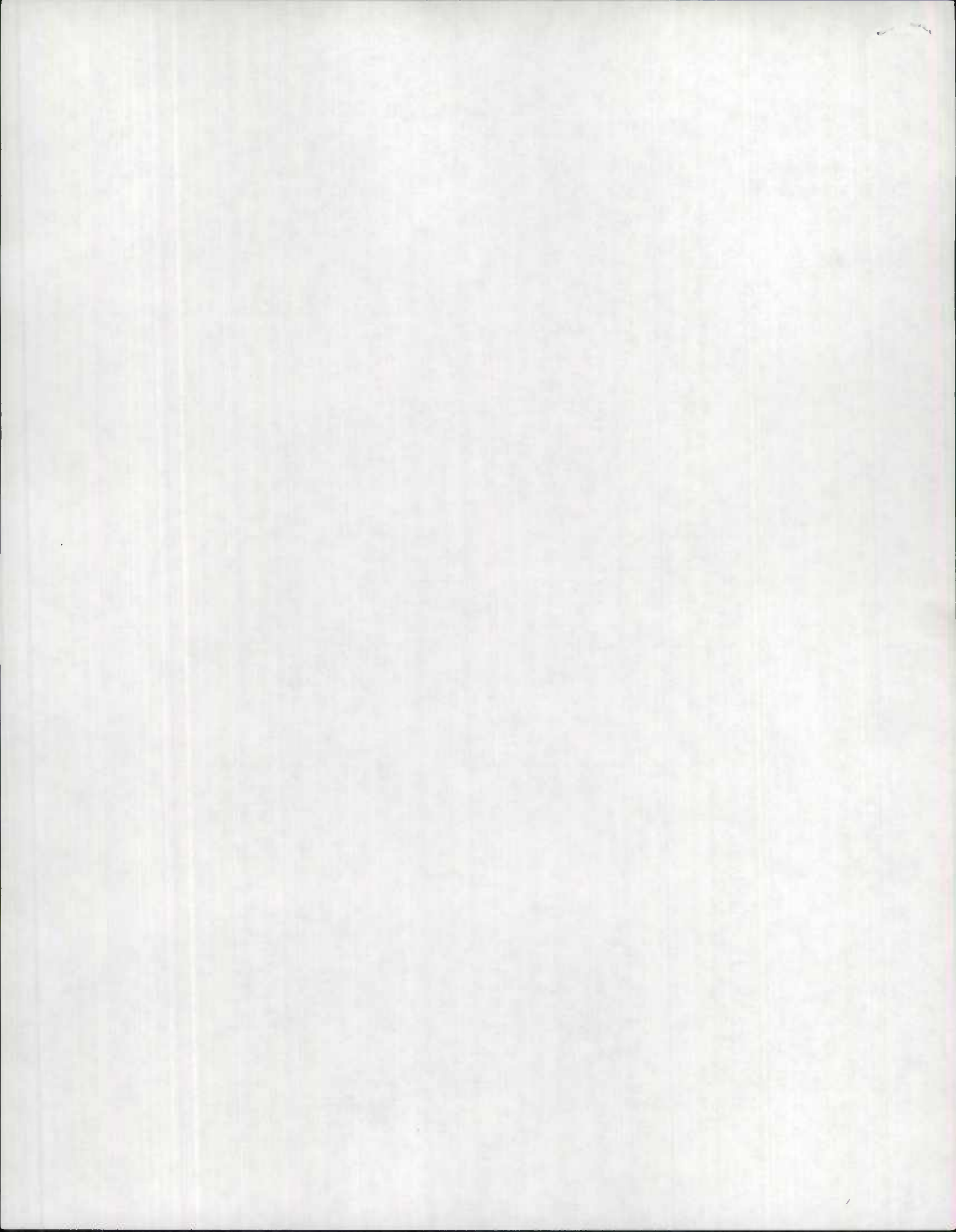






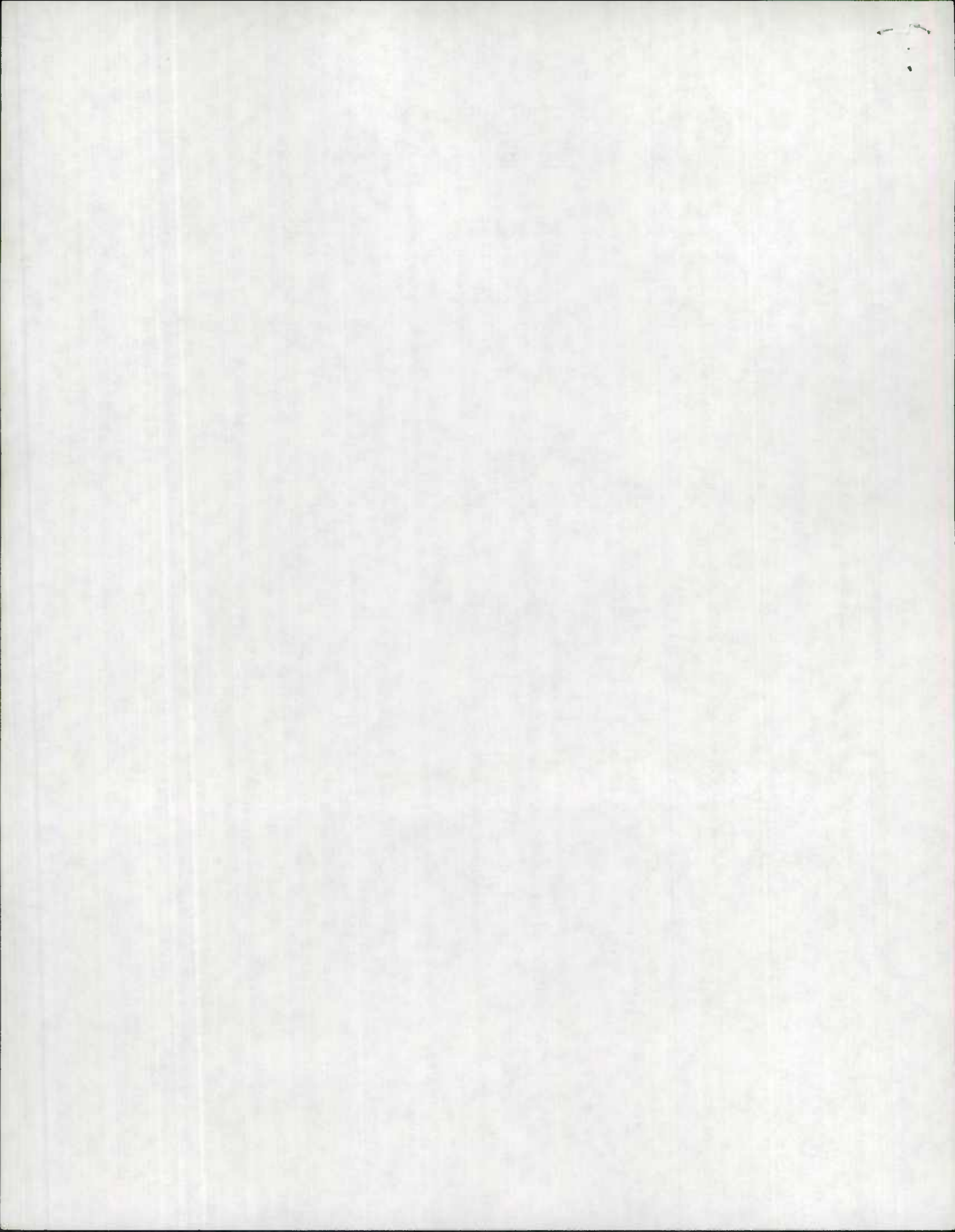












CURVE - GRADE DATA COLLECTION  
NON - STATE ROADS - FY - 1992

Route No: CO 128  
 Sample No: 7  
 County: Howard

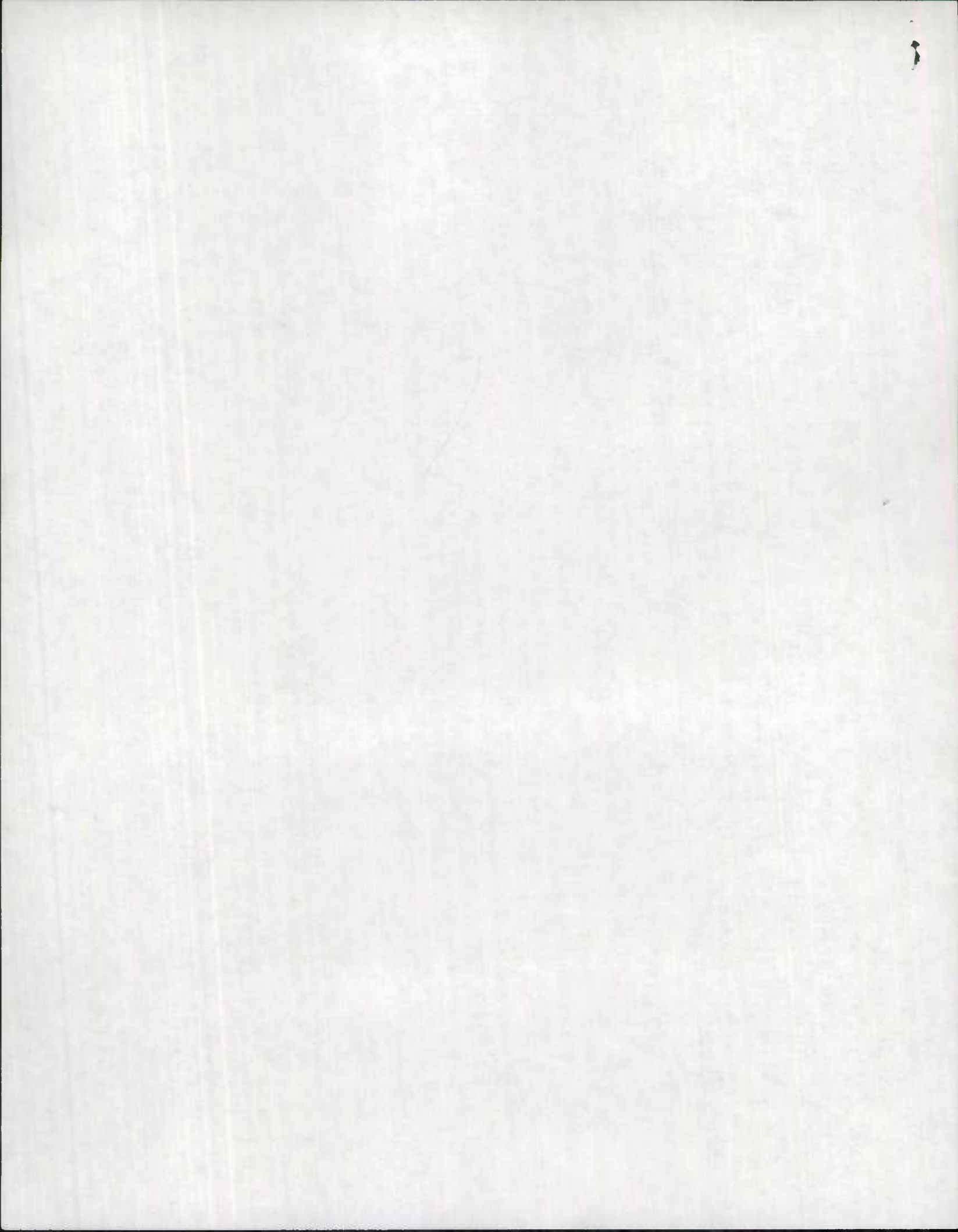
Starting Mile Pt: 1.93  
 Ending Mile Pt: 1.96

0.03

Horizontal Curve Section

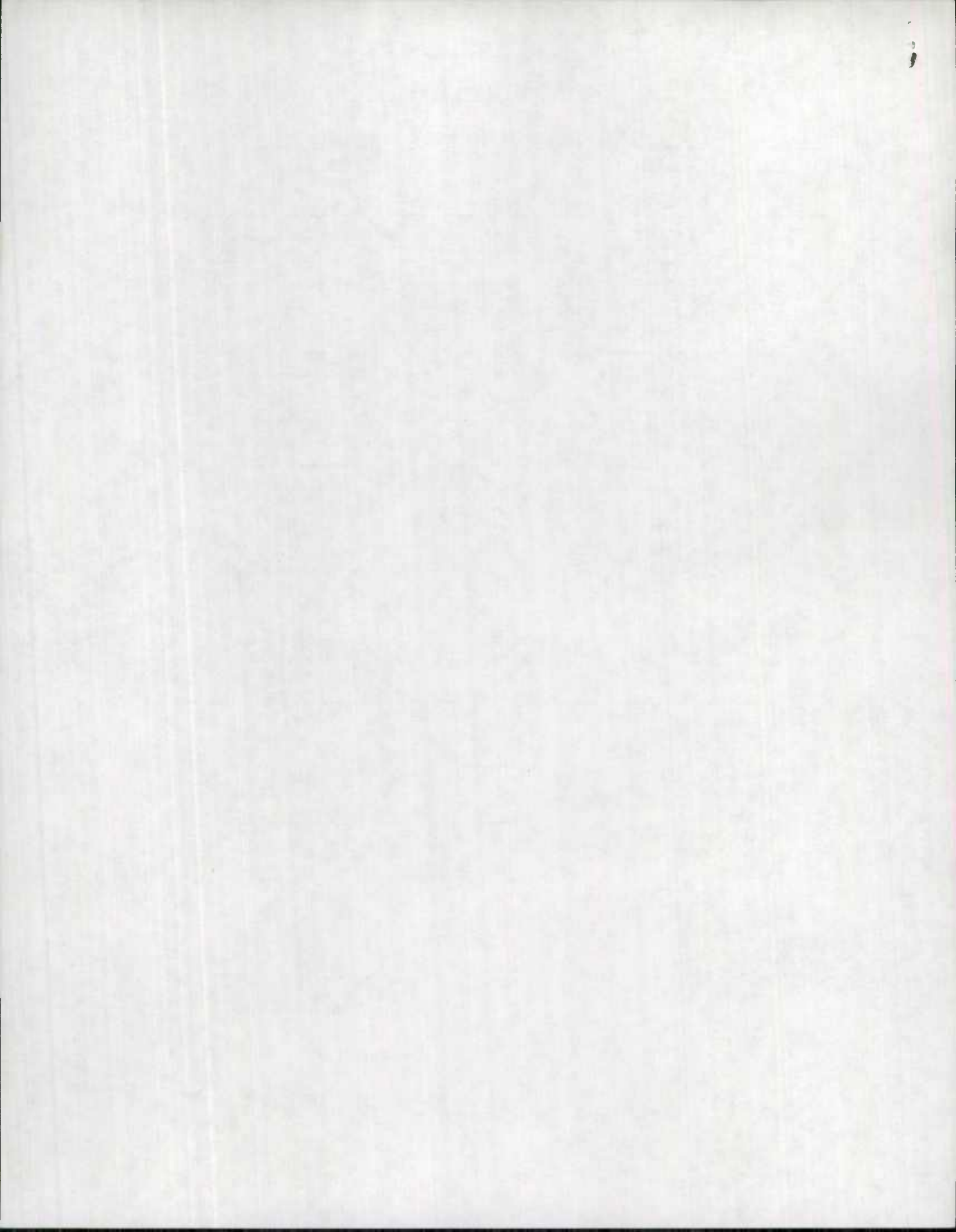
<u>Start Pt.</u> <u>(in ft.)</u>	<u>End Pt.</u> <u>(in ft.)</u>	<u>Chord</u> <u>length</u> <u>(/100ft)</u>	<u>Central</u> <u>Ordi. Length</u> <u>(/100ft)</u>	<u>Length of Total</u> <u>Curve in(x.xxmile)</u>
<u>0</u>	<u>156</u>	<u>100</u>	<u>0</u>	-----
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	<u>Curve</u> <u>Classes</u> <u>by</u> <u>Degree of</u> <u>Curvature</u>	<u>Number of</u> <u>Curves</u> <u>(Right-</u> <u>Justified)</u>	<u>Length</u> <u>of Curves</u> <u>in Class</u> <u>(Implied Decimal)</u> <u>(xx.xxx miles)</u>
a.	0.0-0.4	<u>1</u>	<u>0.03</u>
b.	0.5-1.4	-----	-----
c.	1.5-2.4	-----	-----
d.	2.5-3.4	-----	-----
e.	3.5-4.4	-----	-----
f.	4.5-5.4	-----	-----
g.	5.5-6.9	-----	-----
h.	7.0-8.4	-----	-----
i.	8.5-10.9	-----	-----
j.	11.0-13.9	-----	-----
k.	14.0-19.4	-----	-----
l.	19.5-27.9	-----	-----
m.	28+	-----	-----









**CURVE - GRADE DATA COLLECTION**

**UPDATE FORM - 1993**

Route No: CO 128  
 Sample No: 8  
 County: (13) HD/1110

Starting Mile Pt: 2.65  
 Ending Mile Pt: 2.70

.05 = 264 ft

**Horizontal Curve Section**

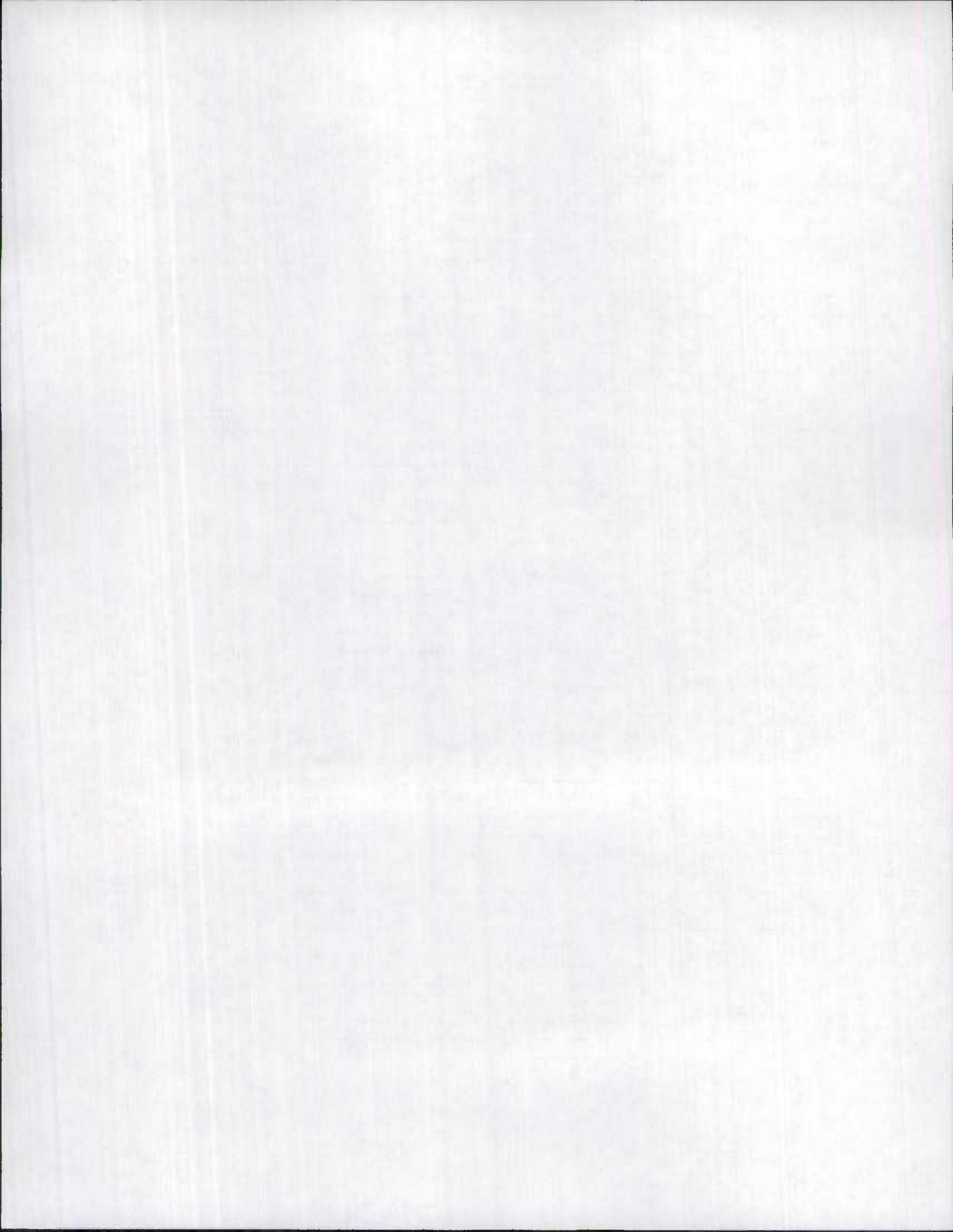
Start Pt. (in ft.)	End Pt. (in ft.)	Chord length (/100ft)	Central Ordi. Length (/100ft)	Length of Total Curve in(x.xxmile)
<u>0</u>	<u>182</u>	<u>100</u>	<u>0</u>	
<u>182</u>	<u>264</u>	<u>99.8</u>	<u>2.0</u>	

- A. 0.0 - 0.4 2 .05
- B. 0.5 - 1.4 \_\_\_\_\_
- C. 1.5 - 2.4 \_\_\_\_\_
- D. 2.5 - 3.4 \_\_\_\_\_
- E. 3.5 - 4.4 \_\_\_\_\_
- F. 4.5 - 5.4 \_\_\_\_\_
- G. 5.5 - 6.9 \_\_\_\_\_
- H. 7.0 - 8.4 \_\_\_\_\_
- I. 8.5 - 10.9 \_\_\_\_\_
- J. 11.0 - 13.9 \_\_\_\_\_

**Vertical Curve Section**

Start Pt. (in ft.)	End Pt. (in ft.)	Gradient Percent	Length of Curve (in x.xx miles)
<u>0</u>	<u>182</u>	<u>0</u>	
<u>182</u>	<u>264</u>	<u>2.6</u>	

- A. 0.0 - 0.4 1 .03
- B. 0.5 - 2.4 \_\_\_\_\_
- C. 2.5 - 4.4 1 .02
- D. 4.5 - 6.4 \_\_\_\_\_
- E. 6.5 - 8.4 \_\_\_\_\_
- F. 8.5 - \_\_\_\_\_





CURVE - GRADE DATA COLLECTION  
NON - STATE ROADS - FY - 1992

Route No: CO 0128  
Sample No: 8  
County: Howard

Starting Mile Pt: 22.65  
Ending Mile Pt: 02.90

(0.25)

Horizontal Curve Section

	<u>Start Pt.</u> (in ft.)	<u>End Pt.</u> (in ft.)	<u>Chord</u> <u>length</u> (/100ft)	<u>Central</u> <u>Ord. Length</u> (/100ft)	<u>Length of Total</u> <u>Curve in(x.xxmile)</u>
R	<u>0</u>	<u>182</u>	<u>100</u>	<u>0</u>	-----
	<u>182</u>	<u>1134</u>	<u>99.8</u>	<u>2.0</u>	-----
	<u>1334</u>	<u>1304</u>	<u>100</u>	<u>0</u>	-----
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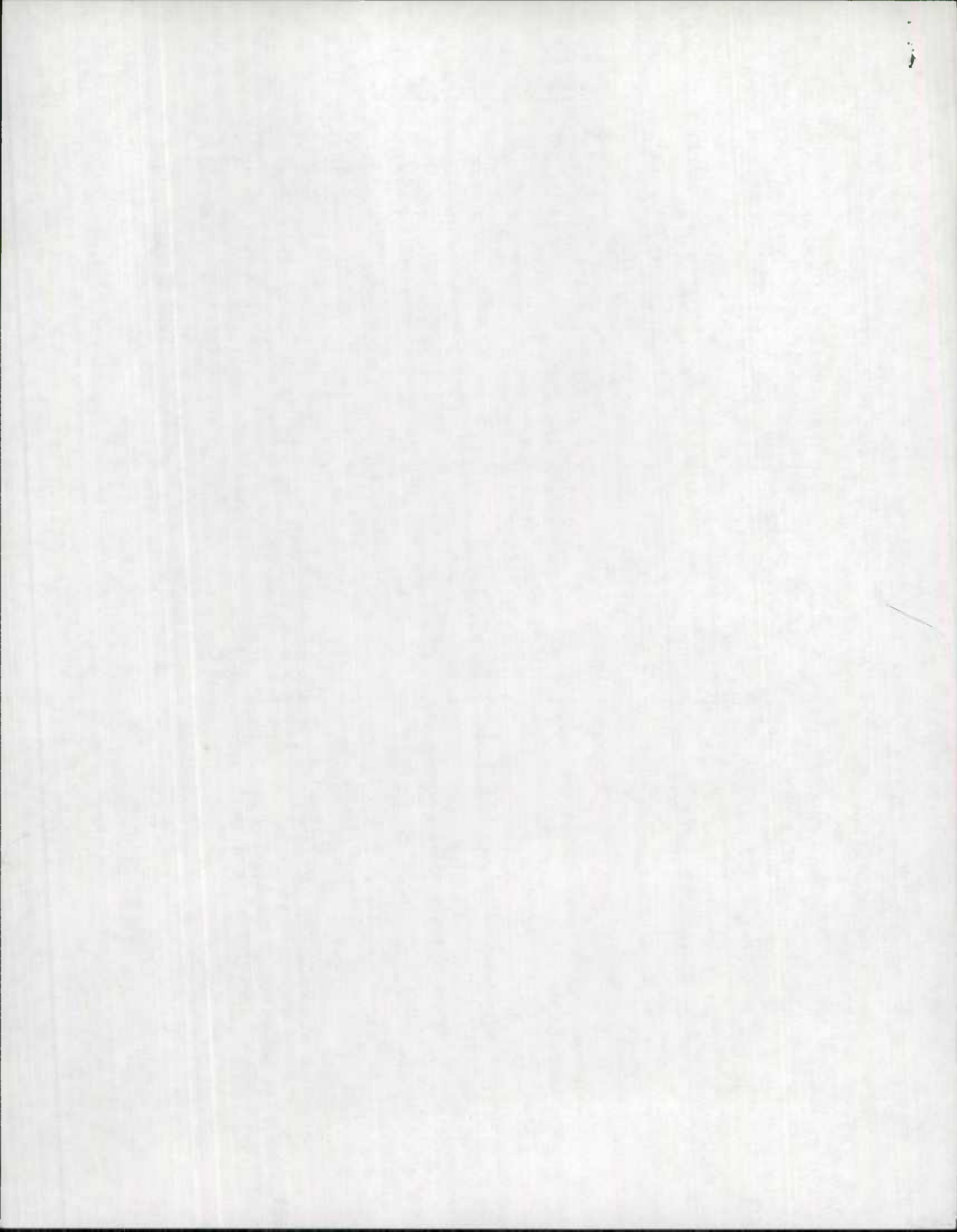
	<u>Curve</u> <u>Classes</u> <u>by</u> <u>Degree of</u> <u>Curvature</u>	<u>Number of</u> <u>Curves</u> <u>(Right-</u> <u>Justified)</u>	<u>Length</u> <u>of Curves</u> <u>in Class</u> <u>(Implied Decimal)</u> <u>(xx.xxx miles)</u>
a.	0.0-0.4	<u>2</u>	<u>0.07</u>
b.	0.5-1.4	-----	-----
c.	1.5-2.4	-----	-----
d.	2.5-3.4	-----	-----
e.	3.5-4.4	-----	-----
f.	4.5-5.4	-----	-----
g.	5.5-6.9	-----	-----
h.	7.0-8.4	-----	-----
i.	8.5-10.9	<u>1</u>	<u>0.18</u>
j.	11.0-13.9	-----	-----
k.	14.0-19.4	-----	-----
l.	19.5-27.9	-----	-----
m.	28+	-----	-----



Vertical Curve Section

<u>Start Pt.</u> (in ft.)	<u>End Pt.</u> (in ft.)	<u>Gradient Percent</u>	<u>Length of Curve</u> (in x.xx miles)
0	182	0%	
182	1134	-2.6%	
1134	1304	2.0%	
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	<u>Grade Classes by Gradient (Percent)</u>	<u>Number of Grades (Right- Justified)</u>	<u>Length of Grades in Class (Implied Decimal) (xx.xxx miles)</u>
a.	0.0-0.4	<u>1</u>	<u>0.04</u>
b.	0.5-2.4	<u>1</u>	<u>0.03</u>
c.	2.5-4.4	<u>1</u>	<u>0.18</u>
d.	4.5-6.4	<u>    </u>	<u>    </u>
e.	6.5-8.4	<u>    </u>	<u>    </u>
f.	8.5-	<u>    </u>	<u>    </u>





CURVE - GRADE DATA COLLECTION  
NON - STATE ROADS - FY - 1992

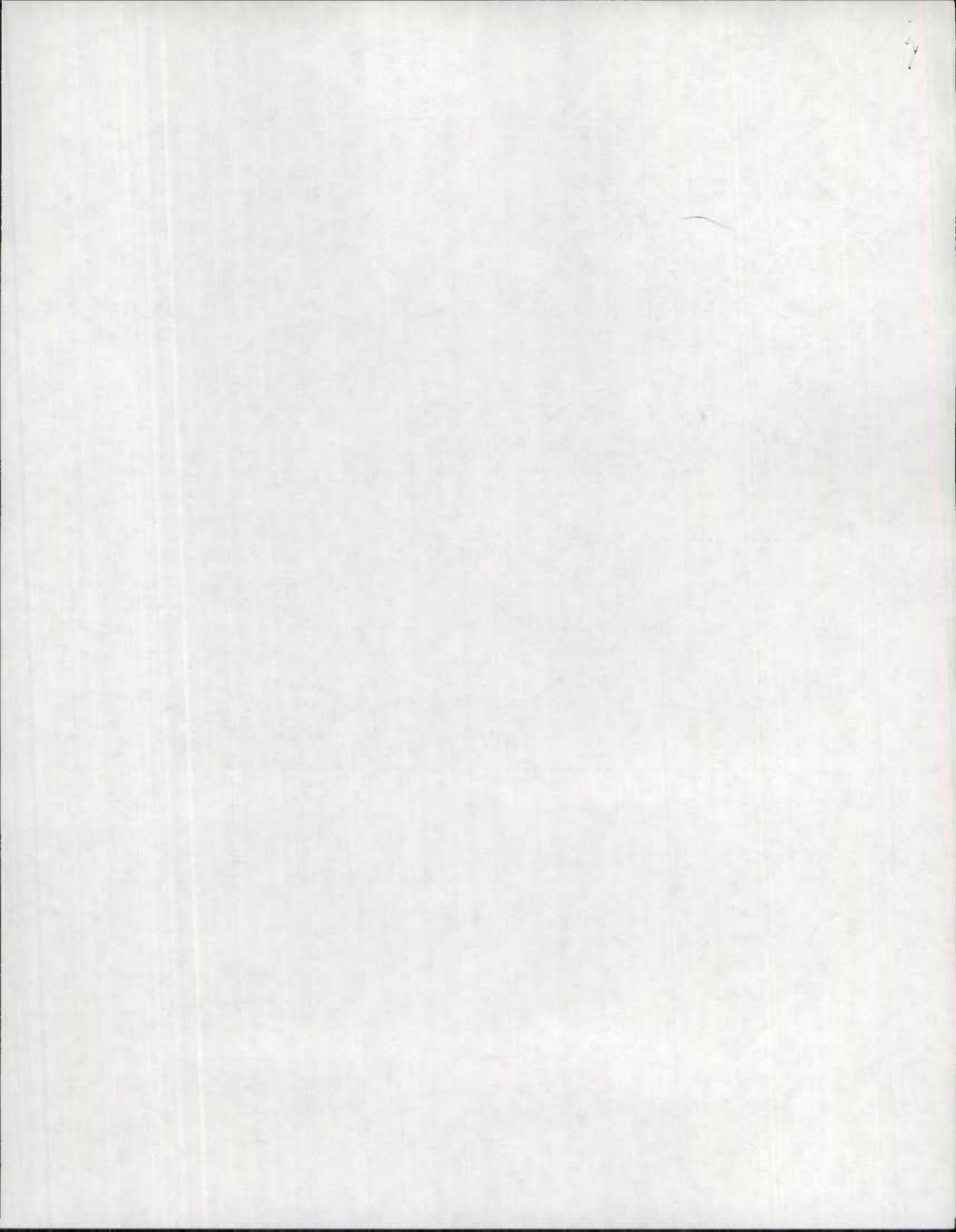
Route No: Co 0128  
 Sample No: 9  
 County: Howard

Starting Mile Pt: 2.90  
 Ending Mile Pt: 3.11  
(0.21)

Horizontal Curve Section

<u>Start Pt.</u> <u>(in ft.)</u>	<u>End Pt.</u> <u>(in ft.)</u>	<u>Chord</u> <u>length</u> <u>(/100ft)</u>	<u>Central</u> <u>Ord1. Length</u> <u>(/100ft)</u>	<u>Length of Total</u> <u>Curve in(x.xxmile)</u>
<u>0</u>	<u>178</u>	<u>100</u>	<u>0</u>	<u>-----</u>
<u>178</u>	<u>1040</u>	<u>99.8</u>	<u>2.5</u>	<u>-----</u>
<u>1040</u>	<u>1101</u>	<u>100</u>	<u>0</u>	<u>-----</u>
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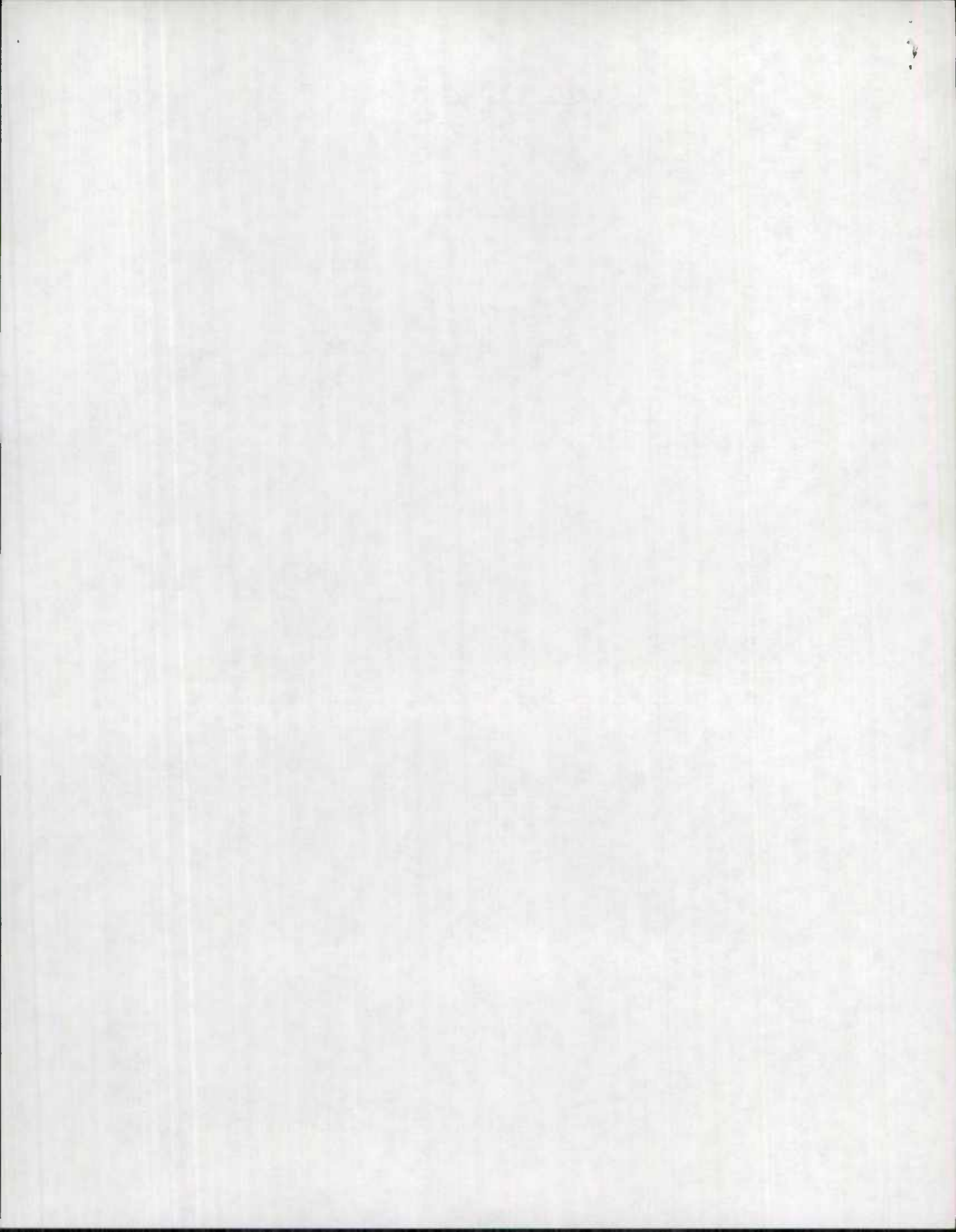
	<u>Curve</u> <u>Classes</u> <u>by</u> <u>Degree of</u> <u>Curvature</u>	<u>Number of</u> <u>Curves</u> <u>(Right-</u> <u>Justified)</u>	<u>Length</u> <u>of Curves</u> <u>in Class</u> <u>(Implied Decimal)</u> <u>(xx.xxx miles)</u>
a.	0.0-0.4	<u>2</u>	<u>0.04</u>
b.	0.5-1.4	<u>-----</u>	<u>-----</u>
c.	1.5-2.4	<u>-----</u>	<u>-----</u>
d.	2.5-3.4	<u>-----</u>	<u>-----</u>
e.	3.5-4.4	<u>-----</u>	<u>-----</u>
f.	4.5-5.4	<u>-----</u>	<u>-----</u>
g.	5.5-6.9	<u>-----</u>	<u>-----</u>
h.	7.0-8.4	<u>-----</u>	<u>-----</u>
i.	8.5-10.9	<u>-----</u>	<u>-----</u>
j.	11.0-13.9	<u>1</u>	<u>0.16</u>
k.	14.0-19.4	<u>-----</u>	<u>-----</u>
l.	19.5-27.9	<u>-----</u>	<u>-----</u>
m.	28+	<u>-----</u>	<u>-----</u>



Vertical Curve Section

<u>Start Pt.</u> (in ft.)	<u>End Pt.</u> (in ft.)	<u>Gradient Percent</u>	<u>Length of Curve</u> (in x.xx miles)
0	178	0%	
178	810	-2.8	
810	1401	+4.0%	

	<u>Grade Classes by Gradient (Percent)</u>	<u>Number of Grades (Right- Justified)</u>	<u>Length of Grades in Class (Implied Decimal) (xx.xxx miles)</u>
a.	0.0-0.4	<u>1</u>	<u>0.03</u>
b.	0.5-2.4	<u>2</u>	<u>0.18</u>
c.	2.5-4.4	---	---
d.	4.5-6.4	---	---
e.	6.5-8.4	---	---
f.	8.5-	---	---





**CURVE - GRADE DATA COLLECTION**

**UPDATE FORM - 1993**

Route No: CD 416  
 Sample No: 10  
 County: (13) Howard

Starting Mile Pt: 3.79  
 Ending Mile Pt: 4.08

.29 = 1531ft

**Horizontal Curve Section**

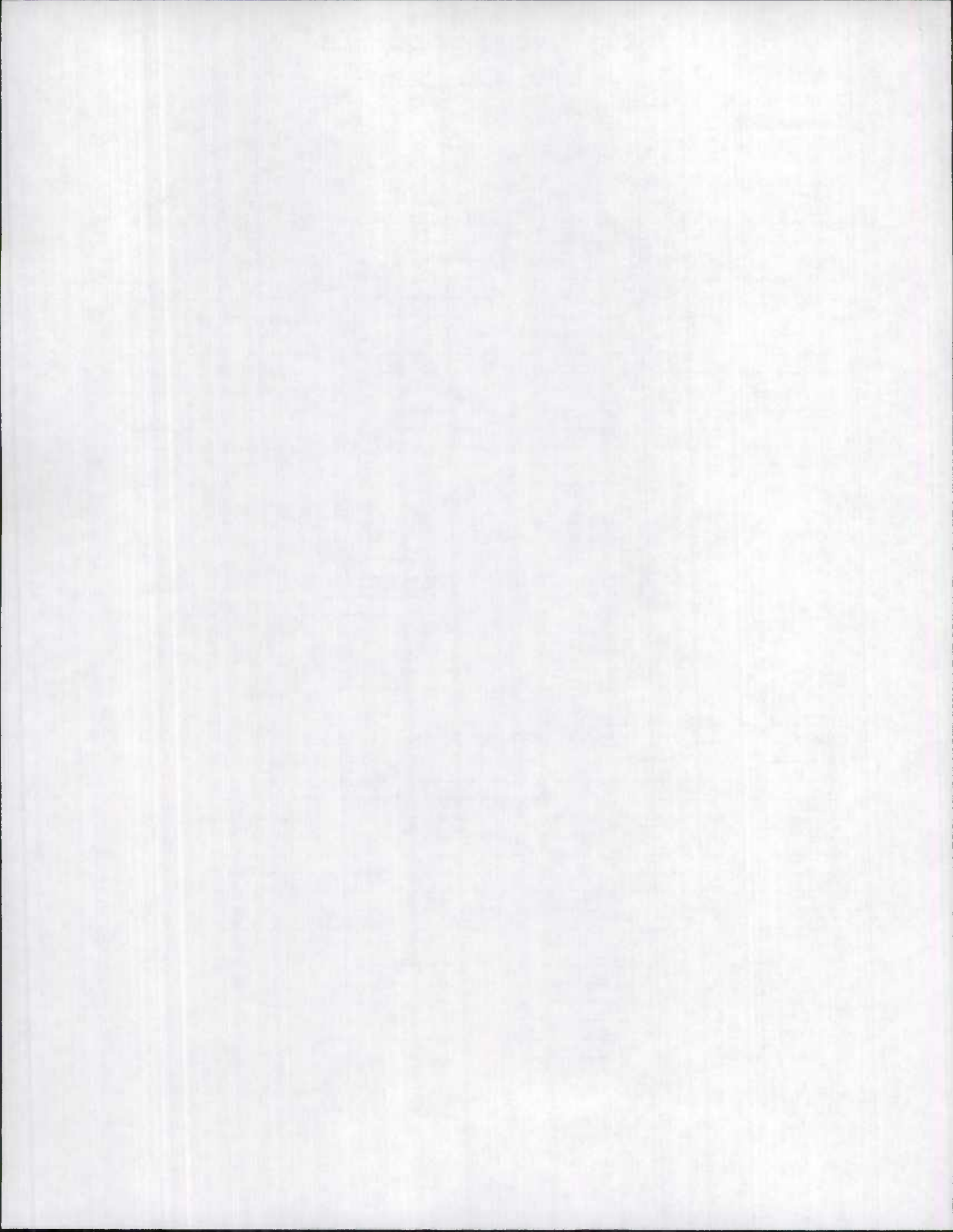
Start Pt. (in ft.)	End Pt. (in ft.)	Chord length (/100ft)	Central Ordi. Length (/100ft)	Length of Total Curve in(x.xxmile)
<u>0</u>	<u>1531</u>	<u>100</u>	<u>0</u>	

- A. 0.0 - 0.4 1 .29
- B. 0.5 - 1.4
- C. 1.5 - 2.4
- D. 2.5 - 3.4
- E. 3.5 - 4.4
- F. 4.5 - 5.4
- G. 5.5 - 6.9
- H. 7.0 - 8.4
- I. 8.5 - 10.9
- J. 11.0 - 13.9

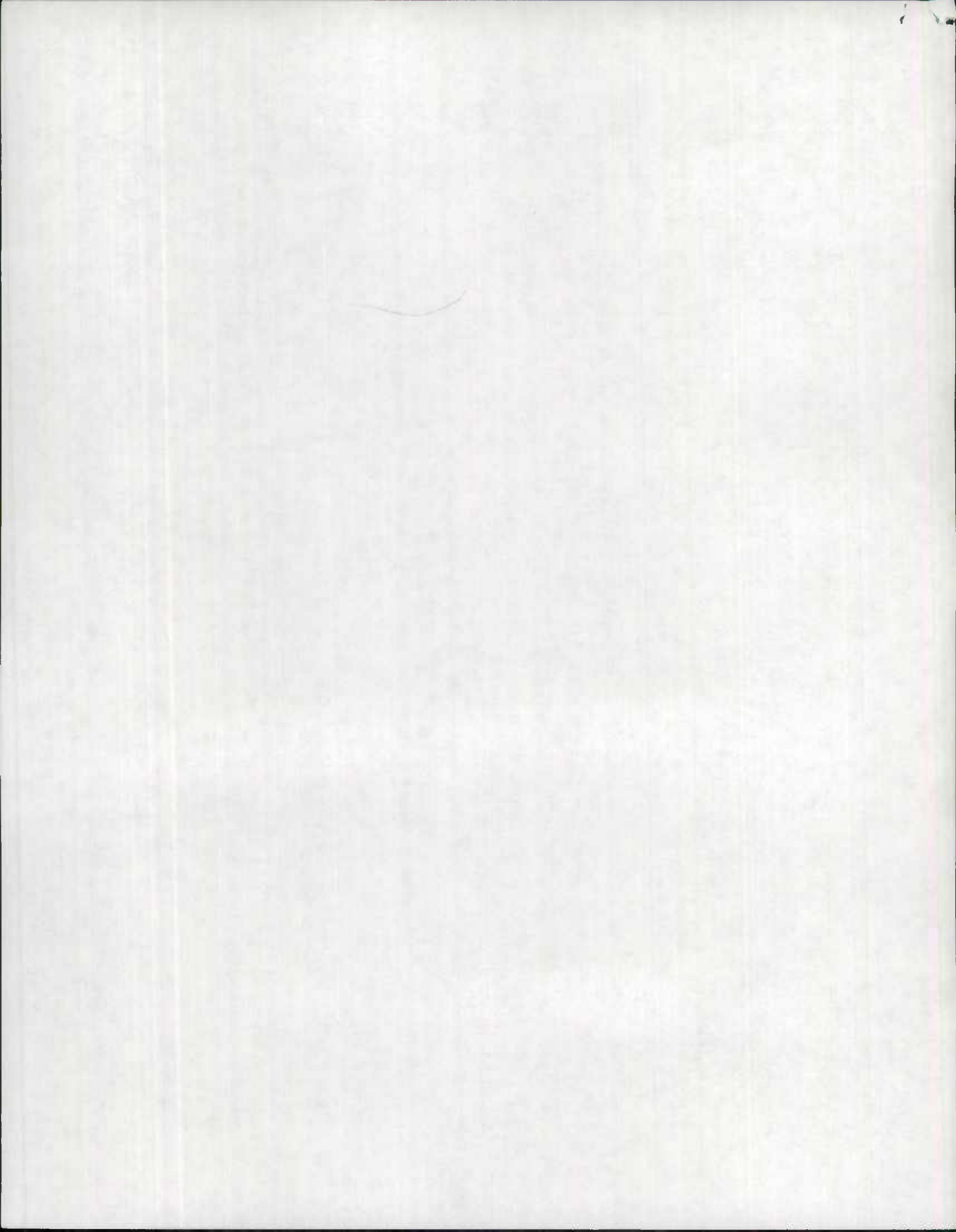
**Vertical Curve Section**

Start Pt. (in ft.)	End Pt. (in ft.)	Gradient Percent	Length of Curve (in x.xx miles)
<u>0</u>	<u>280</u>	<u>3.0</u>	
<u>280</u>	<u>495</u>	<u>0</u>	
<u>495</u>	<u>1104</u>	<u>3.0</u>	
<u>1104</u>	<u>1525</u>	<u>3.2</u>	
<u>1525</u>	<u>1531</u>	<u>1.6</u>	

- A. 0.0 - 0.4 1 .04
- B. 0.5 - 2.4
- C. 2.5 - 4.4 3 .25
- D. 4.5 - 6.4
- E. 6.5 - 8.4
- F. 8.5 -

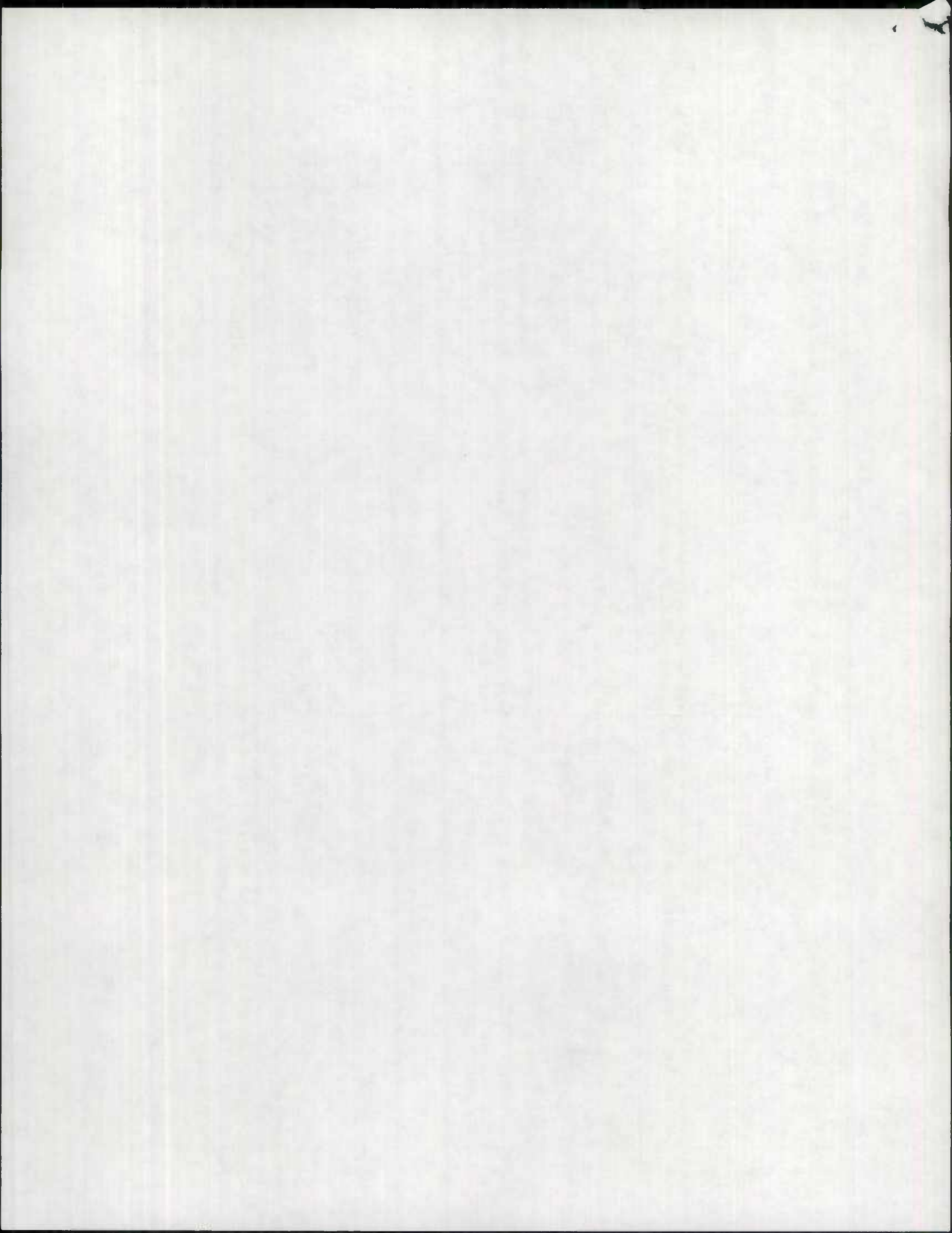












CURVE - GRADE DATA COLLECTION  
NON - STATE ROADS - FY - 1992

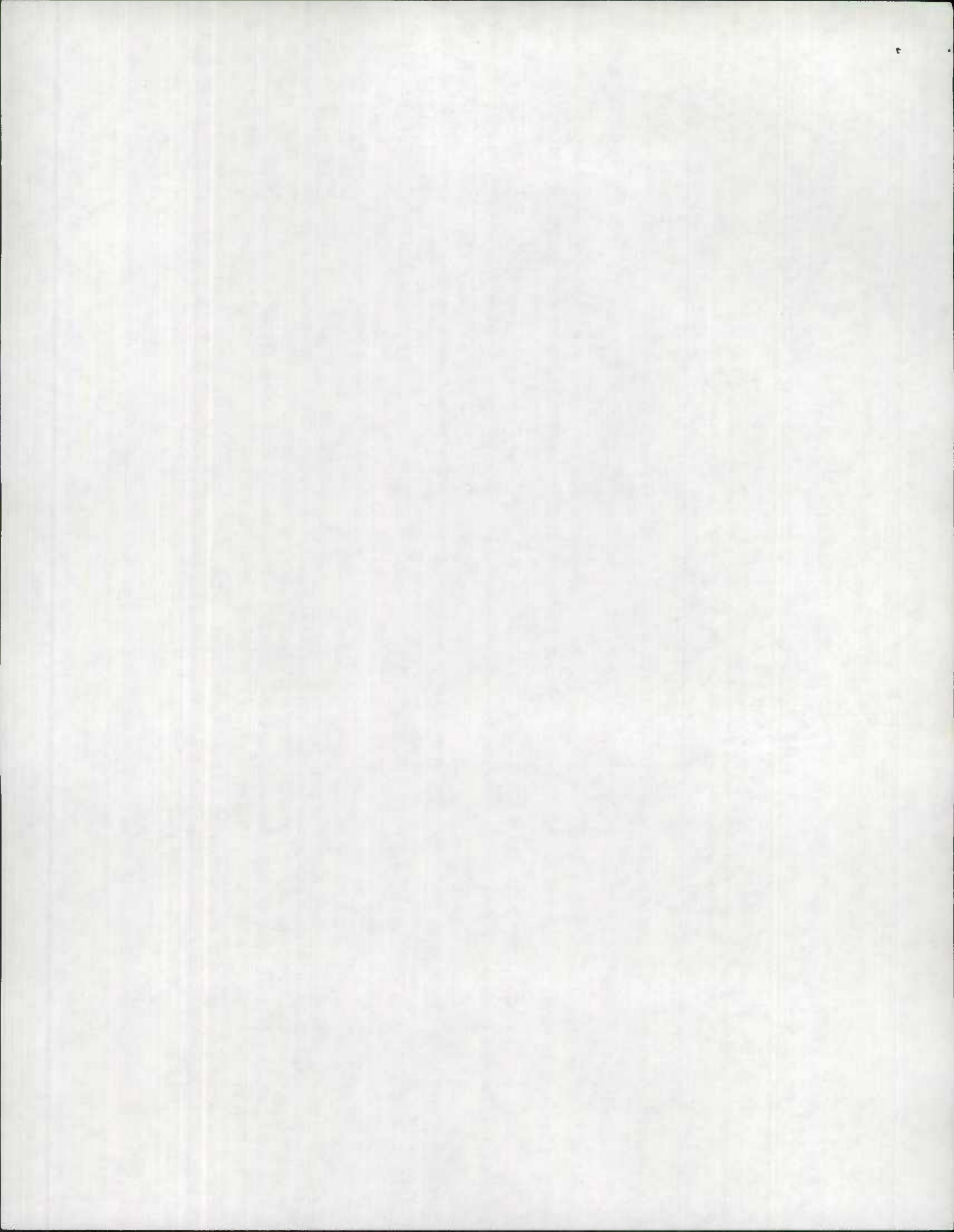
Route No: Co 0416  
 Sample No: 11  
 County: Howard

Starting Mile Pt: 4.00  
 Ending Mile Pt: 4.08  
 0.08

Horizontal Curve Section

<u>Start Pt.</u> (in ft.)	<u>End Pt.</u> (in ft.)	<u>Chord</u> <u>length</u> (/100ft)	<u>Central</u> <u>Ord1. Length</u> (/100ft)	<u>Length of Total</u> <u>Curve in(x.xxmile)</u>
<u>0</u>	<u>421</u>	<u>100</u>	<u>0</u>	-----
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	<u>Curve</u> <u>Classes</u> <u>by</u> <u>Degree of</u> <u>Curvature</u>	<u>Number of</u> <u>Curves</u> <u>(Right-</u> <u>Justified)</u>	<u>Length</u> <u>of Curves</u> <u>in Class</u> <u>(Implied Decimal)</u> <u>(xx.xxx miles)</u>
a.	0.0-0.4	<u>1</u>	<u>0.08</u>
b.	0.5-1.4	-----	-----
c.	1.5-2.4	-----	-----
d.	2.5-3.4	-----	-----
e.	3.5-4.4	-----	-----
f.	4.5-5.4	-----	-----
g.	5.5-6.9	-----	-----
h.	7.0-8.4	-----	-----
i.	8.5-10.9	-----	-----
j.	11.0-13.9	-----	-----
k.	14.0-19.4	-----	-----
l.	19.5-27.9	-----	-----
m.	28+	-----	-----

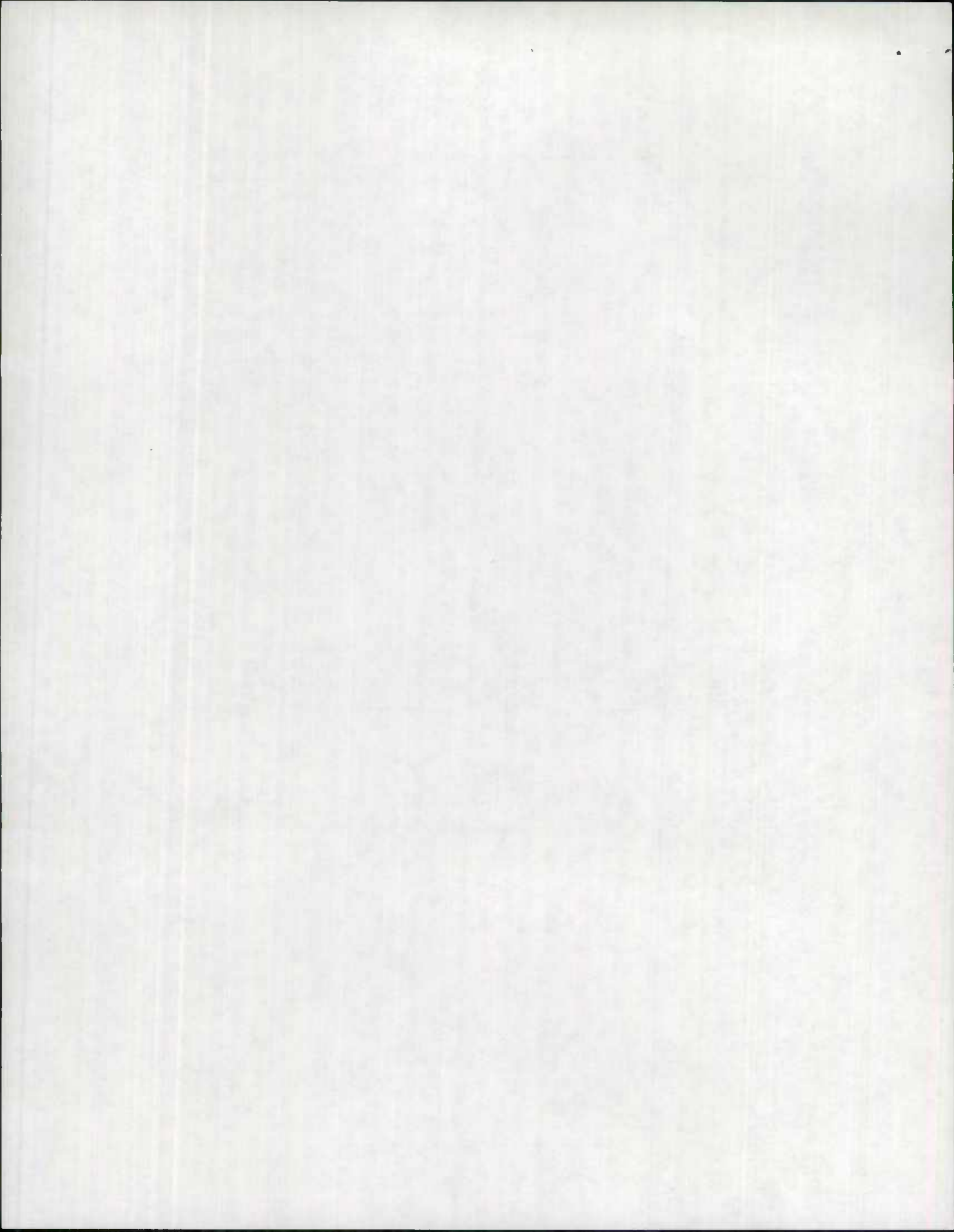


Vertical Curve Section

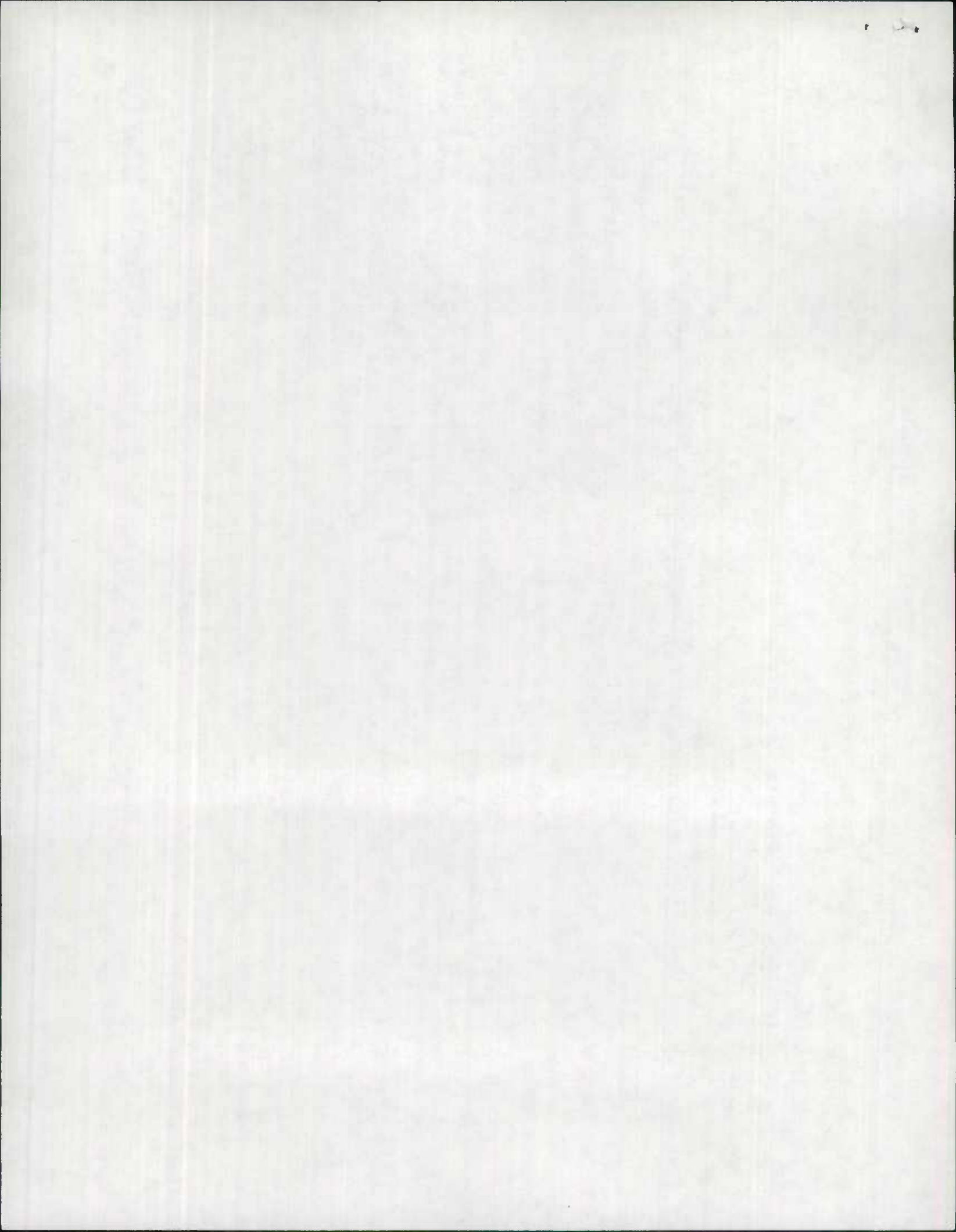
<u>Start Pt.</u> (in ft.)	<u>End Pt.</u> (in ft.)	<u>Gradient Percent</u>	<u>Length of Curve</u> (in x.xx miles)
0	421	+ 3.2%	
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	<u>Grade Classes by Gradient (Percent)</u>	<u>Number of Grades (Right- Justified)</u>	<u>Length of Grades in Class (Implied Decimal) (xx.xxx miles)</u>
a.	0.0-0.4	_____	_____
b.	0.5-2.4	_____	_____
c.	2.5-4.4	<u>1</u>	<u>0.08</u>
d.	4.5-6.4	_____	_____
e.	6.5-8.4	_____	_____
f.	8.5-	_____	_____





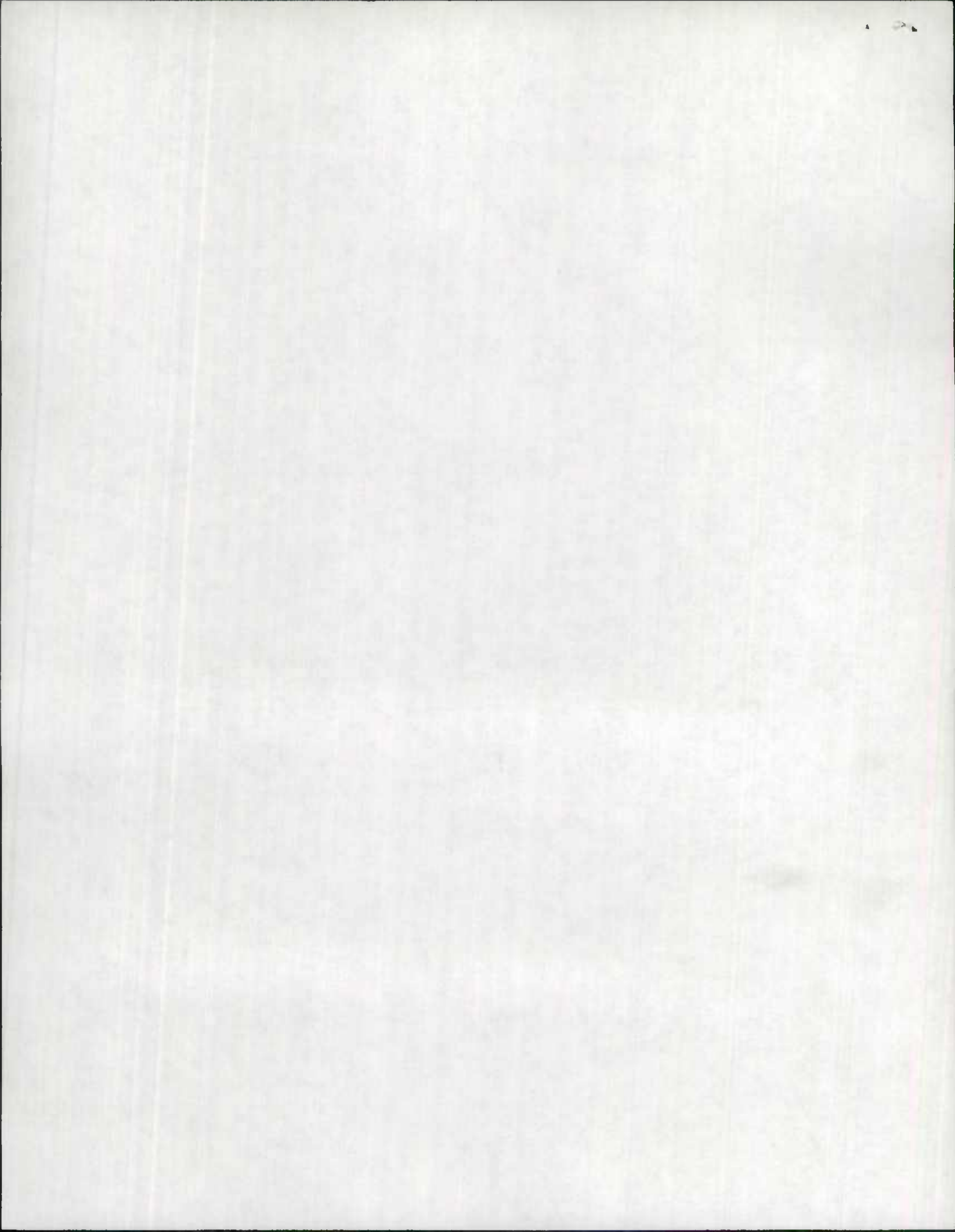




Vertical Curve Section

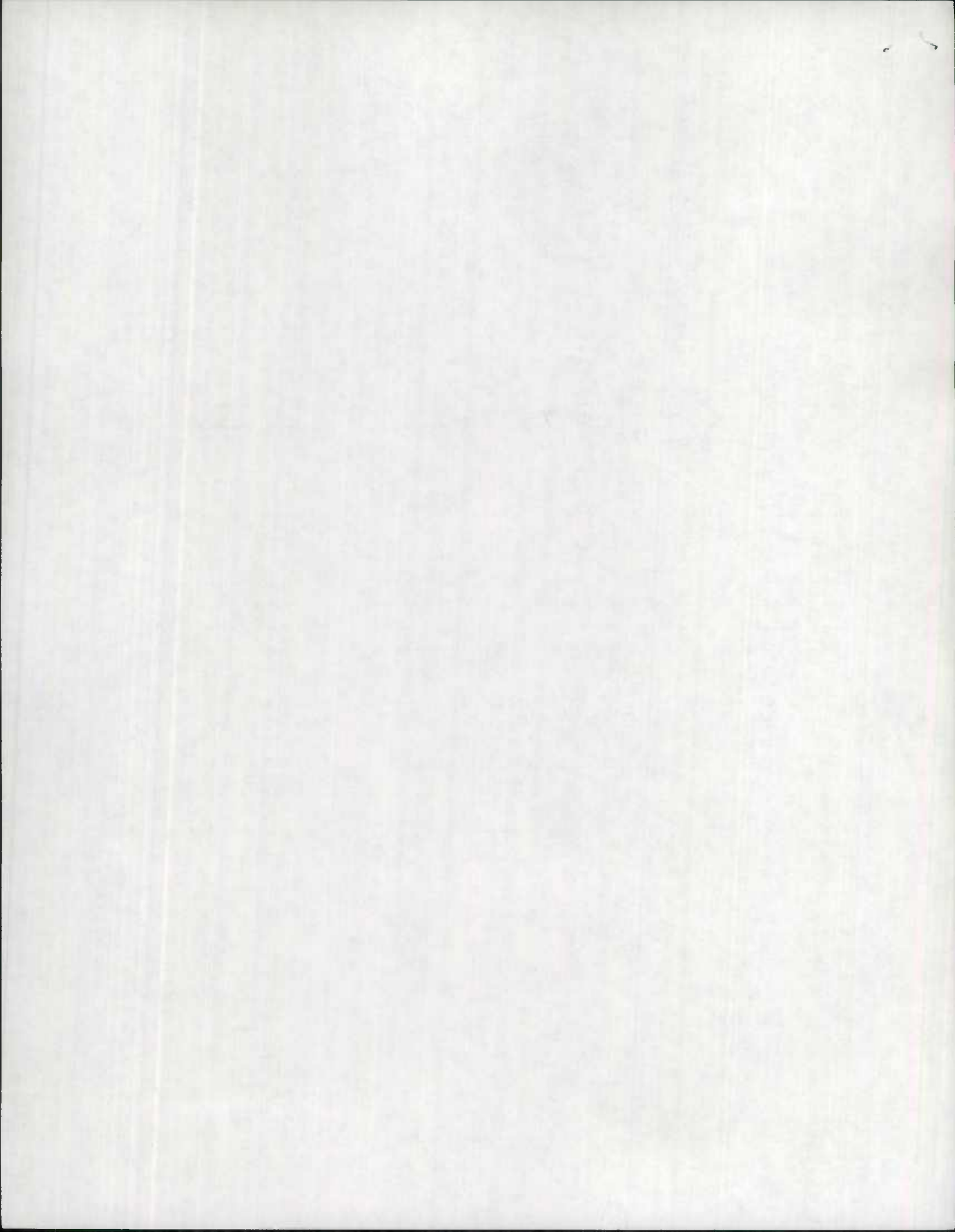
<u>Start Pt.</u> (in ft.)	<u>End Pt.</u> (in ft.)	<u>Gradient Percent</u>	<u>Length of Curve</u> (in x.xx miles)
0	418	+1.6	
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	<u>Grade Classes by Gradient (Percent)</u>	<u>Number of Grades (Right-Justified)</u>	<u>Length of Grades in Class (Implied Decimal) (xx.xxx miles)</u>
a.	0.0-0.4	<u>1</u>	
b.	0.5-2.4	<u>1</u>	<u>0.08</u>
c.	2.5-4.4	-----	-----
d.	4.5-6.4	-----	-----
e.	6.5-8.4	-----	-----
f.	8.5-	-----	-----





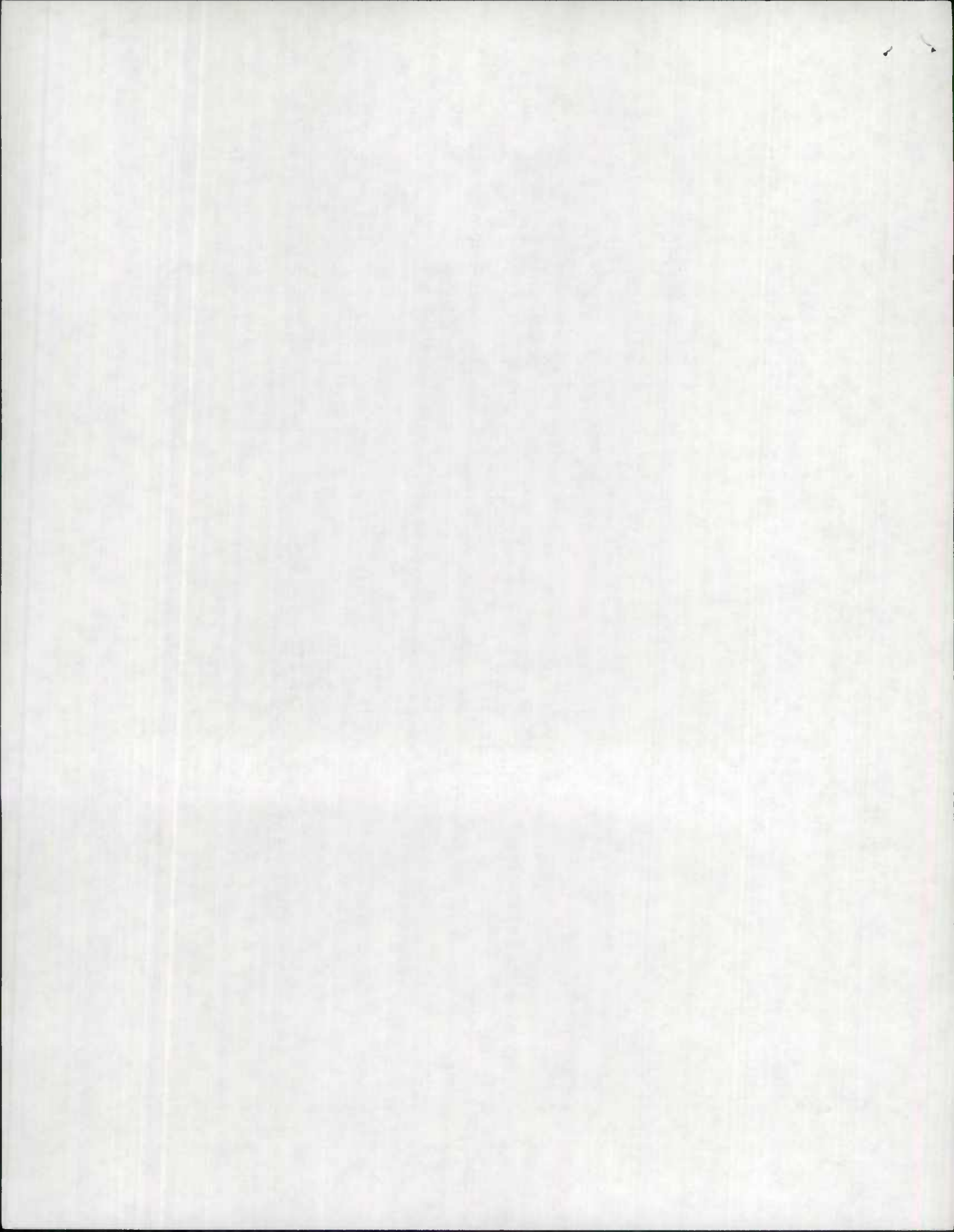




Vertical Curve Section

<u>Start Pt.</u> (in ft.)	<u>End Pt.</u> (in ft.)	<u>Gradient Percent</u>	<u>Length of Curve</u> (in x.xx miles)
0	265	0%	
265	1340	-1.4	
1340	1791	+2.0%	

	<u>Grade Classes by Gradient (Percent)</u>	<u>Number of Grades (Right-Justified)</u>	<u>Length of Grades in Class (Implied Decimal) (xx.xxx miles)</u>
a.	0.0-0.4	<u>1</u>	<u>0.05</u>
b.	0.5-2.4	<u>2</u>	<u>0.09</u>
c.	2.5-4.4	---	---
d.	4.5-6.4	---	---
e.	6.5-8.4	---	---
f.	8.5-	---	---



CURVE - GRADE DATA COLLECTION  
NON - STATE ROADS - FY - 1992

Route No: CO 1214  
 Sample No: 14  
 County: Howard

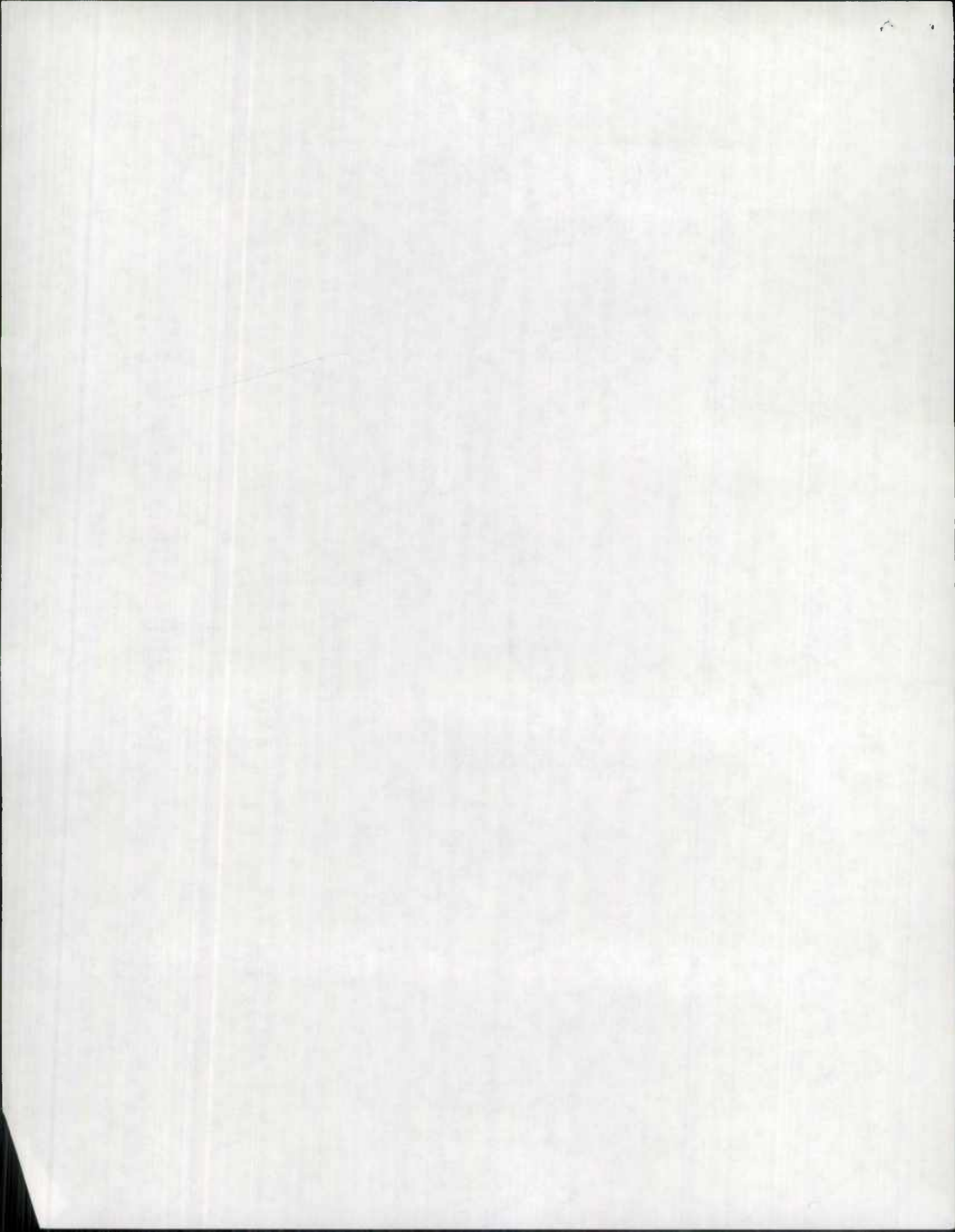
Starting Mile Pt: 0.00  
 Ending Mile Pt: 0.41

Horizontal Curve Section

<u>Start Pt.</u> <u>(in ft.)</u>	<u>End Pt.</u> <u>(in ft.)</u>	<u>Chord</u> <u>length</u> <u>(/100ft)</u>	<u>Central</u> <u>Ord. Length</u> <u>(/100ft)</u>	<u>Length of Total</u> <u>Curve in(x.xxmile)</u>
L 0	370	99.8	1.9	
370	2160	100	0	
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	<u>Curve</u> <u>Classes</u> <u>by</u> <u>Degree of</u> <u>Curvature</u>	<u>Number of</u> <u>Curves</u> <u>(Right-</u> <u>Justified)</u>	<u>Length</u> <u>of Curves</u> <u>in Class</u> <u>(Implied Decimal)</u> <u>(xx.xxx miles)</u>
a.	0.0-0.4	<u>1</u>	<u>0.34</u>
b.	0.5-1.4	-----	-----
c.	1.5-2.4	-----	-----
d.	2.5-3.4	-----	-----
e.	3.5-4.4	-----	-----
f.	4.5-5.4	-----	-----
g.	5.5-6.9	-----	-----
h.	7.0-8.4	-----	-----
i.	8.5-10.9	<u>1</u>	<u>0.07</u>
j.	11.0-13.9	-----	-----
k.	14.0-19.4	-----	-----
l.	19.5-27.9	-----	-----
m.	28+	-----	-----

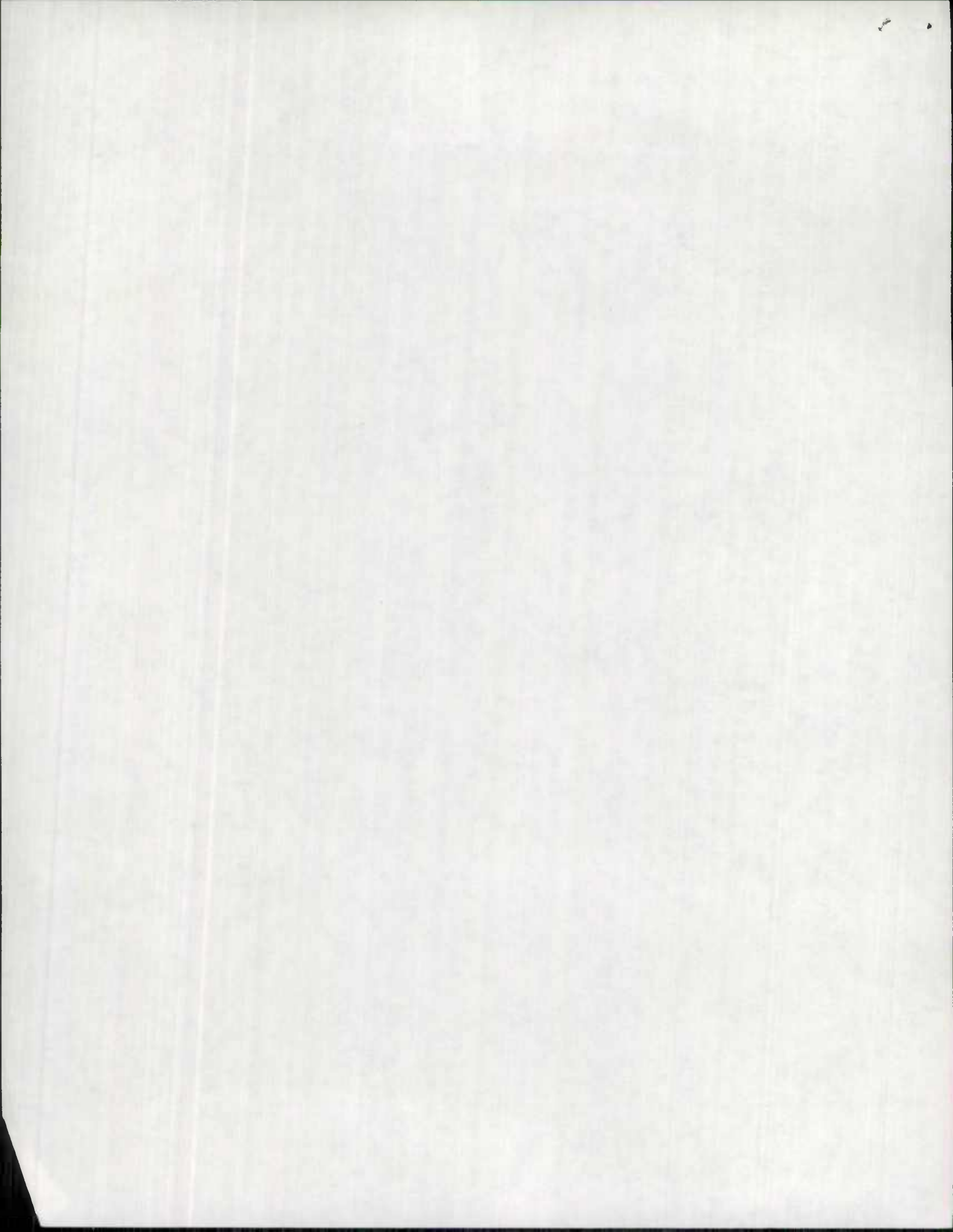




Vertical Curve Section

<u>Start Pt.</u> (in ft.)	<u>End Pt.</u> (in ft.)	<u>Gradient Percent</u>	<u>Length of Curve</u> (in x.xx miles)
0	370	+0.8	
370	913	-4.0	
913	1936	+4.4	
1936	2160	0%	

	<u>Grade Classes by Gradient (Percent)</u>	<u>Number of Grades (Right- Justified)</u>	<u>Length of Grades in Class (Implied Decimal) (xx.xxx miles)</u>
a.	0.0-0.4	<u>1</u>	<u>0.04</u>
b.	0.5-2.4	<u>1</u>	<u>0.07</u>
c.	2.5-4.4	<u>2</u>	<u>0.30</u>
d.	4.5-6.4	—	—
e.	6.5-8.4	—	—
f.	8.5-	—	—



CURVE - GRADE DATA COLLECTION  
NON - STATE ROADS - FY - 1992

Route No: CO 2066  
 Sample No: 15  
 County: Howard

Starting Mile Pt: 0.00  
 Ending Mile Pt: 0.19  
(0.19)

Horizontal Curve Section

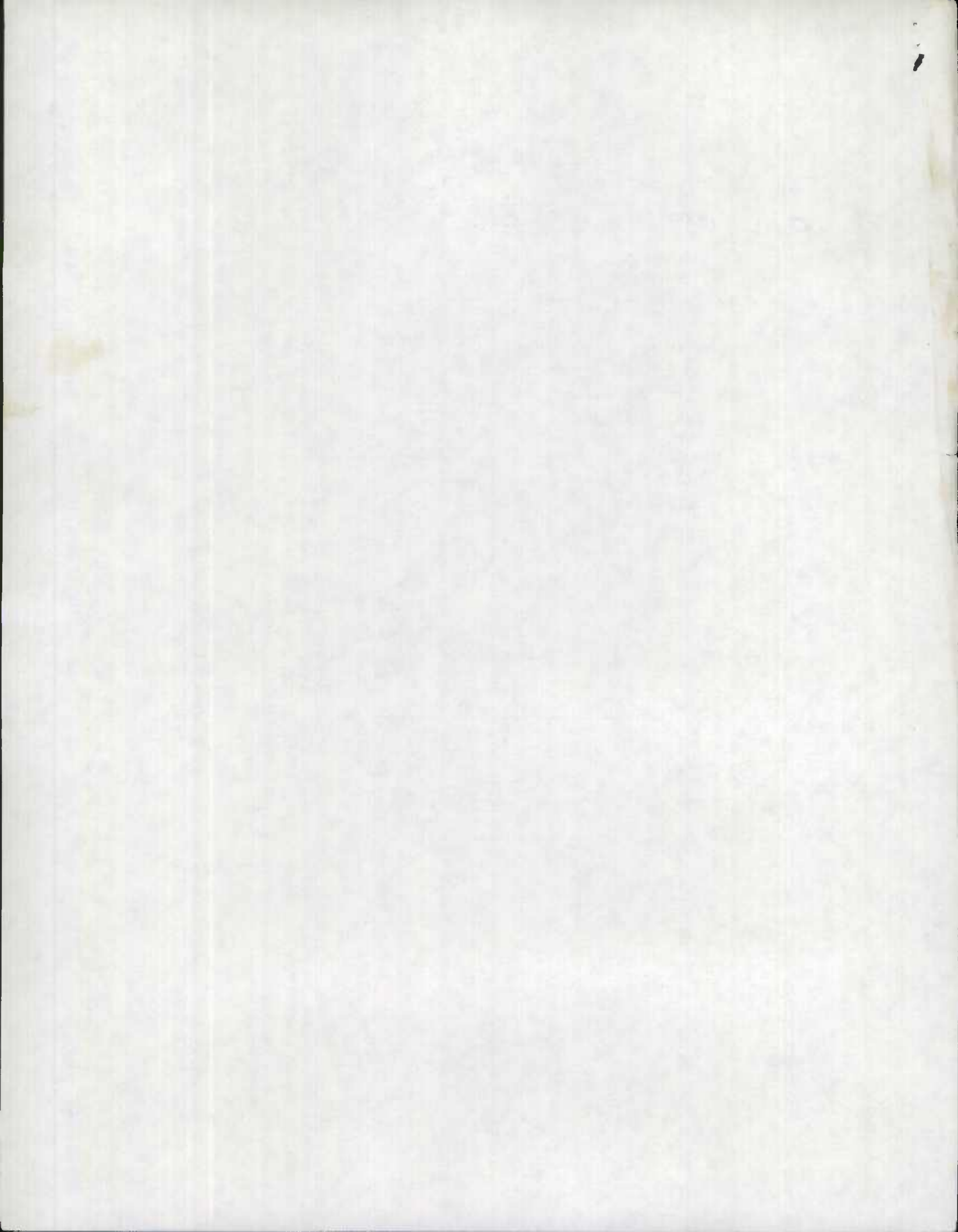
<u>Start Pt.</u> (in ft.)	<u>End Pt.</u> (in ft.)	<u>Chord</u> <u>length</u> (/100ft)	<u>Central</u> <u>Ord. Length</u> (/100ft)	<u>Length of Total</u> <u>Curve in(x.xxmile)</u>
<u>0</u>	<u>585</u>	<u>100</u>	<u>0</u>	-----
<u>R 585</u>	<u>989</u>	<u>99.9</u>	<u>1.0</u>	-----
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	<u>Curve</u> <u>Classes</u> <u>by</u> <u>Degree of</u> <u>Curvature</u>	<u>Number of</u> <u>Curves</u> <u>(Right-</u> <u>Justified)</u>	<u>Length</u> <u>of Curves</u> <u>in Class</u> <u>(Implied Decimal)</u> <u>(xx.xxx miles)</u>
a.	0.0-0.4	<u>1</u>	<u>0.11</u>
b.	0.5-1.4	-----	-----
c.	1.5-2.4	-----	-----
d.	2.5-3.4	-----	-----
e.	3.5-4.4	-----	-----
f.	4.5-5.4	<u>1</u>	<u>0.08</u>
g.	5.5-6.9	-----	-----
h.	7.0-8.4	-----	-----
i.	8.5-10.9	-----	-----
j.	11.0-13.9	-----	-----
k.	14.0-19.4	-----	-----
l.	19.5-27.9	-----	-----
m.	28+	-----	-----







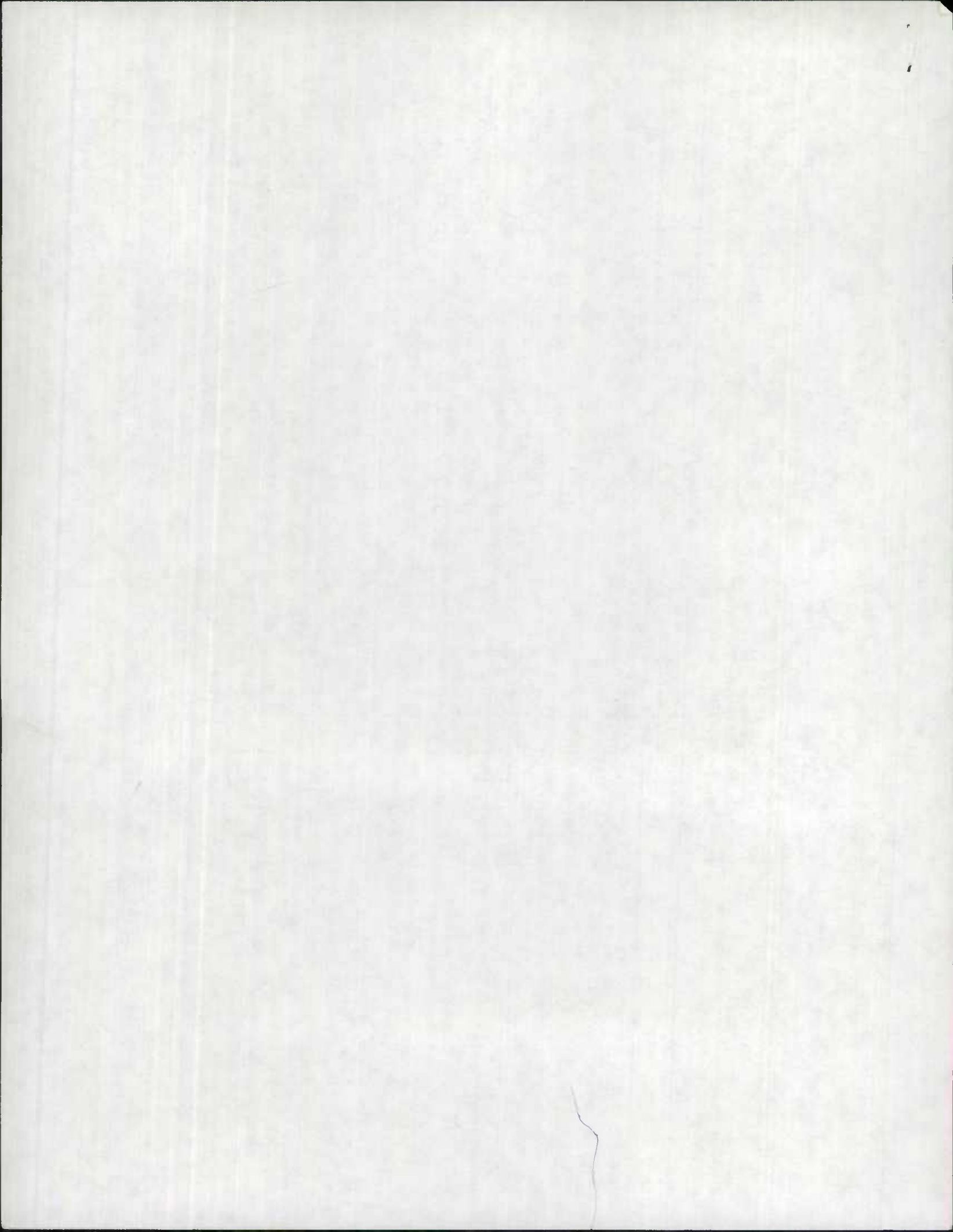




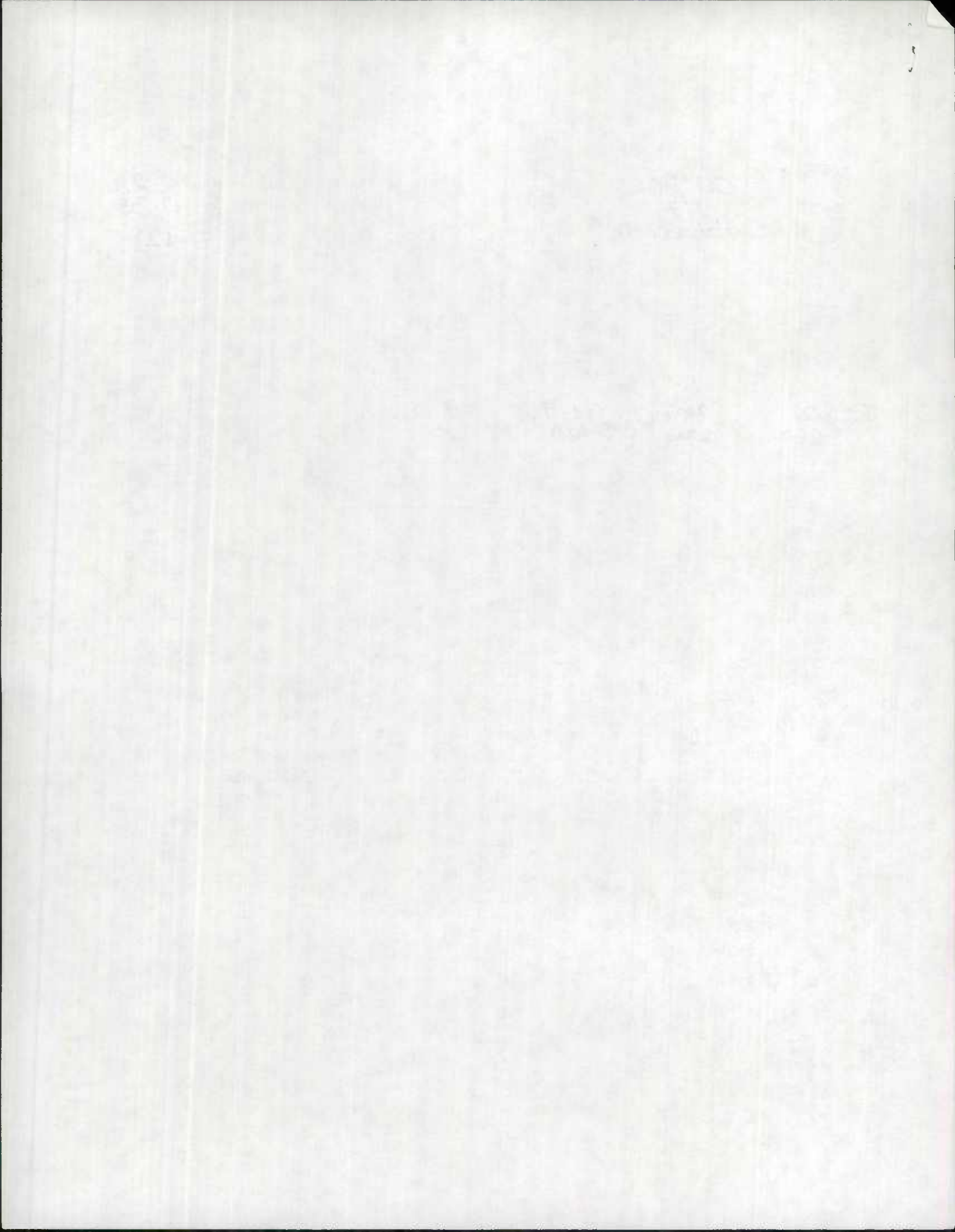




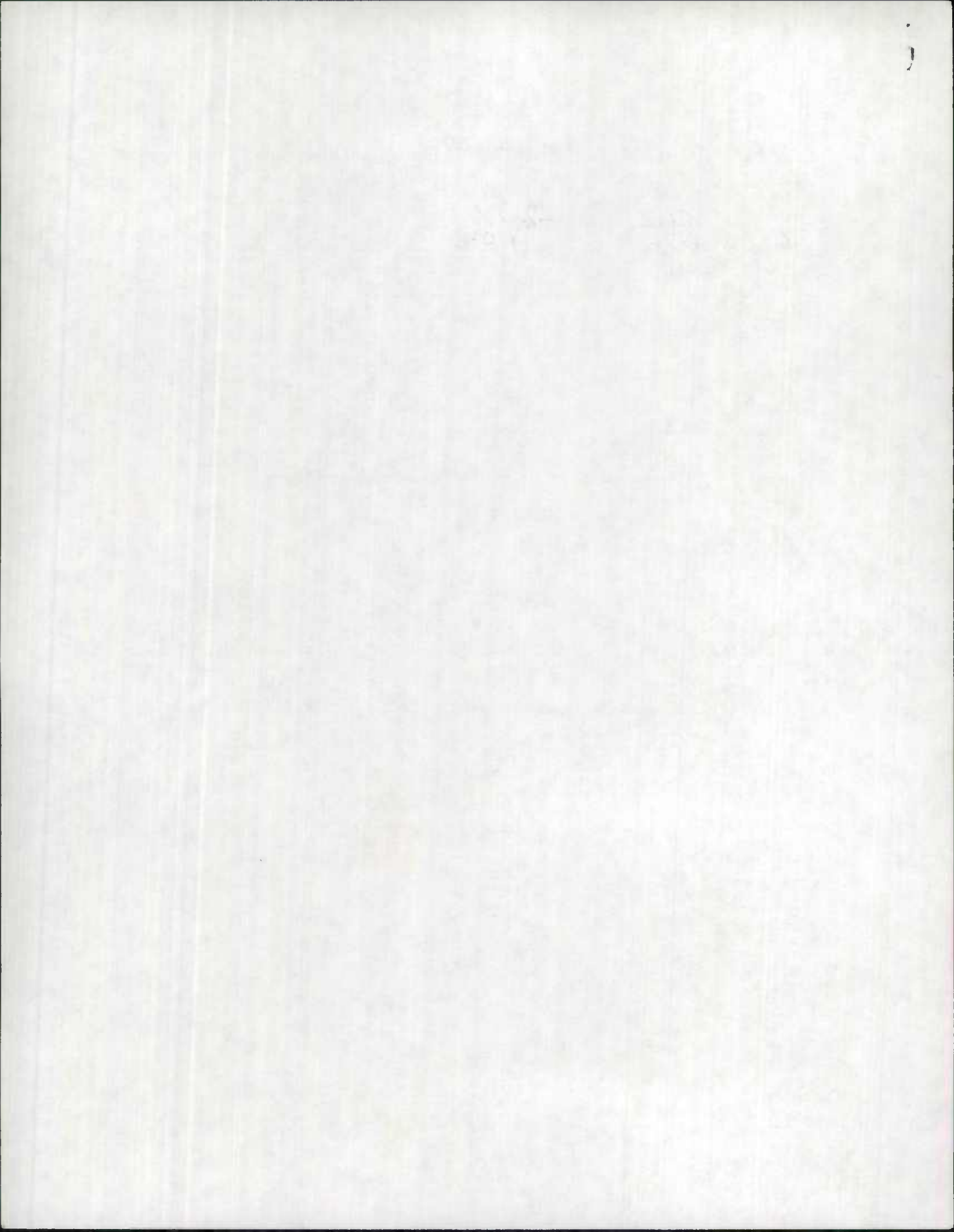






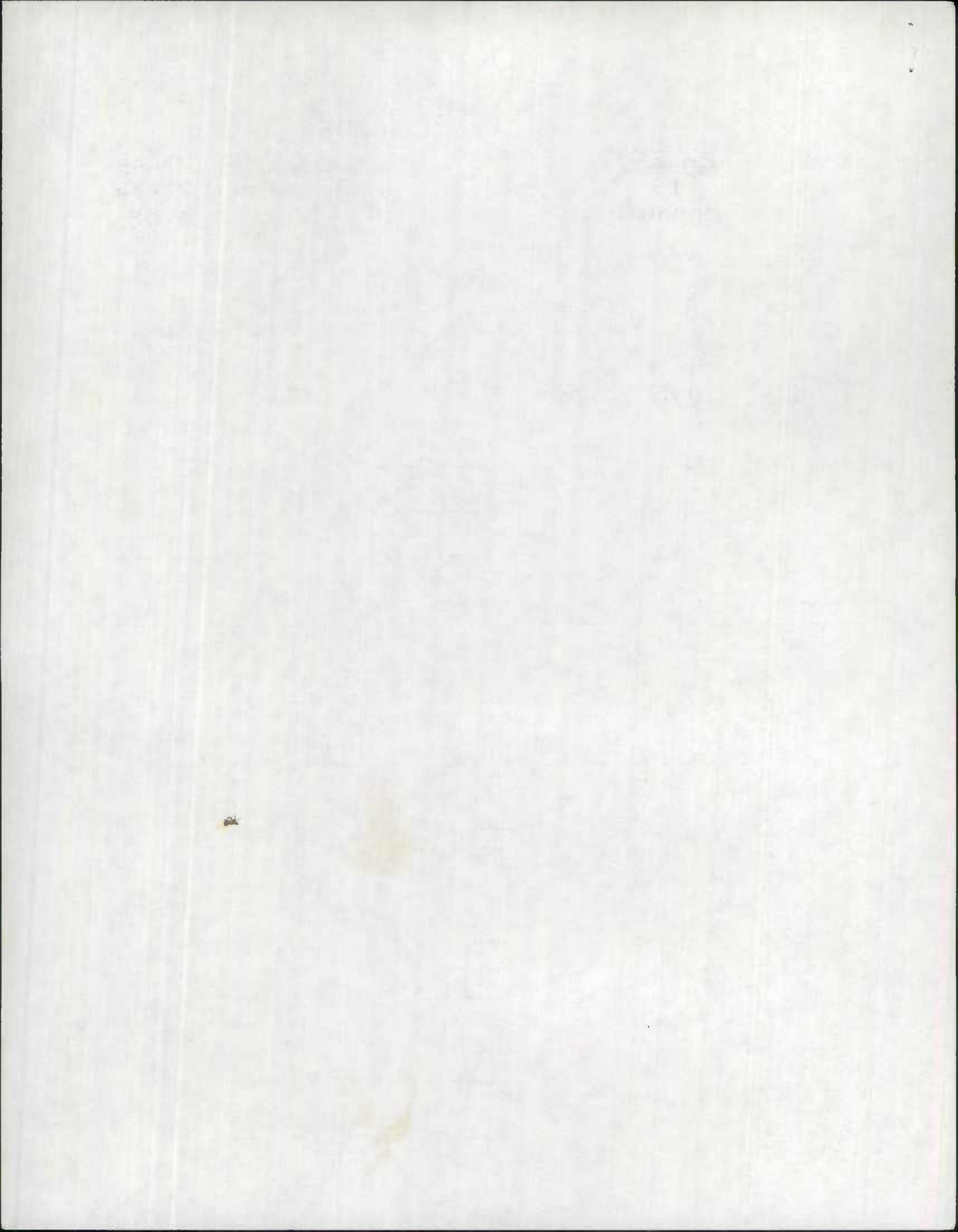




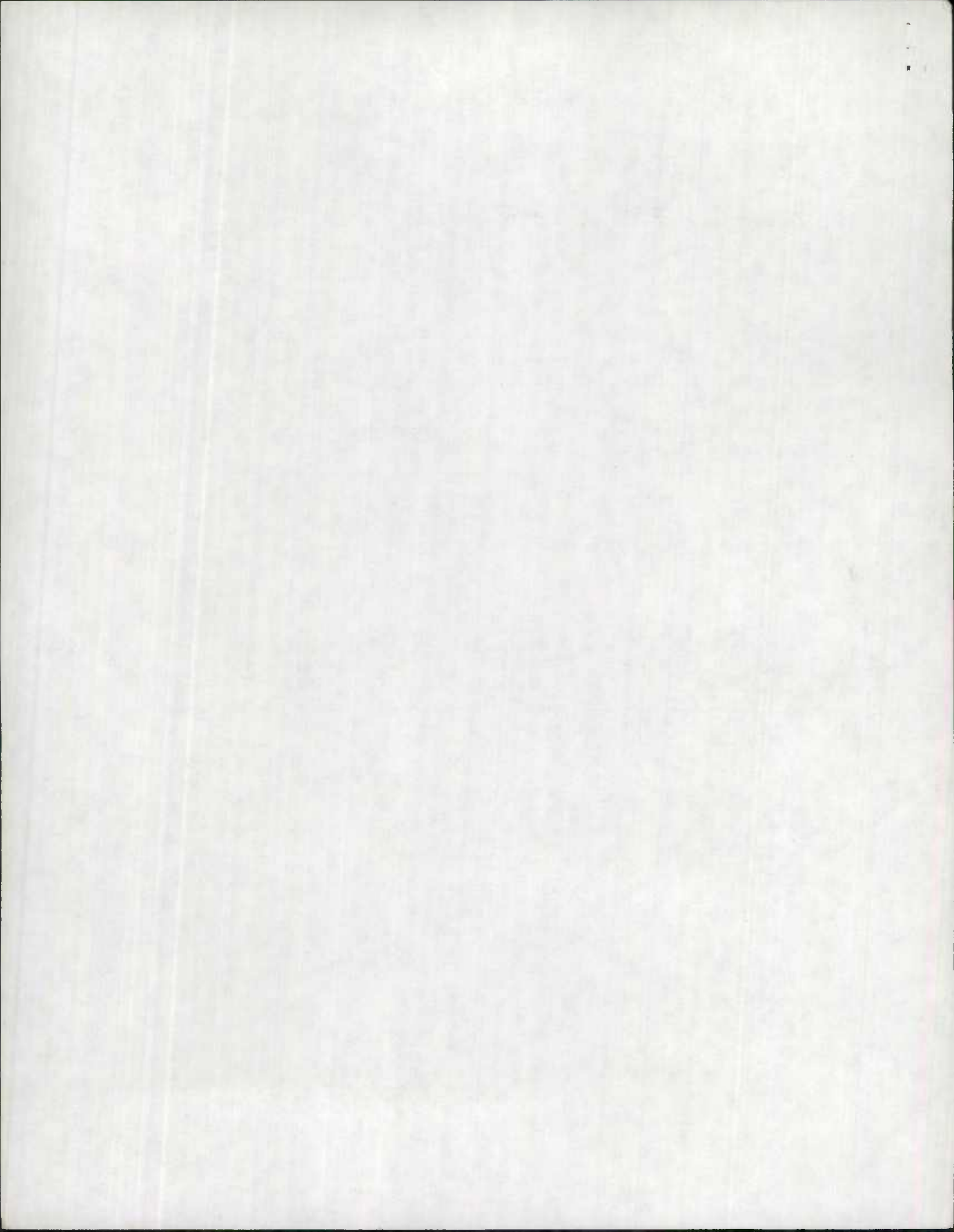






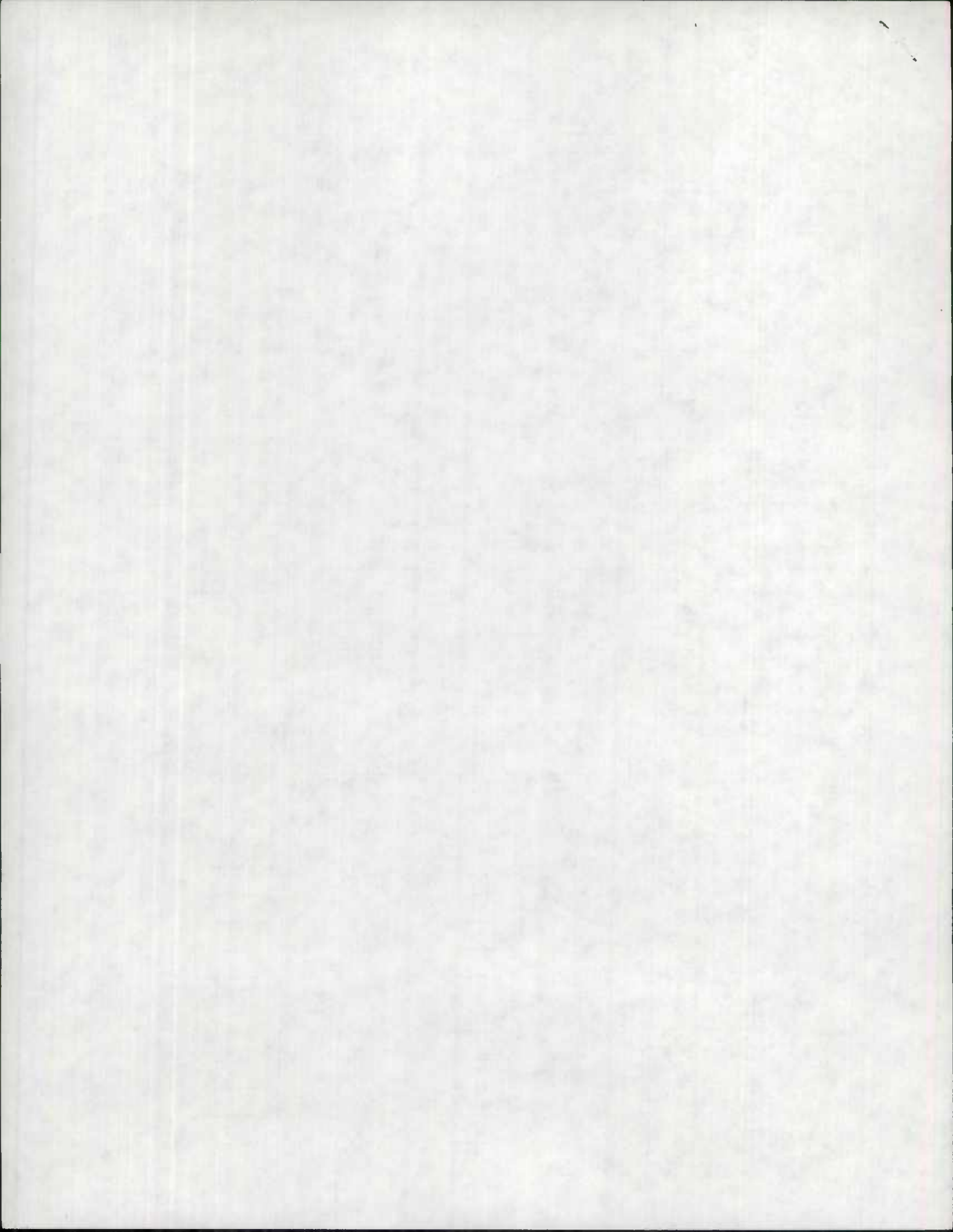












Vertical Curve Section

<u>Start Pt.</u> (in ft.)	<u>End Pt.</u> (in ft.)	<u>Gradient Percent</u>	<u>Length of Curve</u> (in x.xx miles)
0	541	+0.6	
541	740	-1.6	
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	<u>Grade Classes by Gradient (Percent)</u>	<u>Number of Grades (Right- Justified)</u>	<u>Length of Grades in Class (Implied Decimal) (xx.xxx miles)</u>
a.	0.0-0.4	<u>2</u>	<u>0.14</u>
b.	0.5-2.4	-----	-----
c.	2.5-4.4	-----	-----
d.	4.5-6.4	-----	-----
e.	6.5-8.4	-----	-----
f.	8.5-	-----	-----

