

FIG. 1A
H₂ CONVERSION VS % CONTRACTION

HRI DATA

(NOT CORRECTED FOR CO₂ AND CH₄ IN FF)

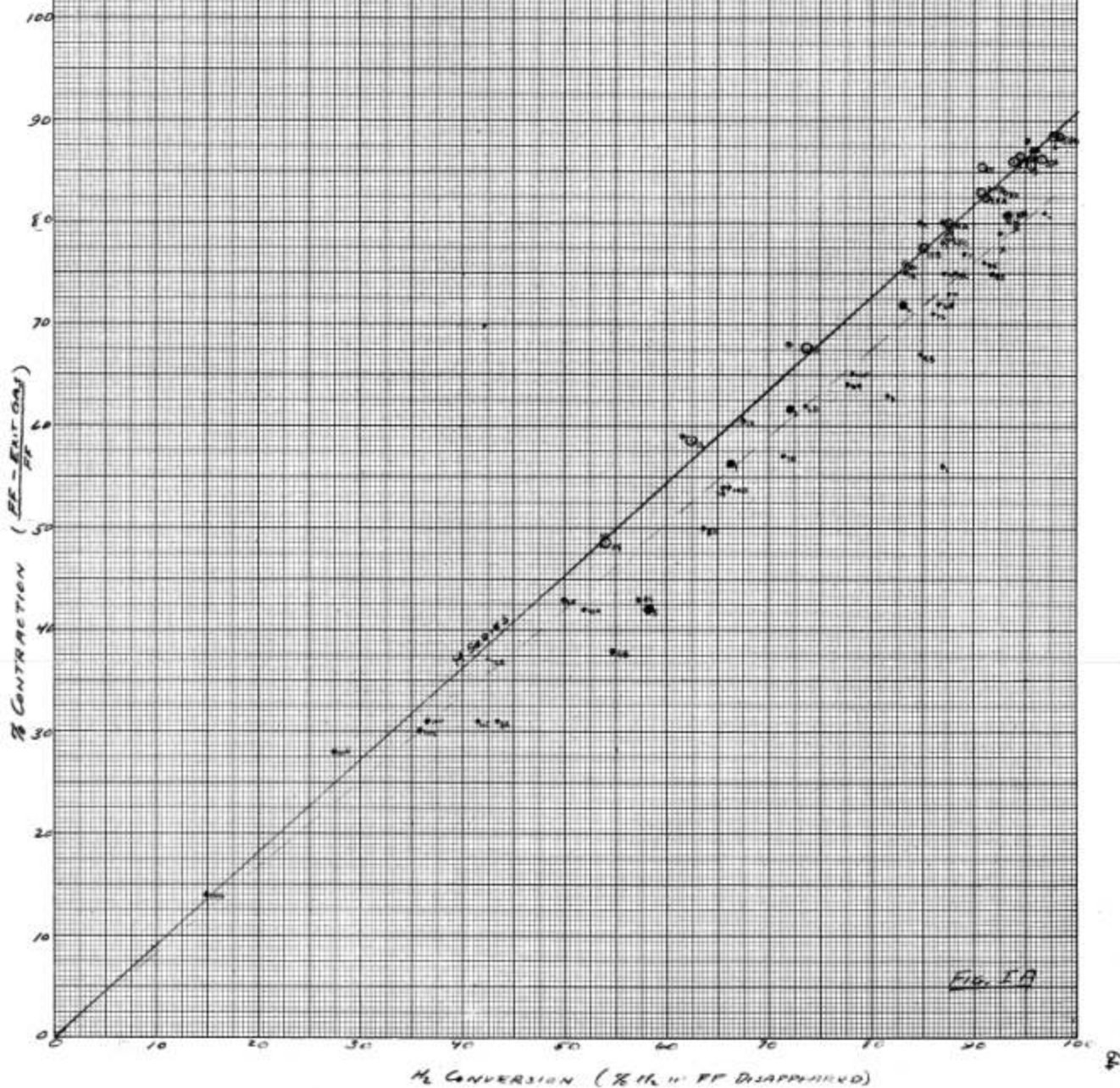
① H SERIES H₂ ANALYSIS AVAILABLE RECALCULATED

● H SERIES

x IS SERIES

○ H SERIES DIRECT FROM HRI SUMMARIES

• IV SERIES



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FIG. 1B
H₂ CONVERSION VS % CONTRACTION
HPI DATA
ADJUSTED FOR CO₂ & CH₄ IN FF

- H SERIES 193 RECORD.
- H SERIES
- H SERIES DIRECT FROM HPI SUMMARY
- H SERIES " " " "

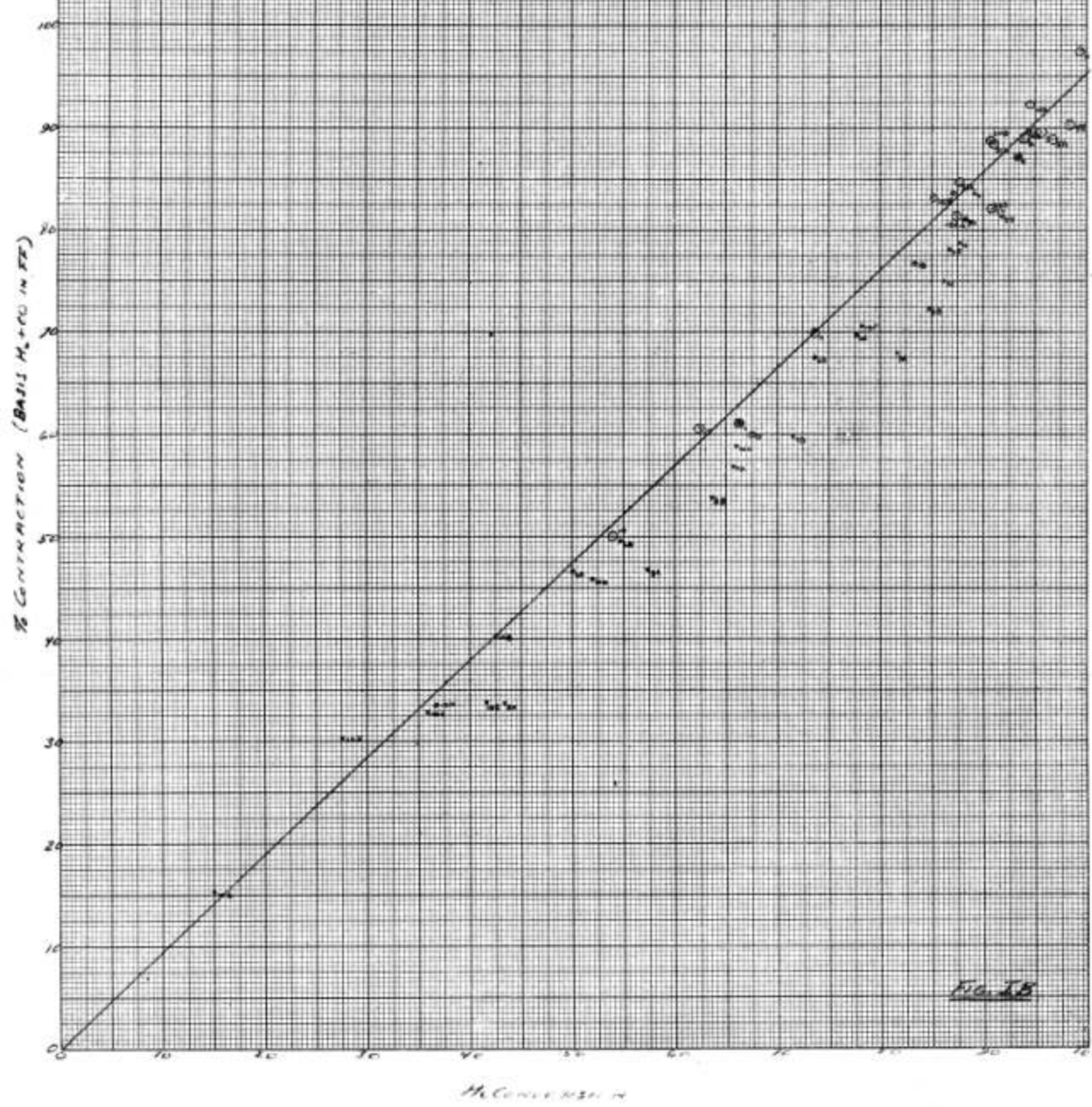


FIG. 1B

Fig. 1C

H₂ CONVERSION VS % CONTRACTION
ADMINISTERED FOR CO, CH₄ & N₂ IN FE

- LAB. A $M_{H_2O} = 1.0$
- LAB. B $M_{H_2O} = 1.5$
- ⊗ LAB. B $M_{H_2O} = 1.2 - 1.6$ (NOTED)
- ⊙ LAB. B $M_{H_2O} = 2.0$

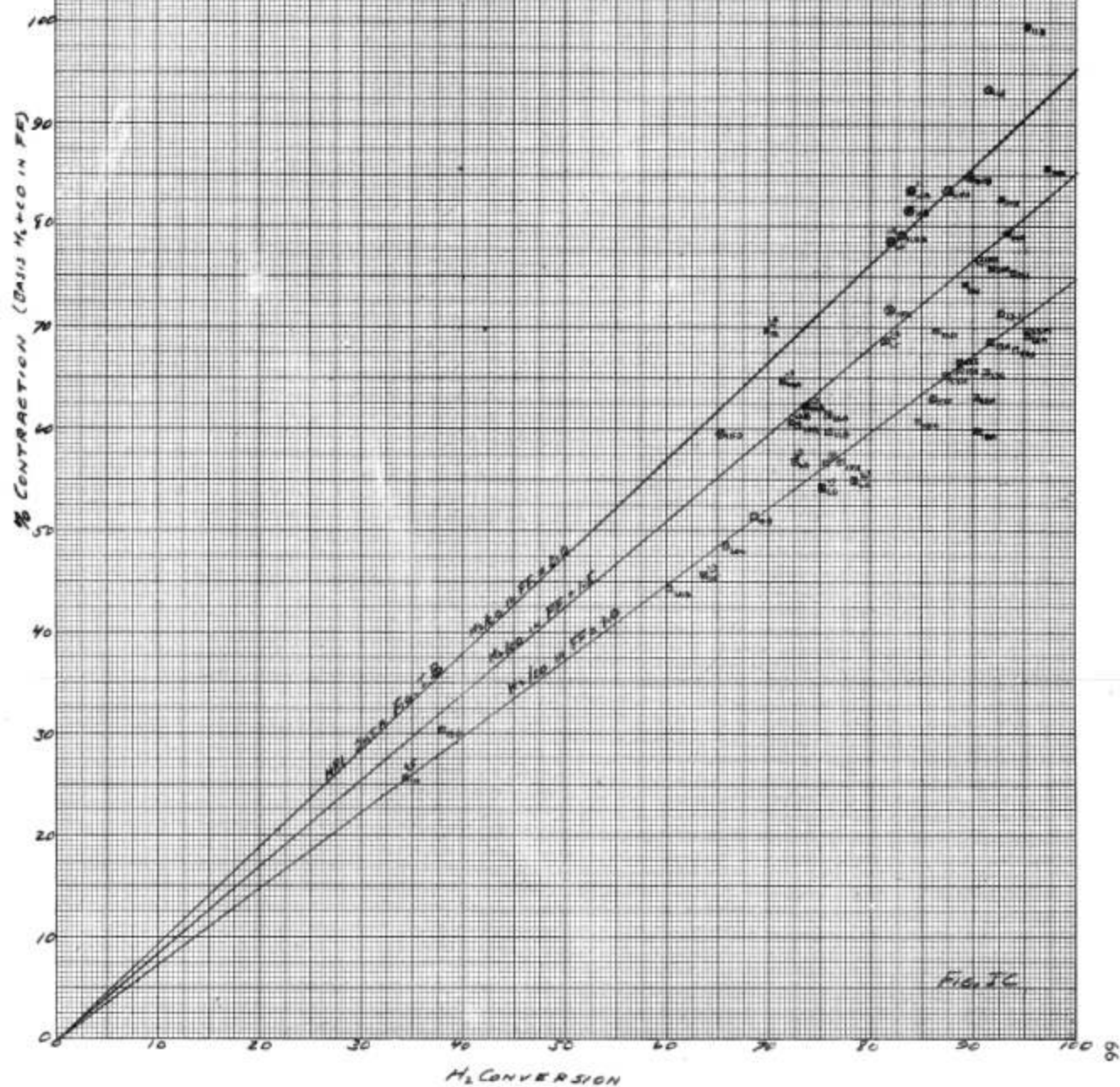


FIG. I D
H₂ CONVERSION VS % CONTRACTION
STANDLING DATA

H₂/CO = 23 & 40+

△ UNADJUSTED FOR CO₂, CH₄ & N₂ IN FF

▲ ADJUSTED " " " " " " " "

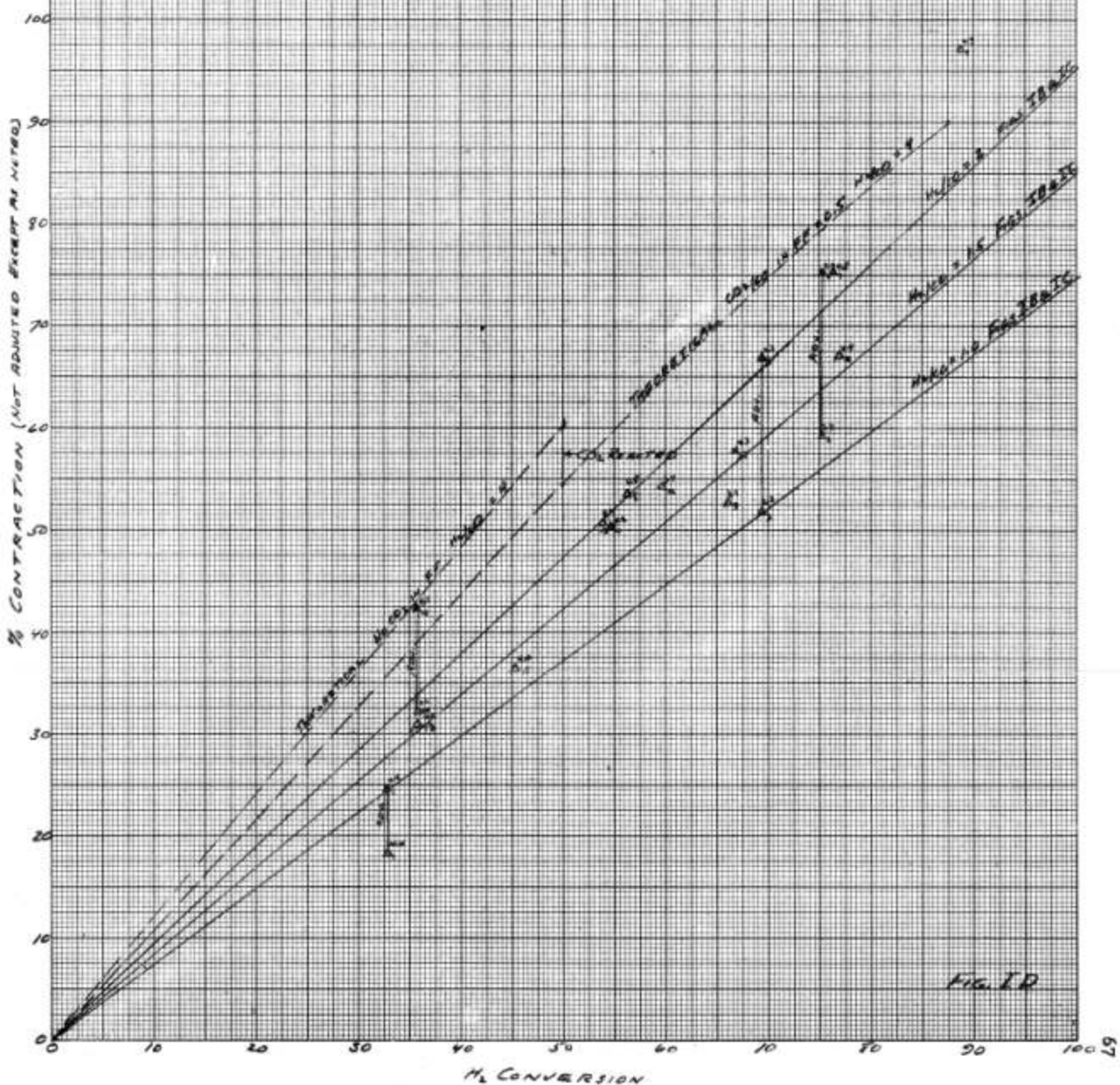


FIG. I D

FIG. I

H₂ CONVERSION VS CONTRACTIONBEACON DATA

- FRESH CMAS REDUCED CAT
- ⊙ FRESH CMAS REDUCED CAT
CO. ADDED TO R.P. 76 CATHA
ADJUSTED FOR CO₂ IN FM
- C.I. POWDER
- x LIMONITE K₂O
- LIMONITE KF
- CMAS UNREDUCED
- △ RVNS ON UNIT #8

	K ₂ O	M ₂ O
1. CMAS	1.5	2.2
2. BEACON	0.5	5.0
3. "	2.2	4.9
4. "	2.6	2.7

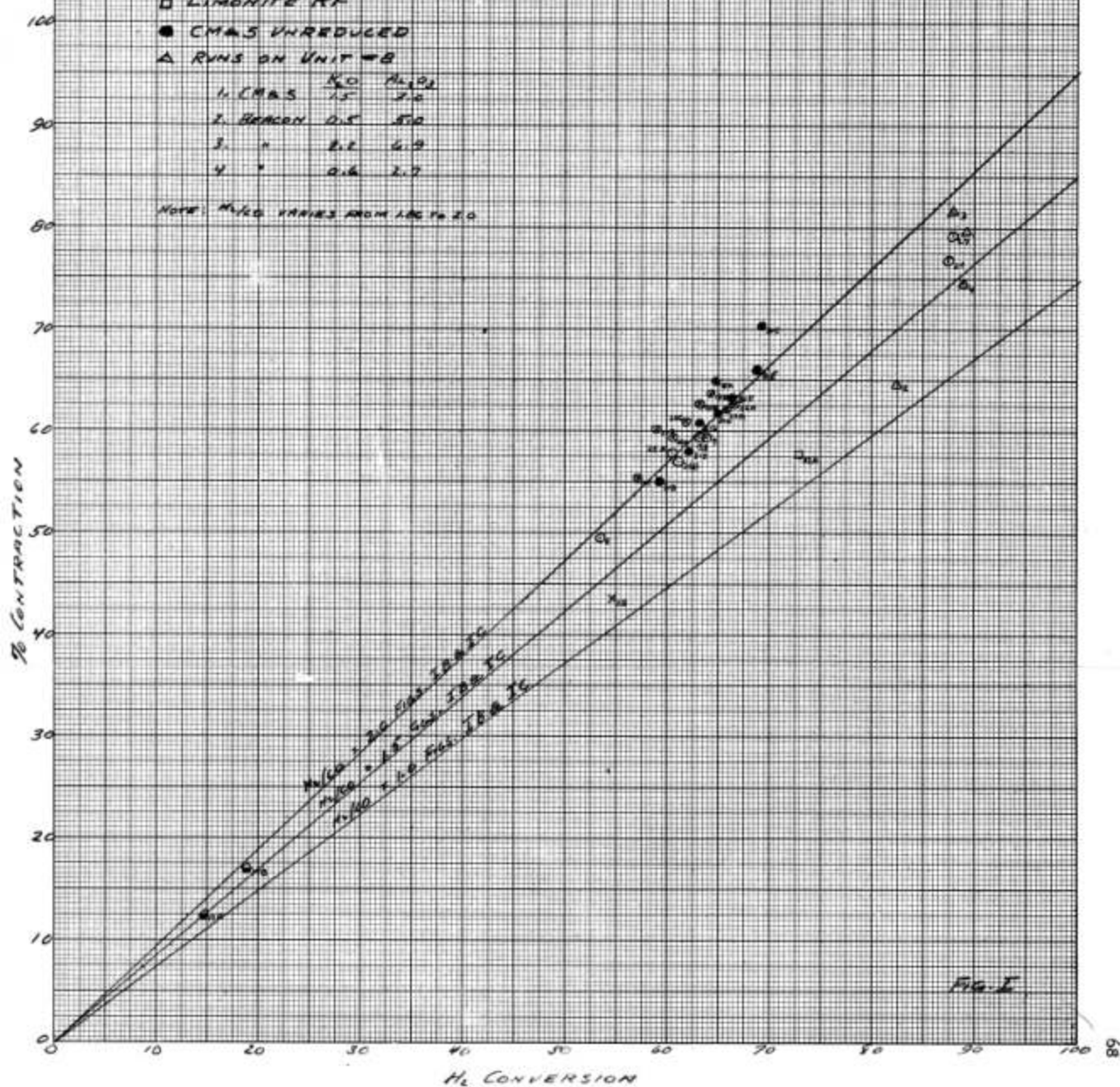
NOTE: M₂O VARIES FROM 1.6 TO 2.0

FIG. I

FIG. II A

H₂ CONVERSION VS CO CONVERSIONMRI DATAM_{CO} = 2

- O H SERIES MS ANALYSIS AVAILABLE RECALCULATED FROM SUMMARY
 • H SERIES " " " RECALCULATED FROM LAB. DATA
 X H SERIES " " " RECALCULATED FROM SUMMARIES
 O H SERIES DIRECT FROM MRI SUMMARIES
 • H SERIES " " " "

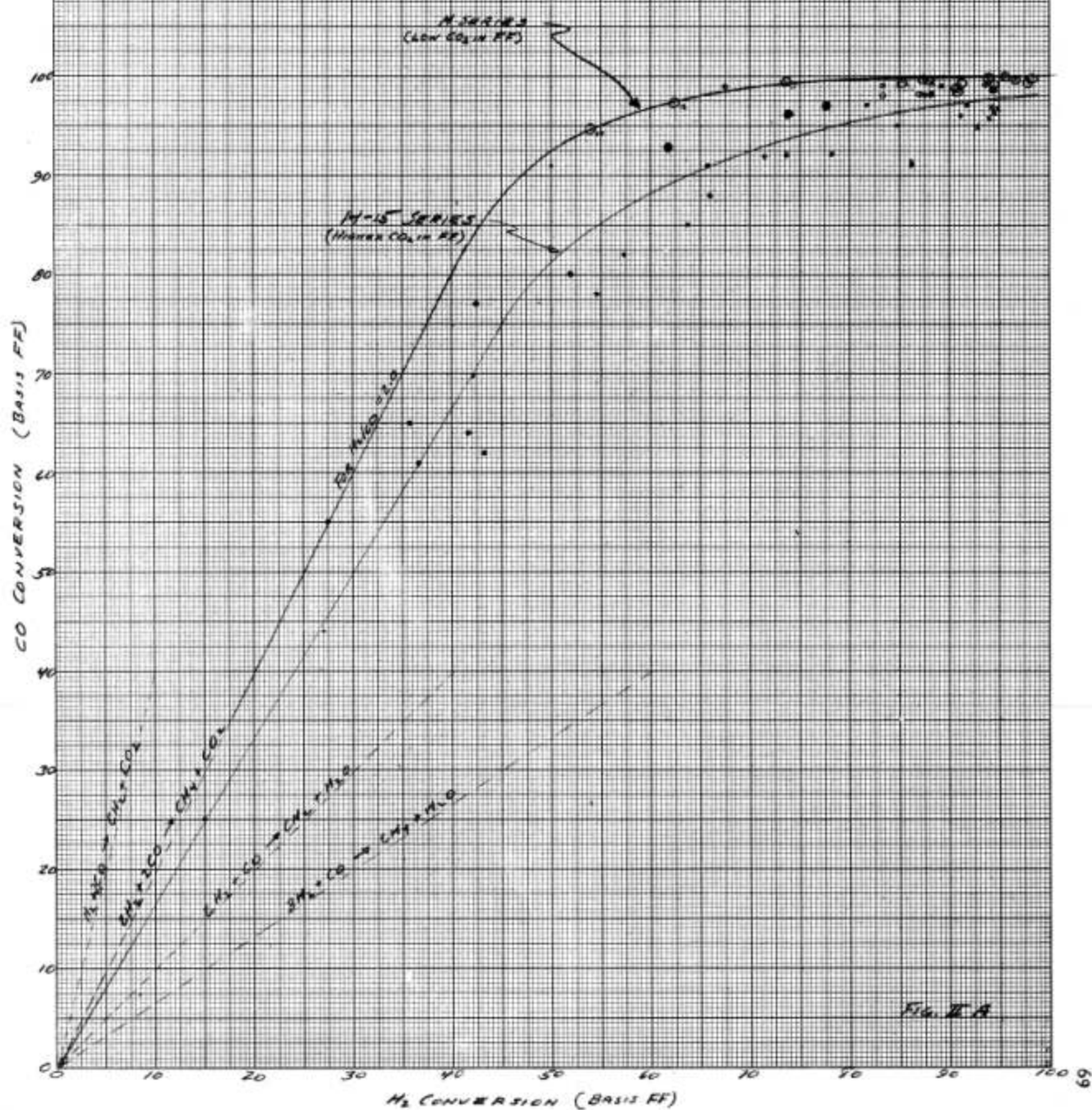


FIG. II
H₂ CONVERSION VS. CO CONVERSION
BEACON DATA
H₂O IN FF = 2.0

- FRESH CHAS. REDUCED CAT.
- ⊙ SAME CAT. BUT CO₂ ADDED TO FF
- ◊ C.I. POWDER
- x LIMONITE H₂O
- LIMONITE KF
- CHAS. UNREDUCED
- △ RUNS ON UNIT WE (SEE FIG. I FOR CATALYSTS)

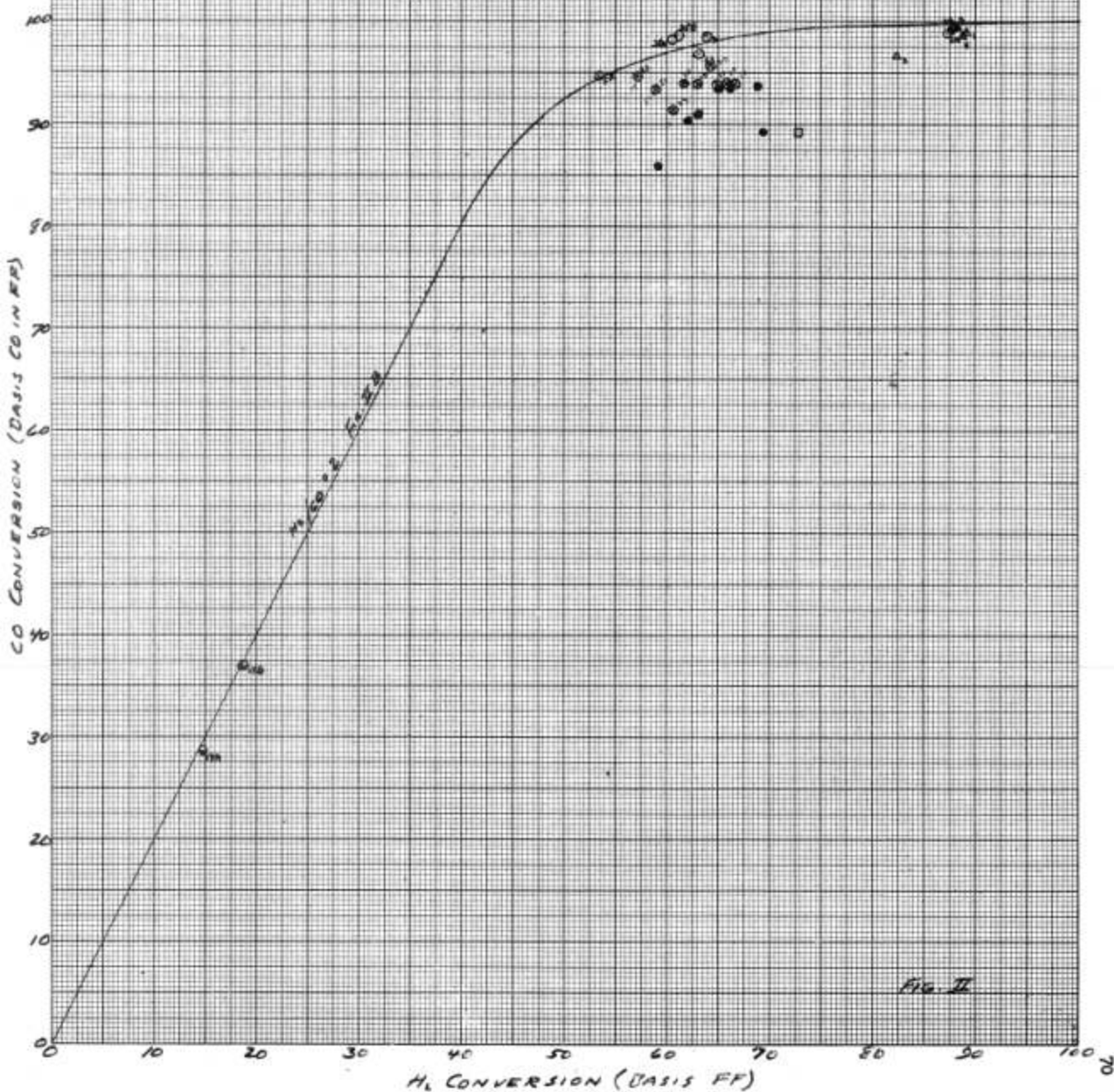


FIG. II

FIG. II B
H₂ CONVERSION vs. CO CONVERSION
DATA WITH LOW H₂/CO M.F.R.

- LAB. A H₂/CO = 1.0
- LAB. A H₂/CO = 1.5
- ▣ LAB. B H₂/CO = 2.2 to 2.6 AS NOTED
- ⊙ LAB. B H₂/CO = 3.0

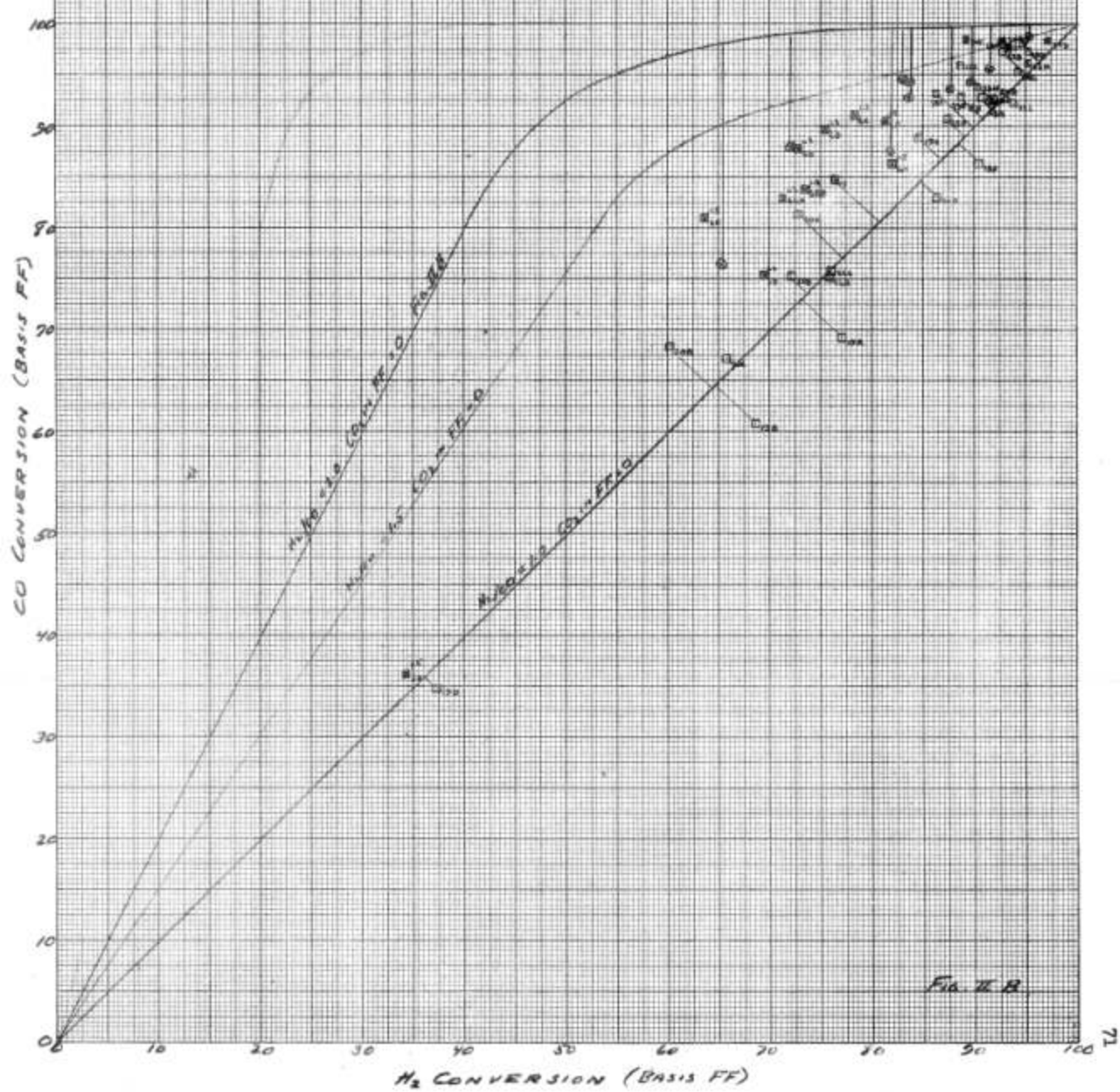


FIG. 21C
 H_2 CONVERSION VS CO CONVERSION
 STANDLIND DATA
 H_2 10% IN FF 4 TO 5 EXCEPT AS NOTED
 H_2O IN FF 7 TO 10%
 CH_4 IN FF 2 TO 10%

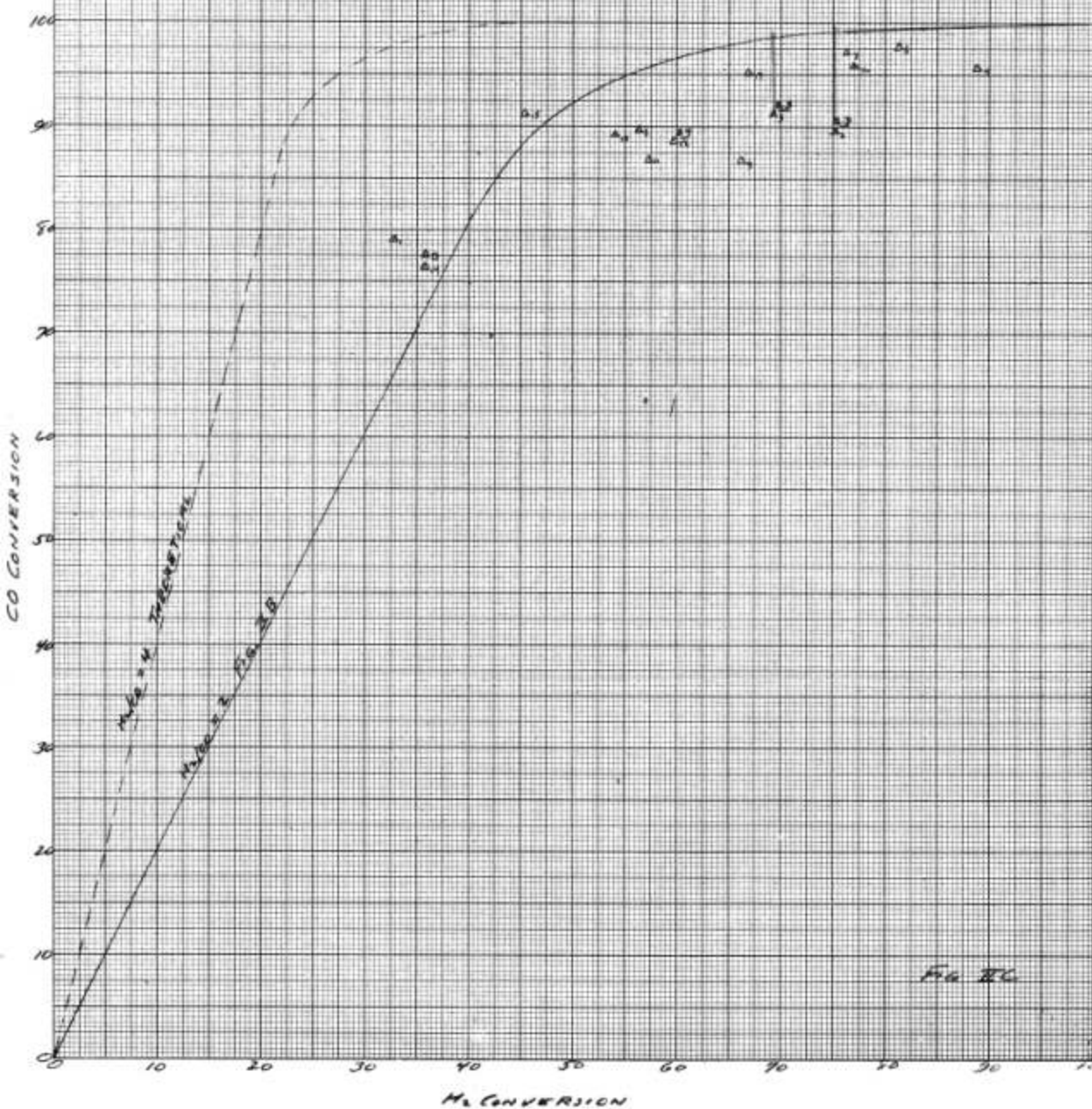
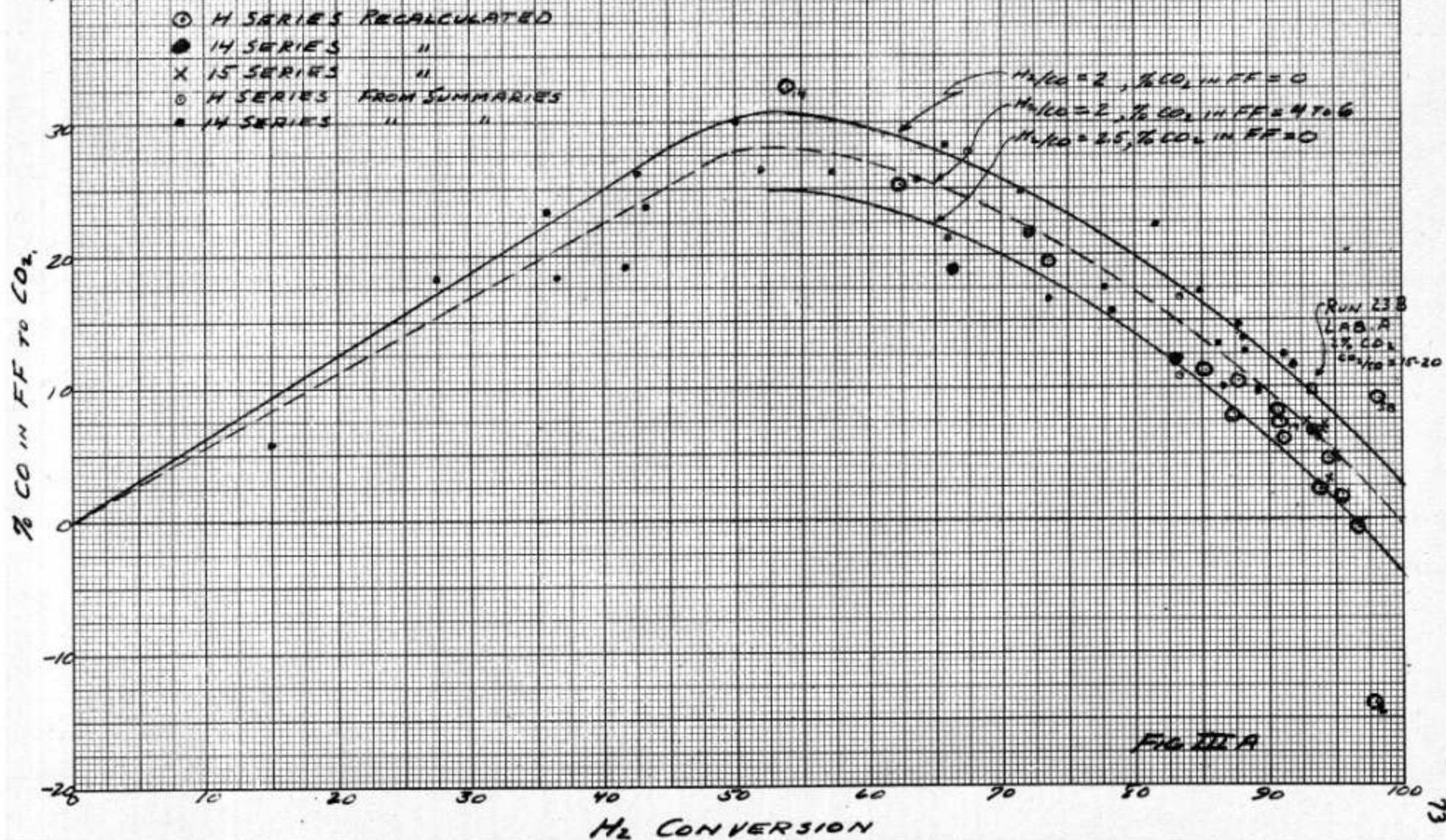


FIG. 21C

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FIG III A
 H_2 CONVERSION VS % CO IN FF TO CO_2
 HRI DATA



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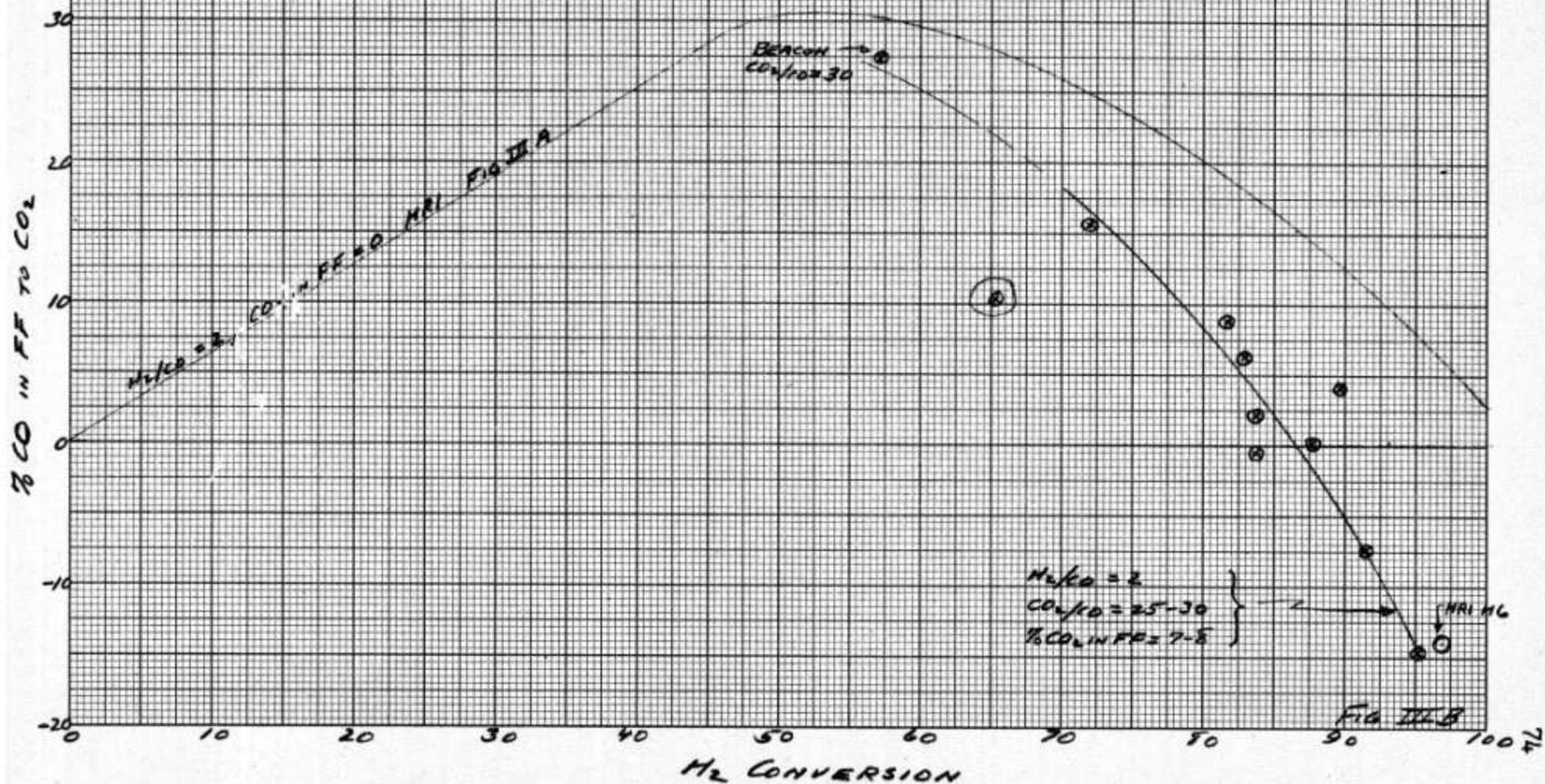
FIG. III B

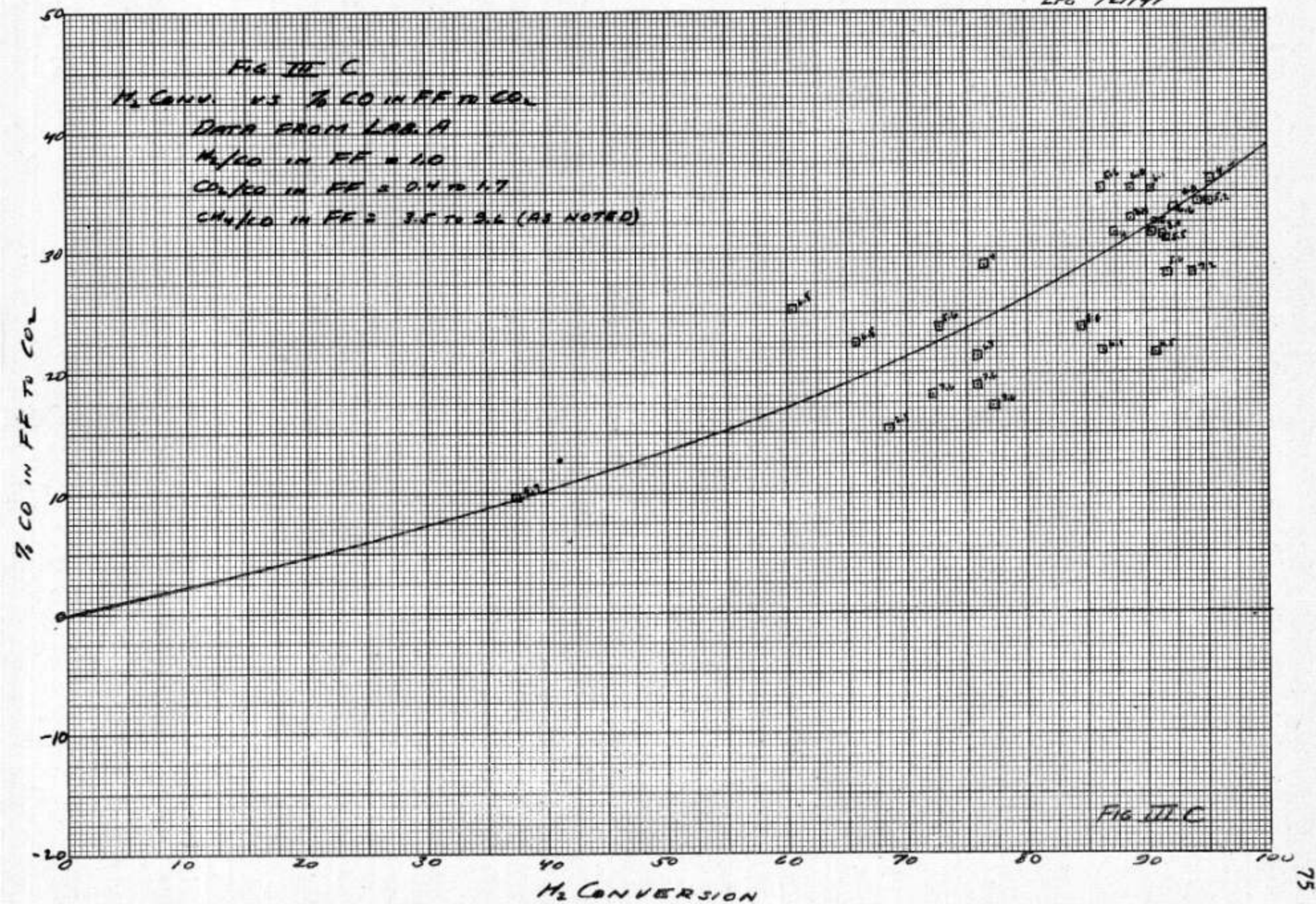
H_2 CONVERSION VS % CO IN FF TO CO_2

DATA FROM LAB. 8 (RUNS 11 & 12)

H_2/CO IN FF = 2.0

CO_2/CO IN FF = 25 TO 30





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FIG. III D

H_2 CONN. VS % CO IN FE TO CO_2
CALCULATED MAXIMA

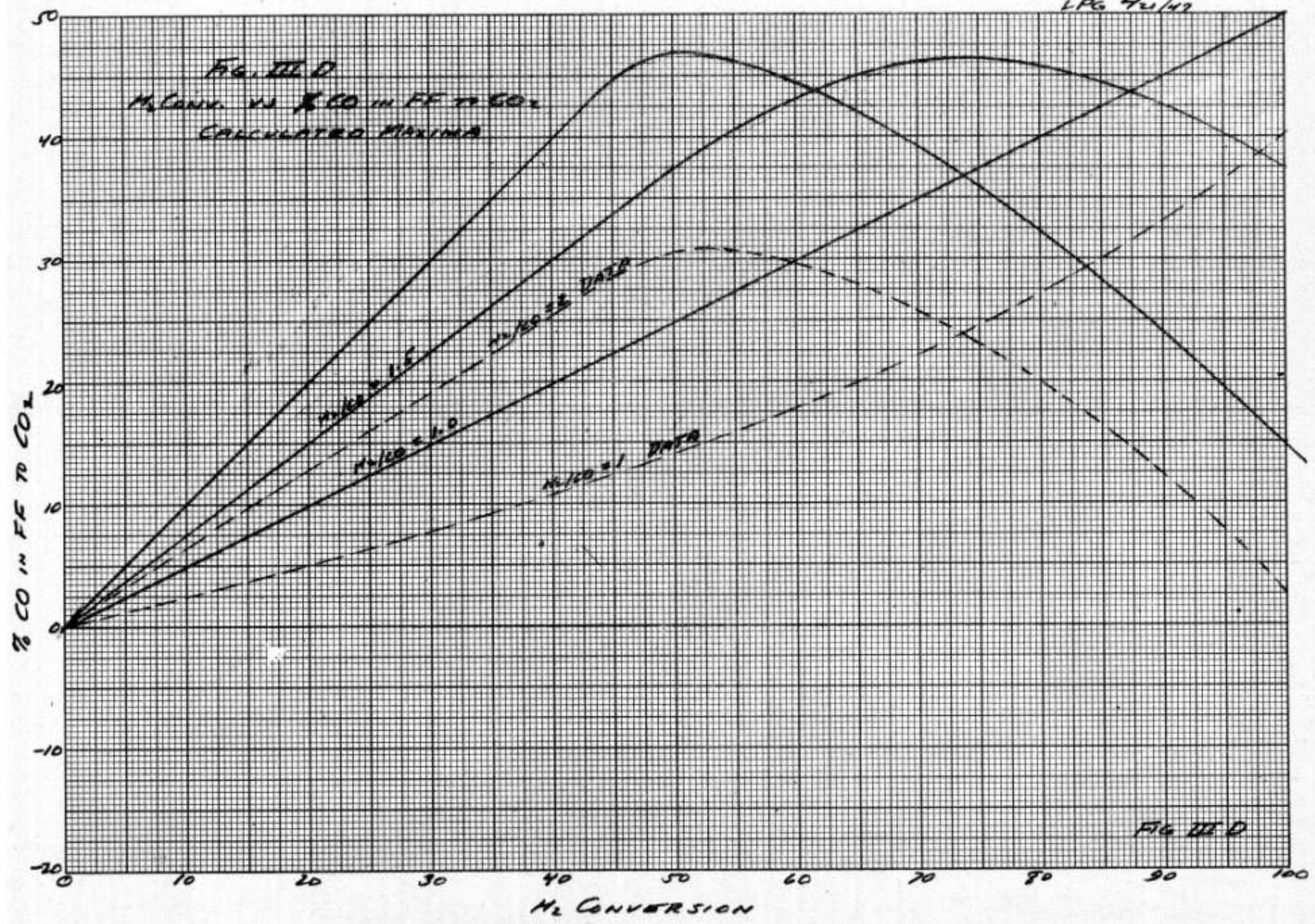


FIG. III D

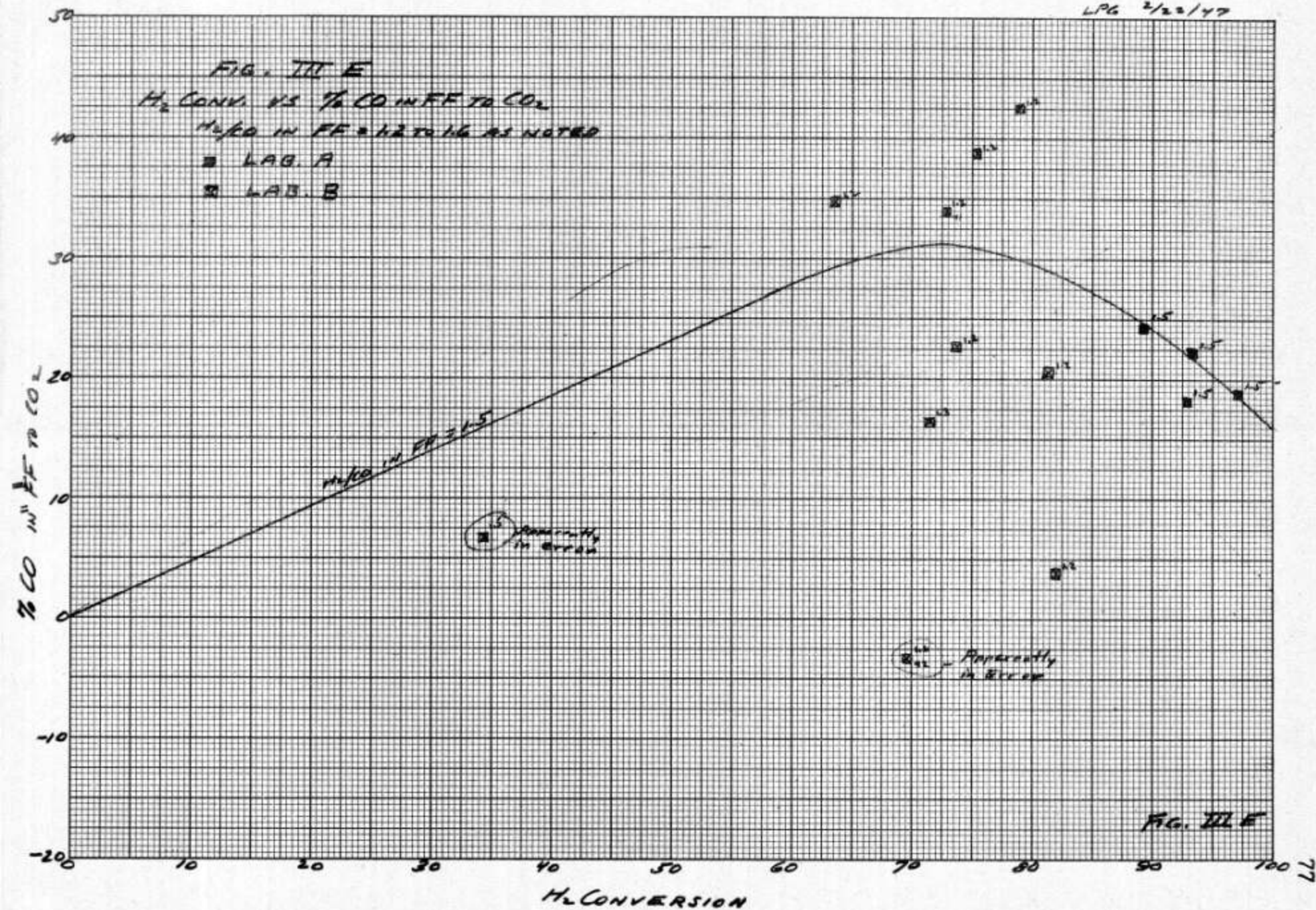


FIG. III E

FIG. III
H₂ CONVERSION VS CO IN FEED TO CO₂
BRACON DATA ($m_{\text{CO}} = 2.0$)

- ③ FRESH CMA'S CATALYST
- ③ SAME CAT. BUT CO₂ ADDED
- ③ C-1 POWDER
- X LIMONITE K₂O
- LIMONITE 'CF
- CMA'S UNREDUCED
- ▲ RUNS ON UNIT 8 (OXYGEN CATALYST)

STANDLINE DATA (4-10 = 4+)

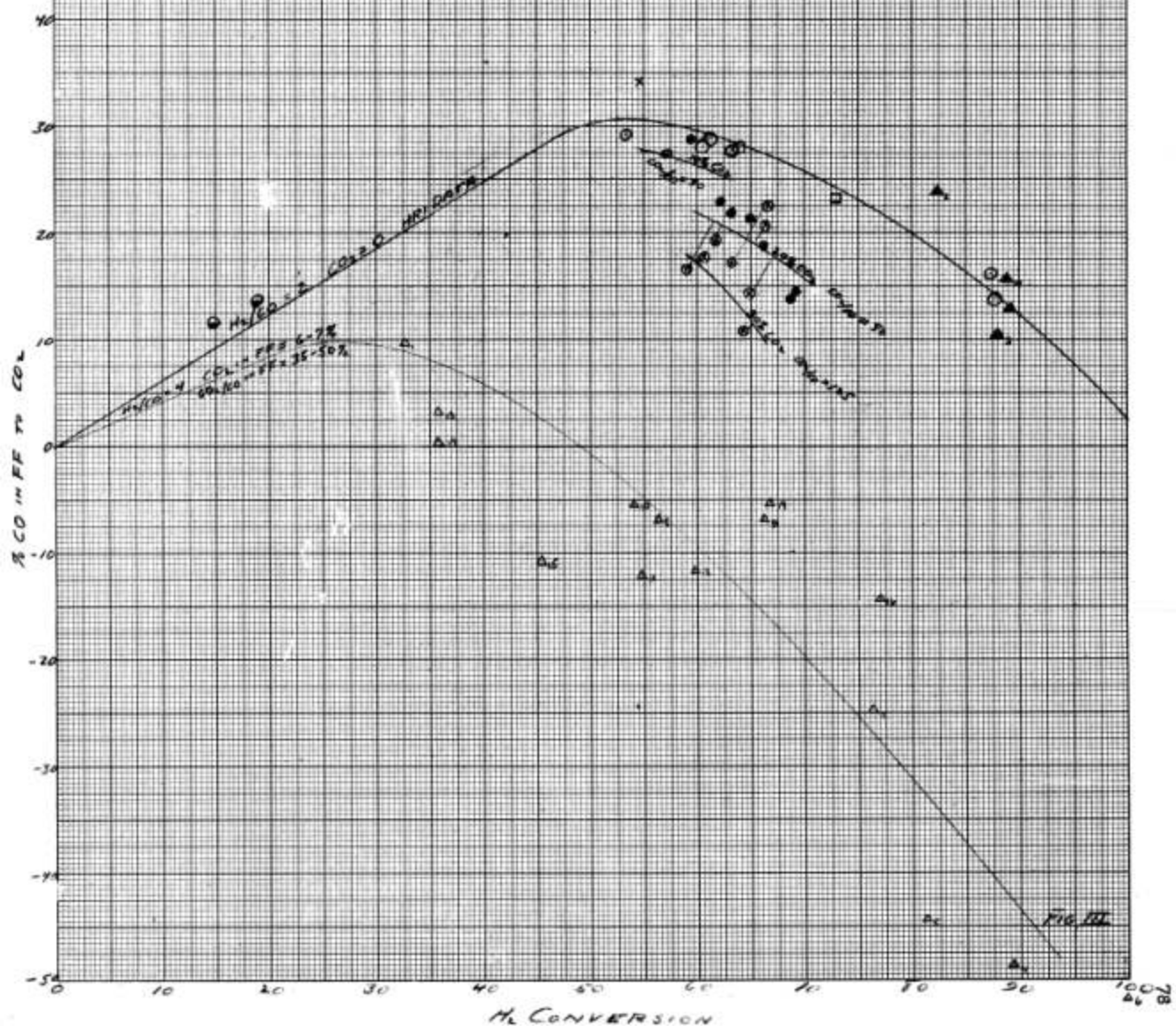


FIG IV
H₂ CONN. IS CO TO C₃ +
HRI & BRACON DATA
WITH CH₃S CATALYST
O HRI 14 SERIES
● HRI 17 SERIES
x HRI 18 SERIES
B BRACON

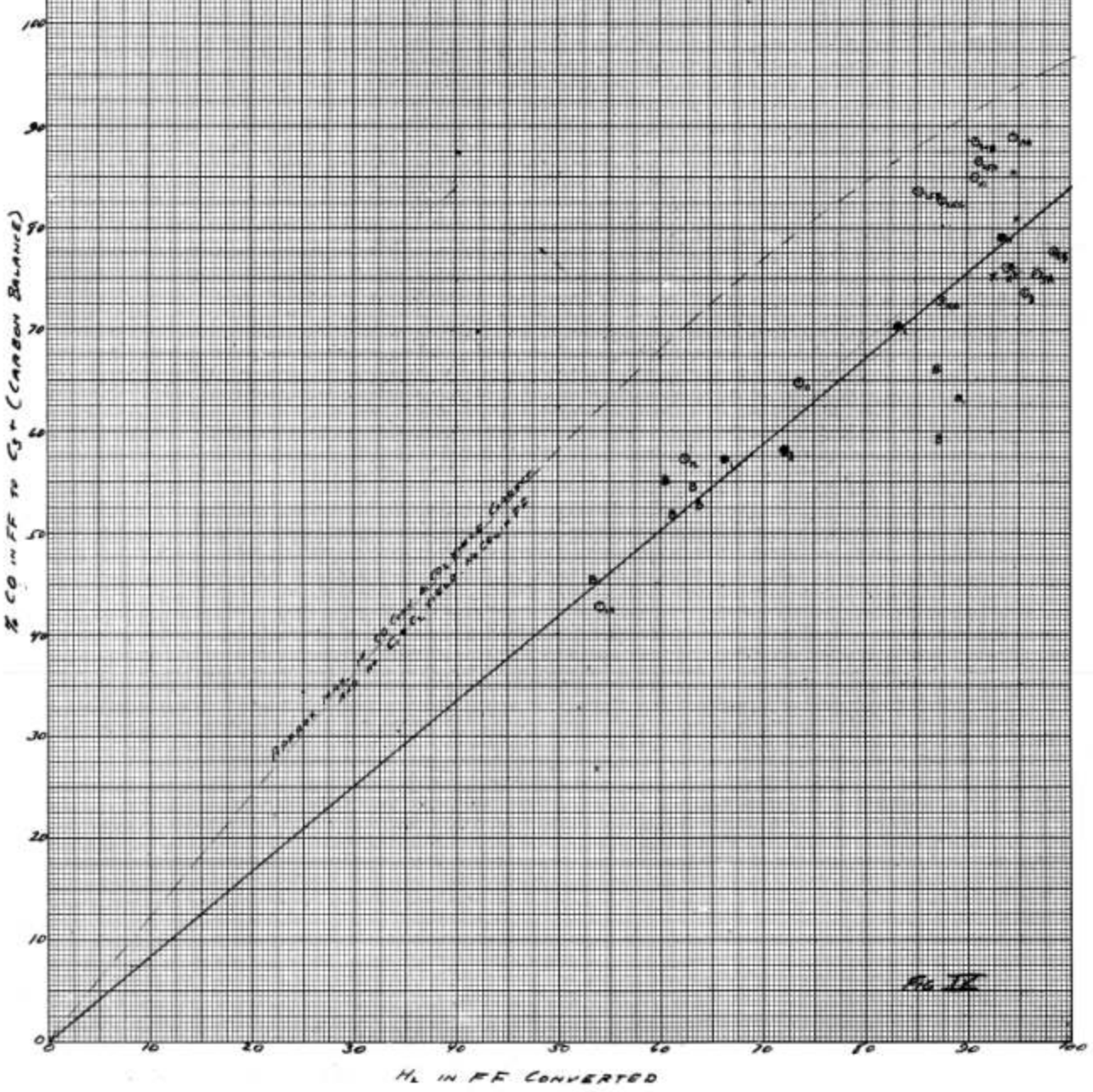
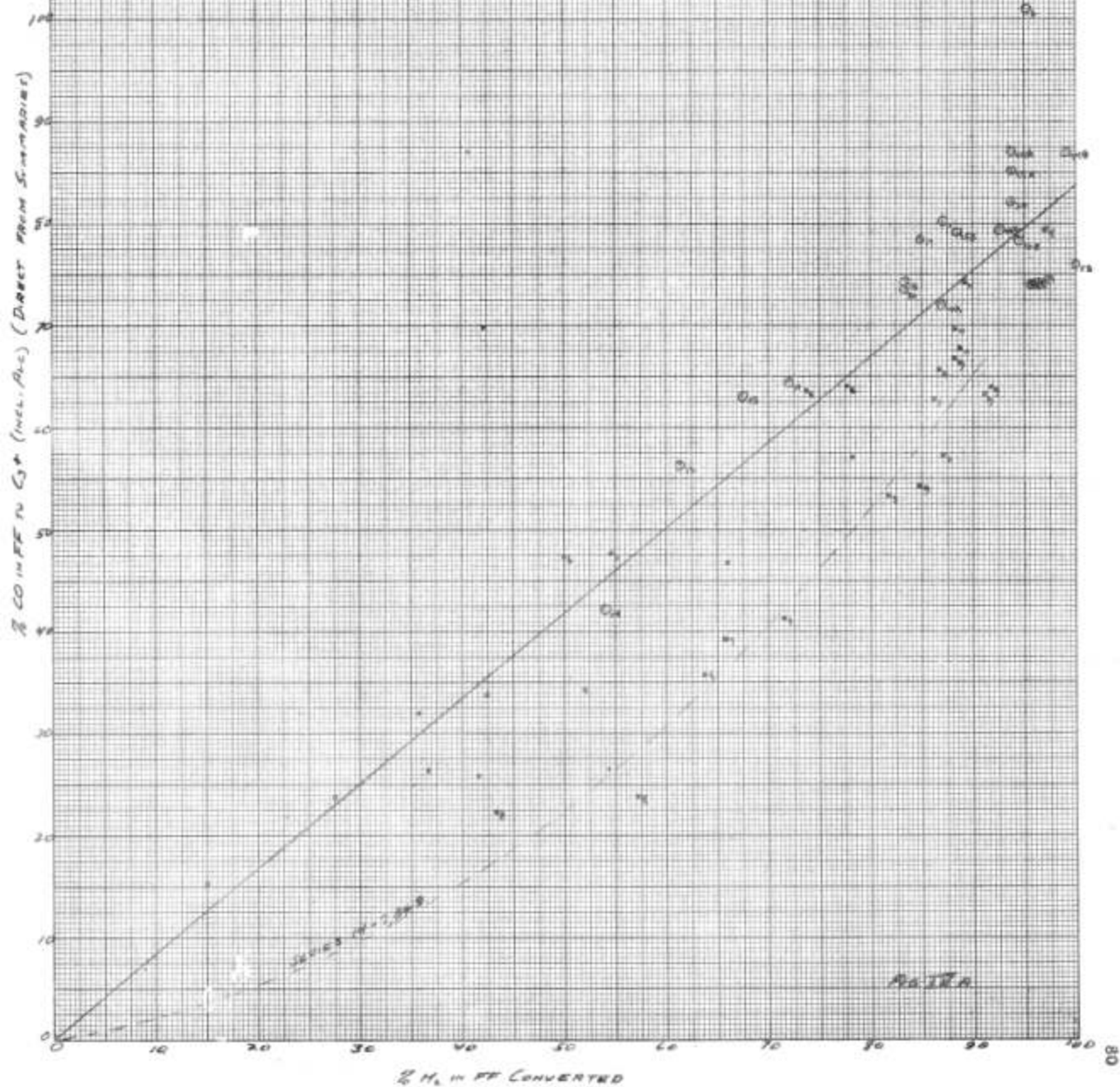


FIG. IV. A
 H_2 CONT. VS. CO TO C_3^+
 MRI DATA
 DIRECT FROM SUMMARIES
 ○ H SERIES
 * IN SERIES
 RUN NUMBERS NOTED
 IN ALL BUT INVID SERIES



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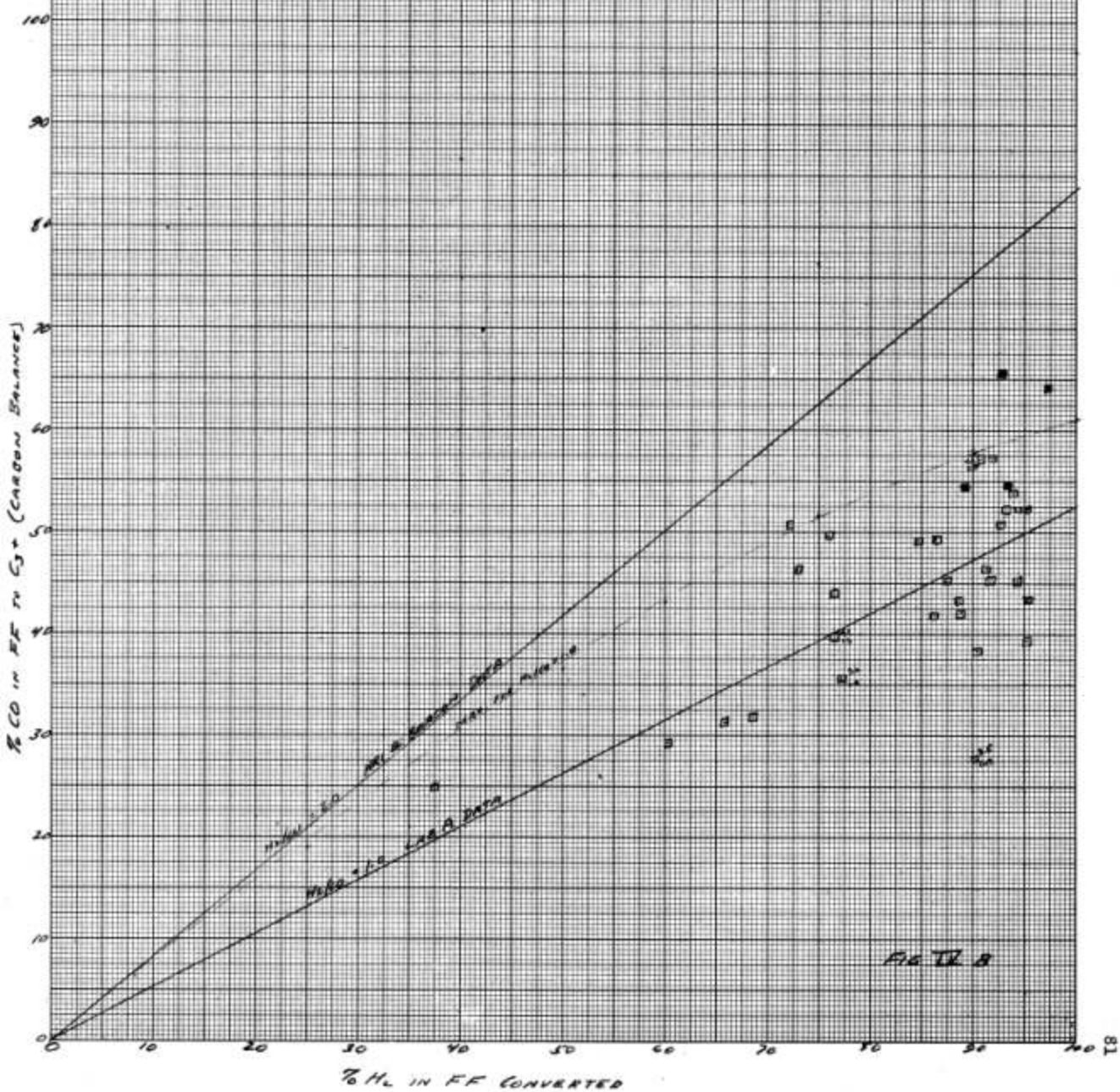
FIG. IV B

H₂ CONN. vs CO to C₃+

LAB. A DATA

□ H₂ CO IN FF = 1

■ H₂ CO IN FF = 1.5



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FIG. IV C
H₂ CONV. VS CO IN C₃+

BEACON DATA
WITH CO₂ ON SPECIAL CAT.

- CM+S CAT. CO₂ ADDED
- " " UNADDED
- C.I. POWDER
- X LIMONITE K₂O
- LIMONITE KF
- △ BEACON CATALYSTS

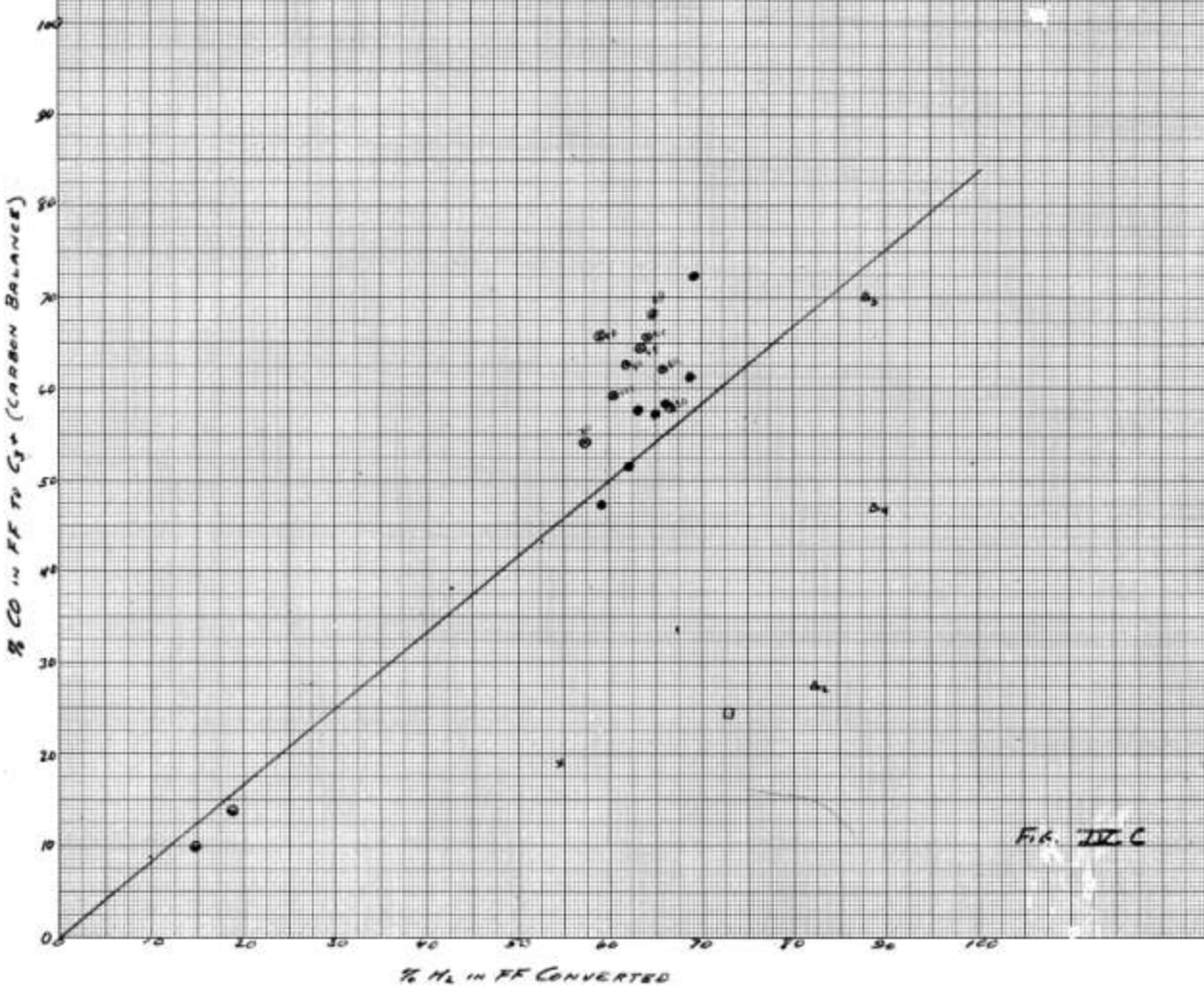


FIG. IV C

FIG. II

 H_2 CONV. VS CO TO $C_1 + C_2$

HRI RECALC'D. DATA:

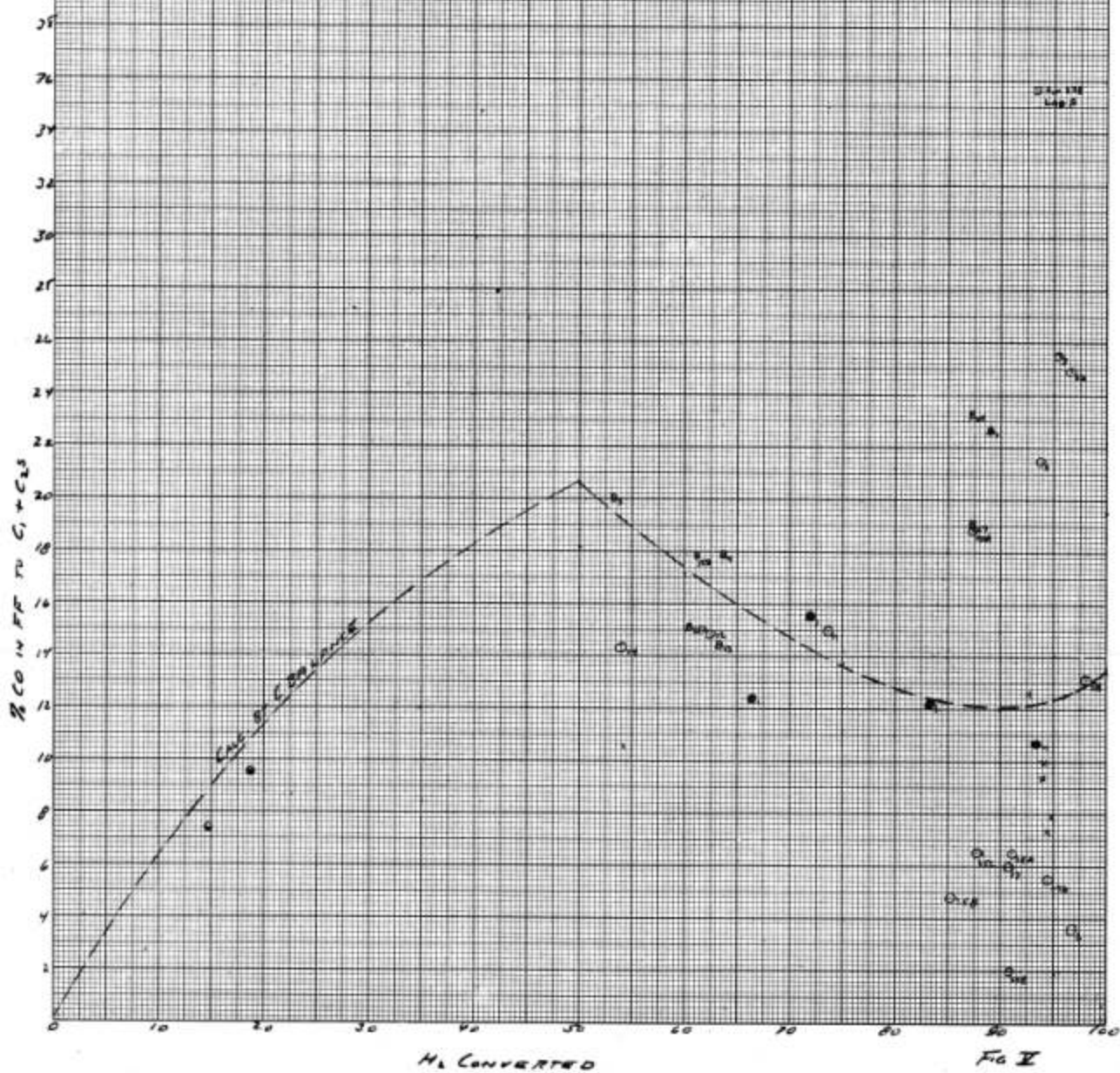
O H SERIES

● 14 SERIES

X 15 SERIES

BRACON DATA:

B CMNS REDUCED CATALYST



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Fig. 2A
 H_2 Conv. in CO to $C_1 + C_2 + C_3$

LXD R DATA
 $H_2/CO = 1.0$

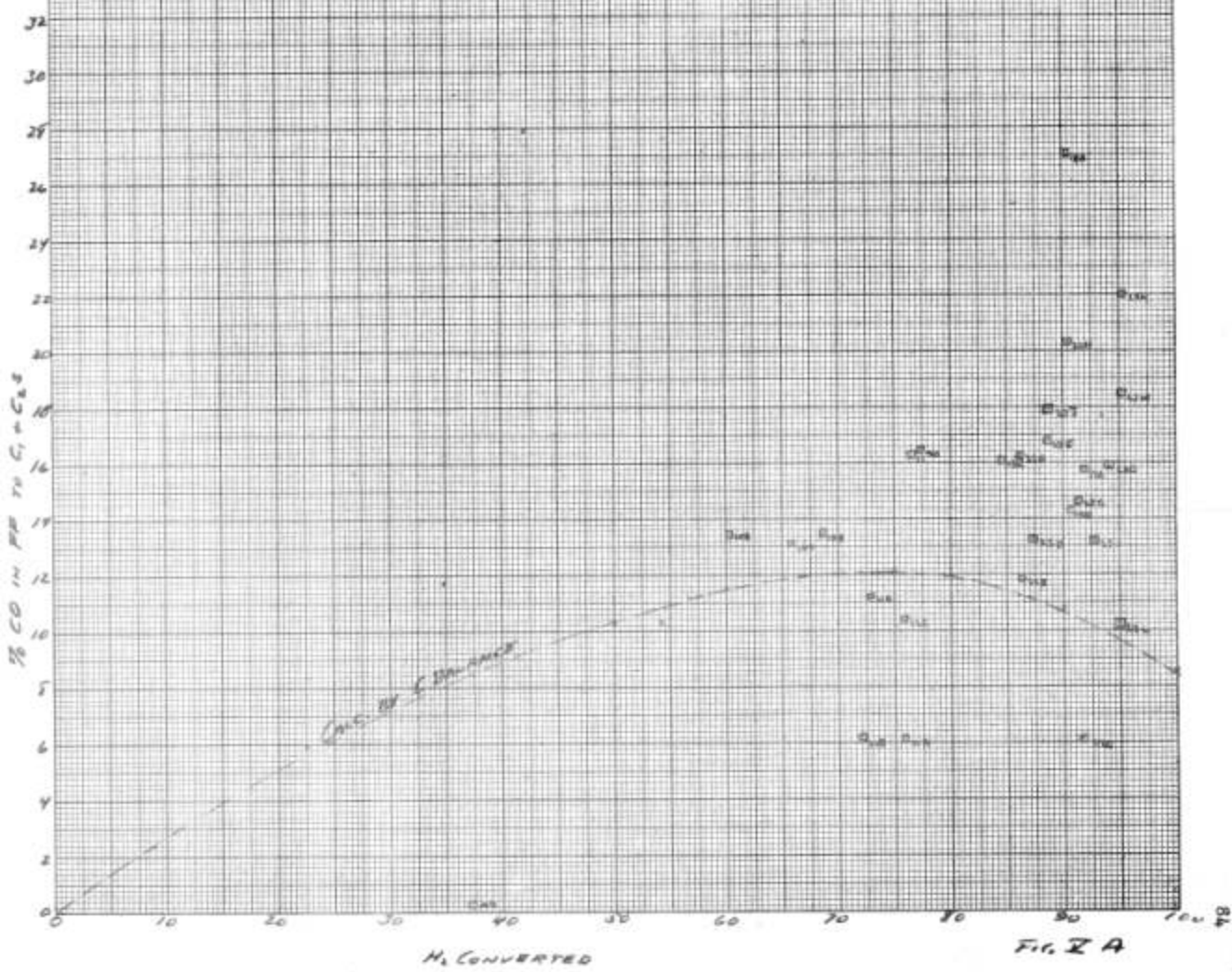


FIG. 2A

FIG VI A
H₂ CONV. VS METHANE YIELD
HRI DATA

- 11 SERIES
- 14 SERIES
- x 15 SERIES
- Pressure Ratio As Noted

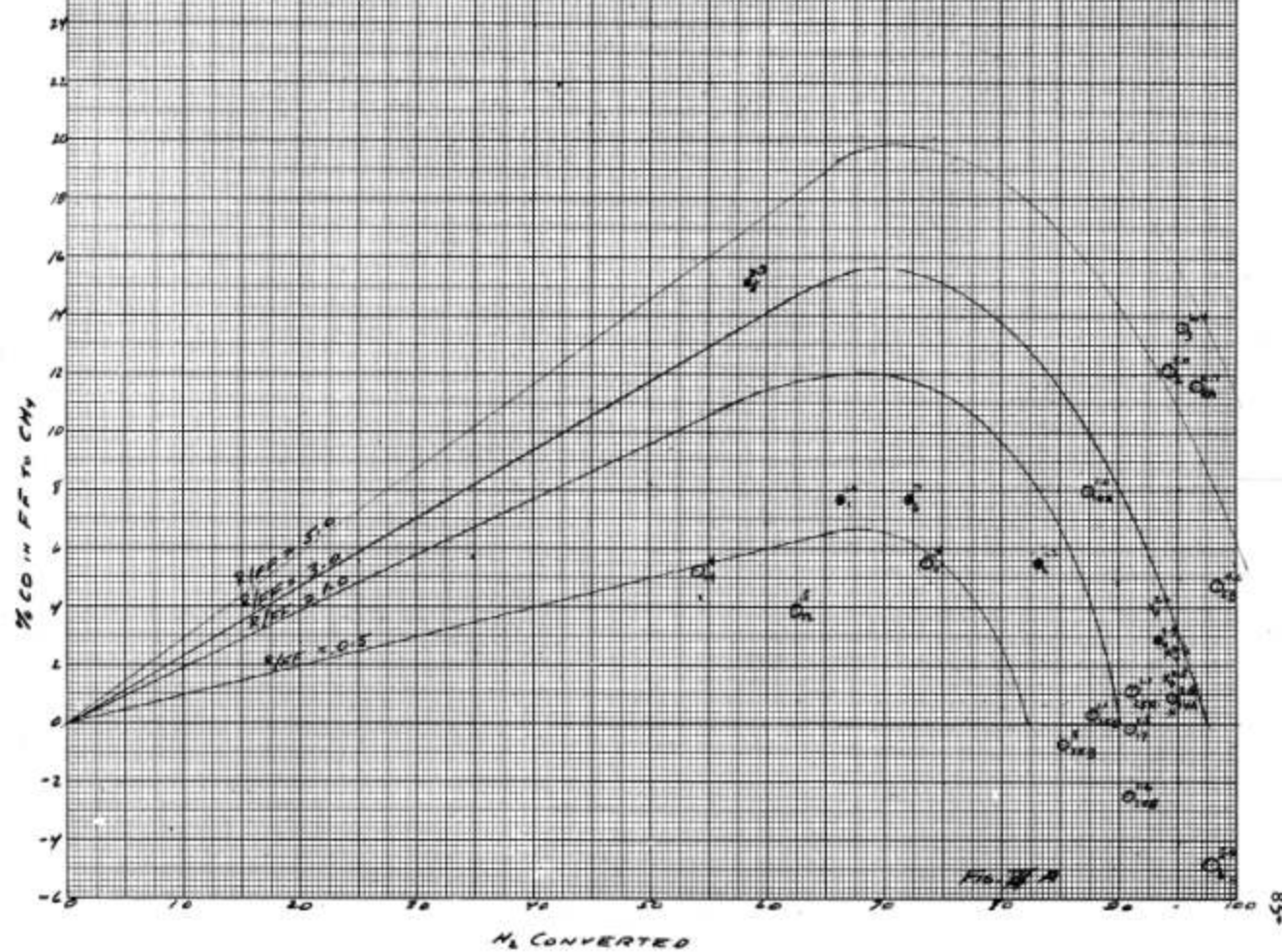


FIG VI A

Fig. 21.
H₂ CONVERSION vs. CO IN F.F. TO CH₄
BROOKS DATA
See Fig. 1 for nomenclature

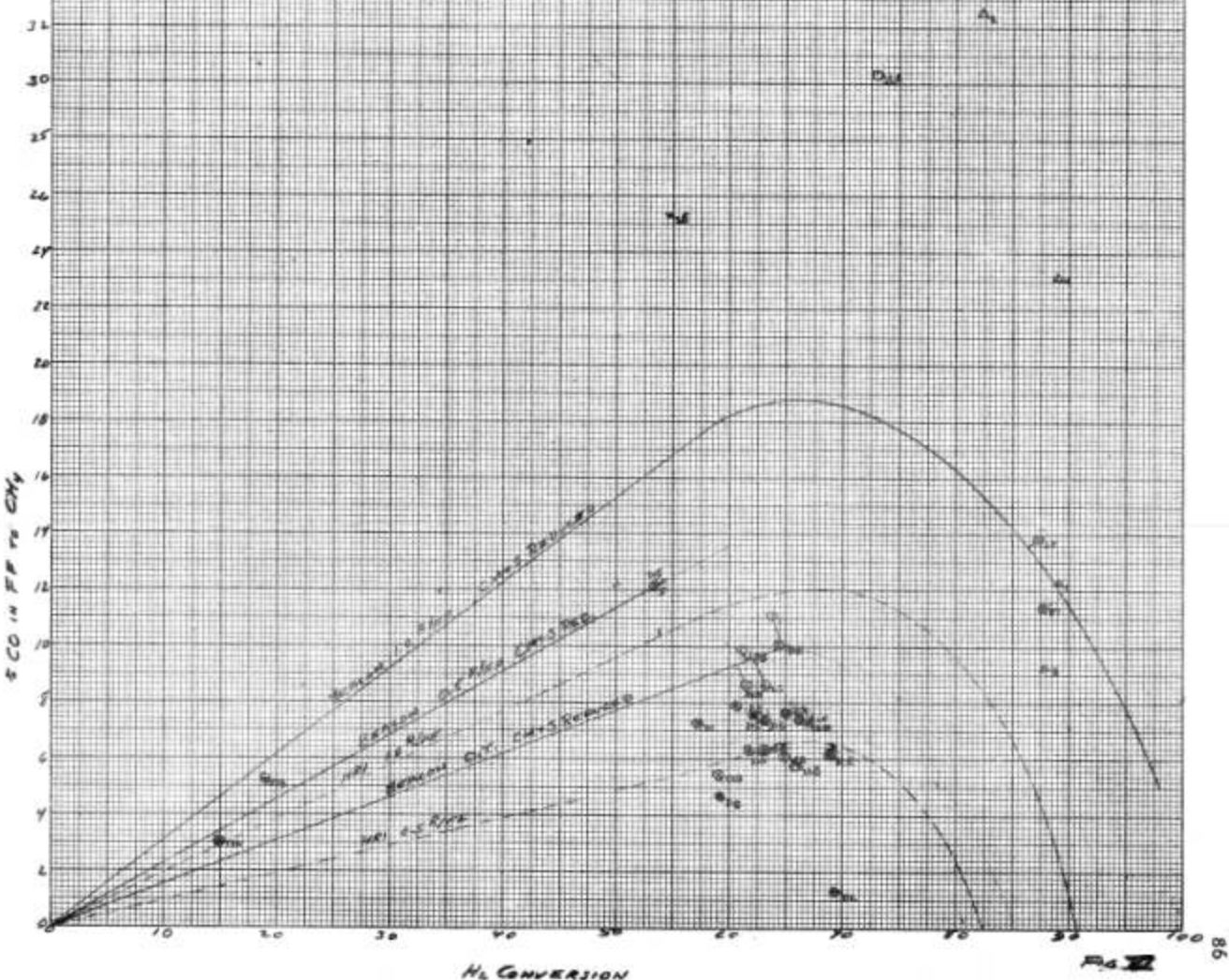


Fig. II B

H₂ CONV. vs. HYDROGEN YIELD

LAB. DATA

H₂O = 3.0

CONJ. IN PP. 25 to 30. CONJ. IN PP. 4 to 10

Pressure Ratio 25 to 30

