

Fig. 99

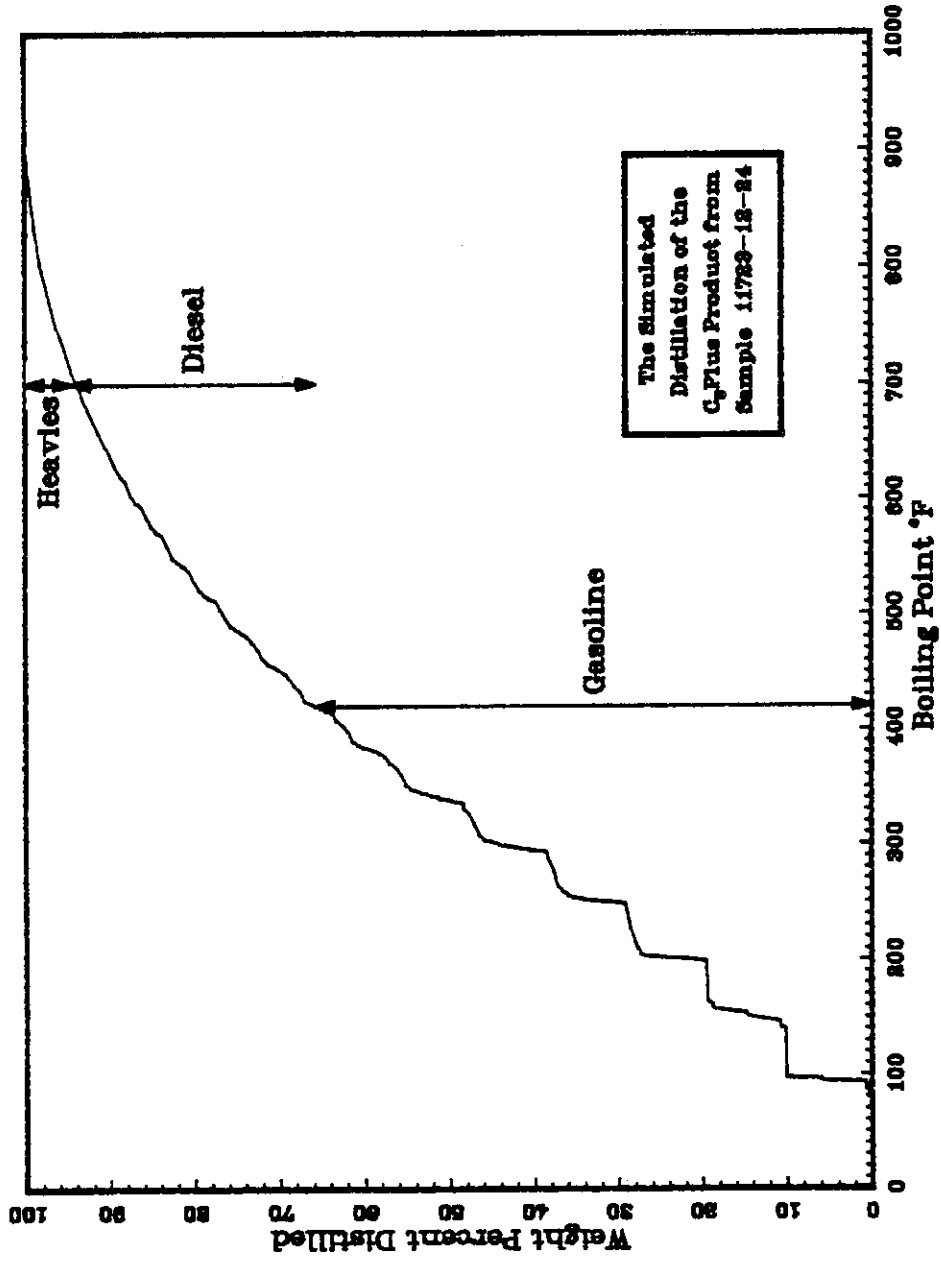


Fig. 100

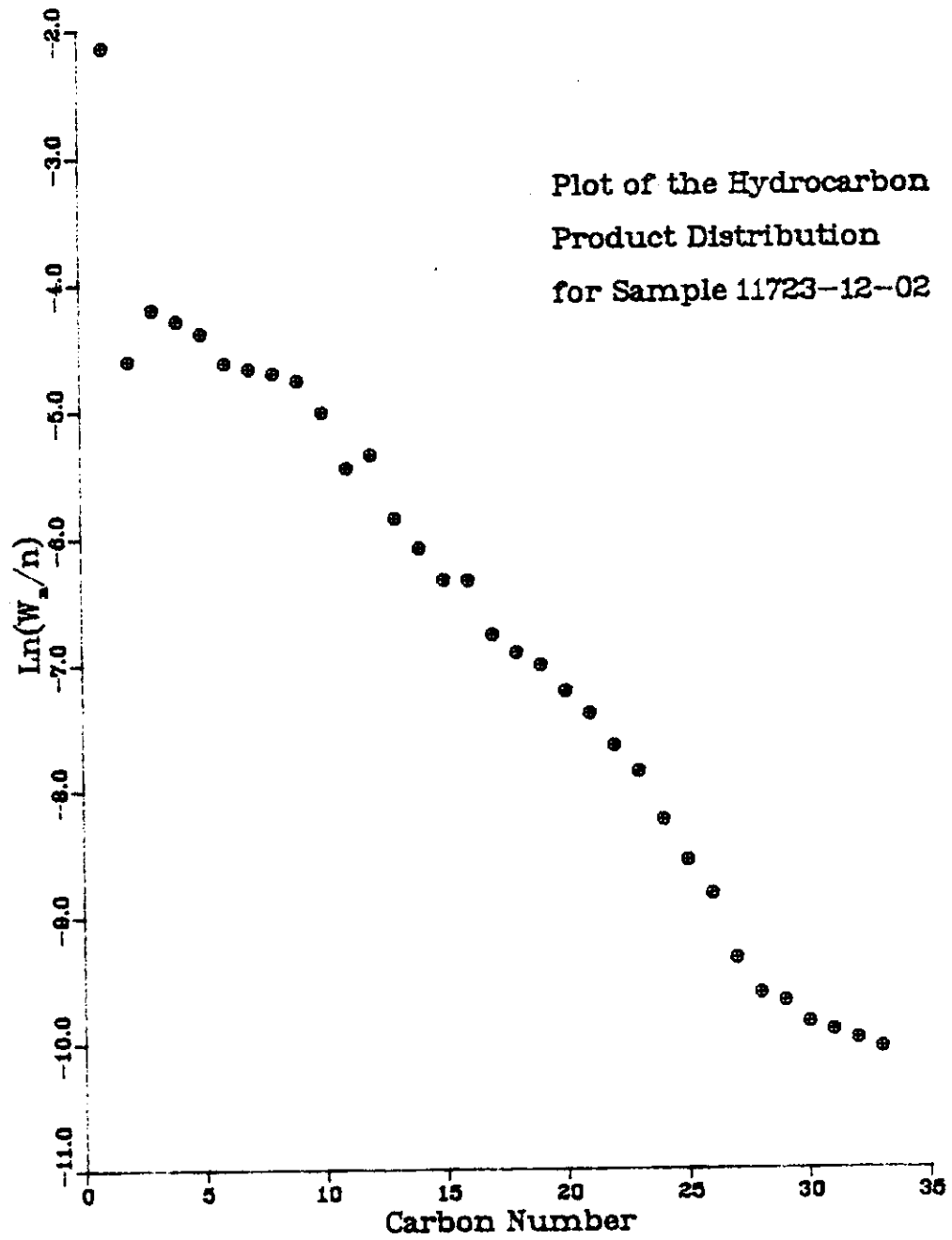


Fig. 101

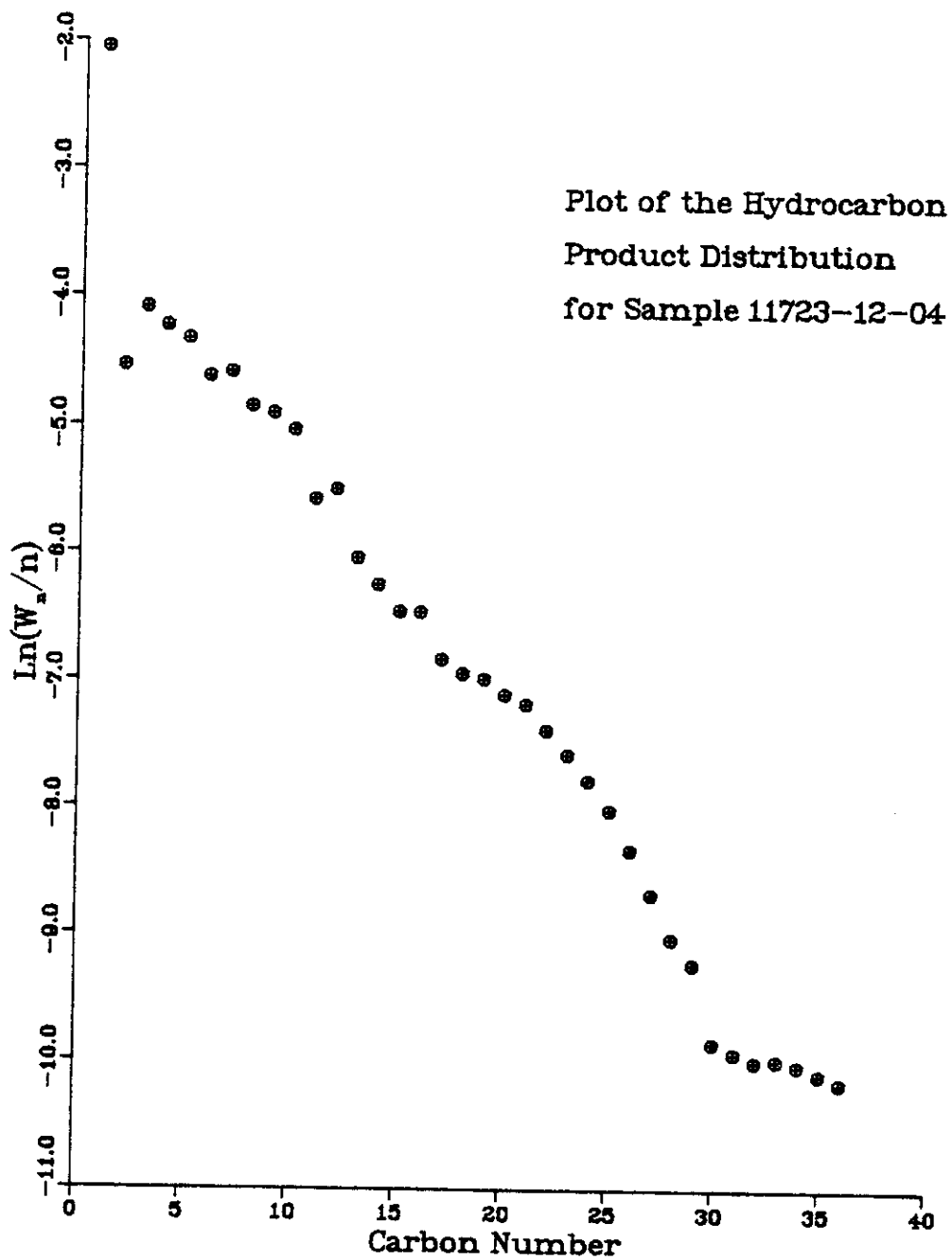


Fig. 102

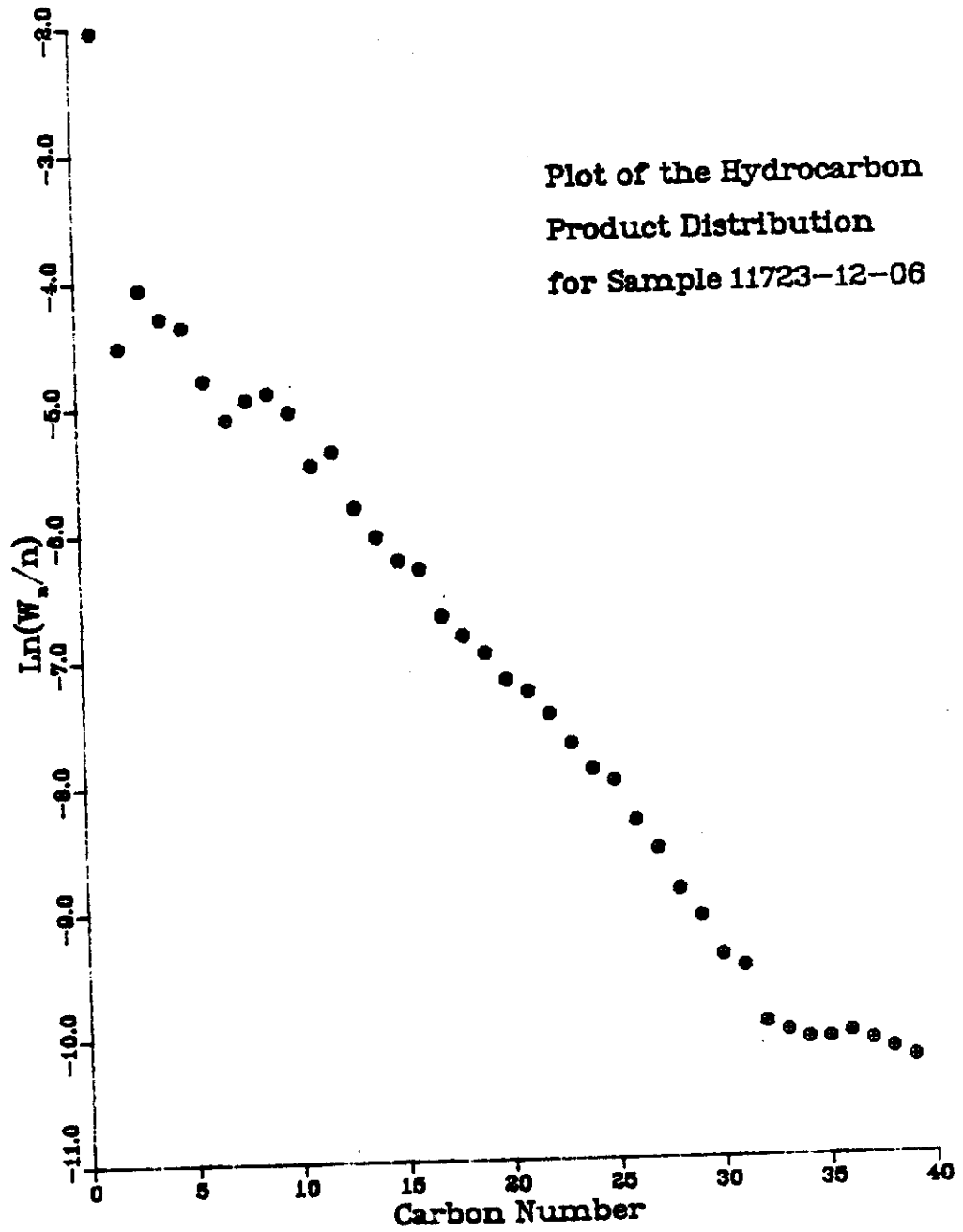


Fig. 103

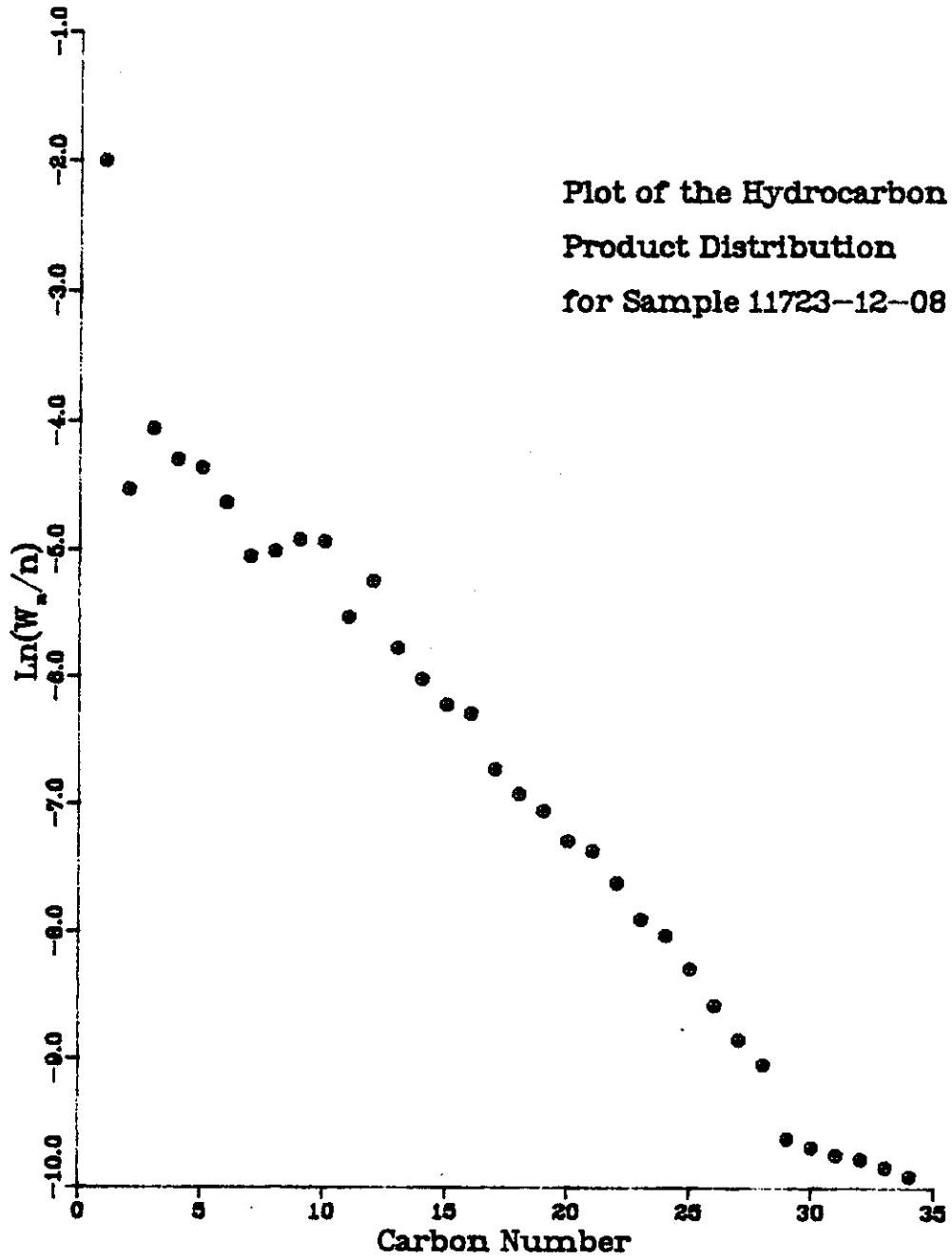


Fig. 104

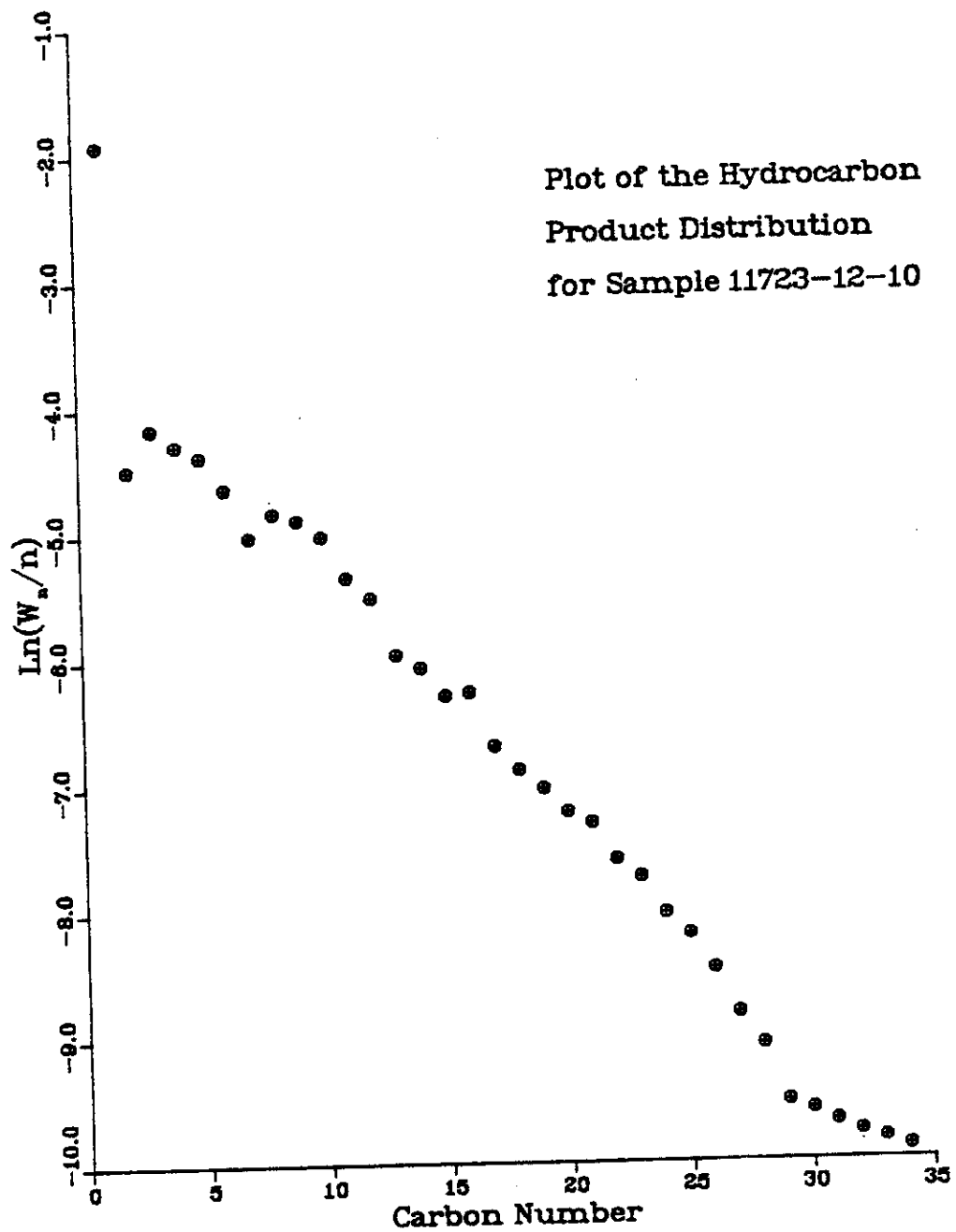


Fig. 105

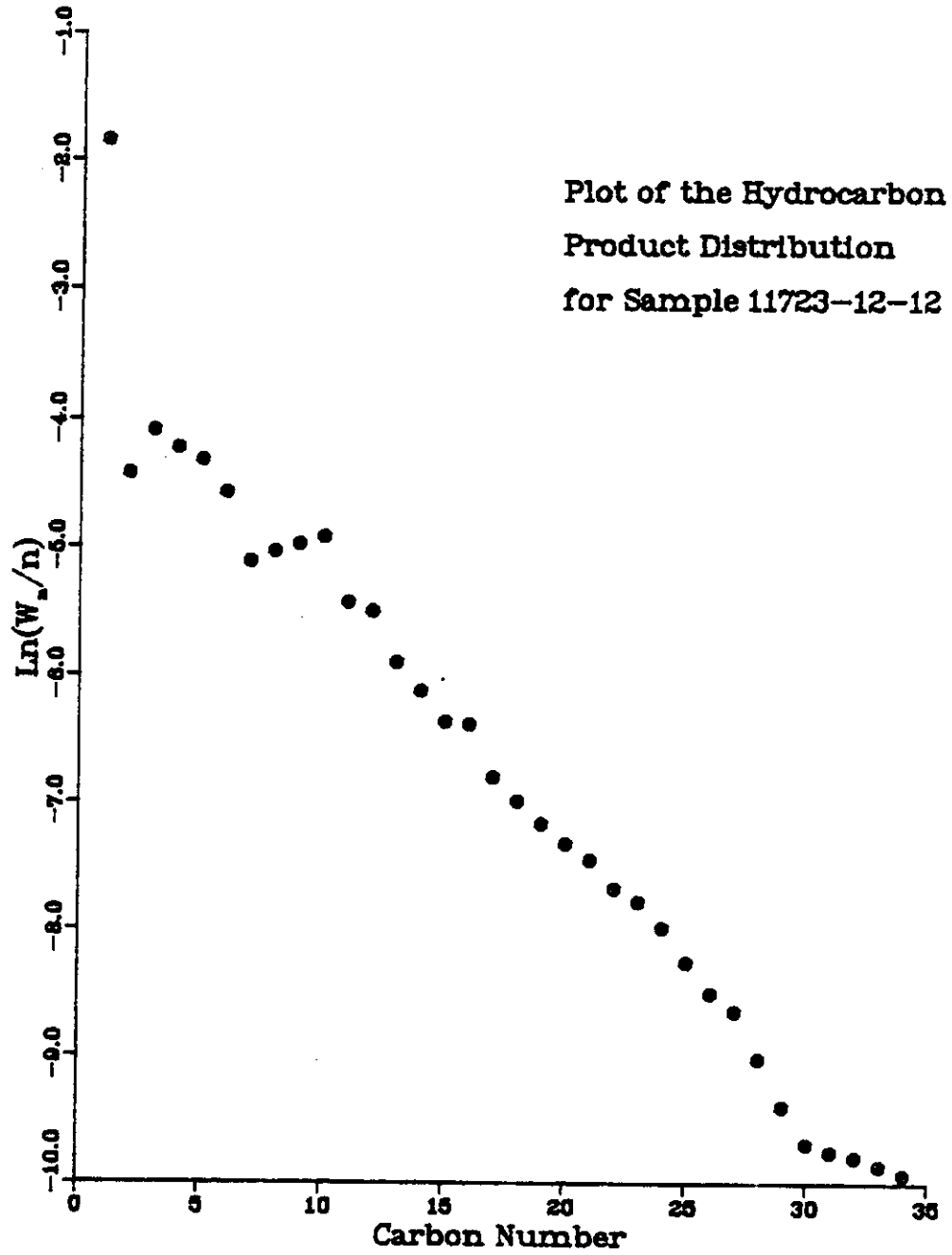


Fig. 106

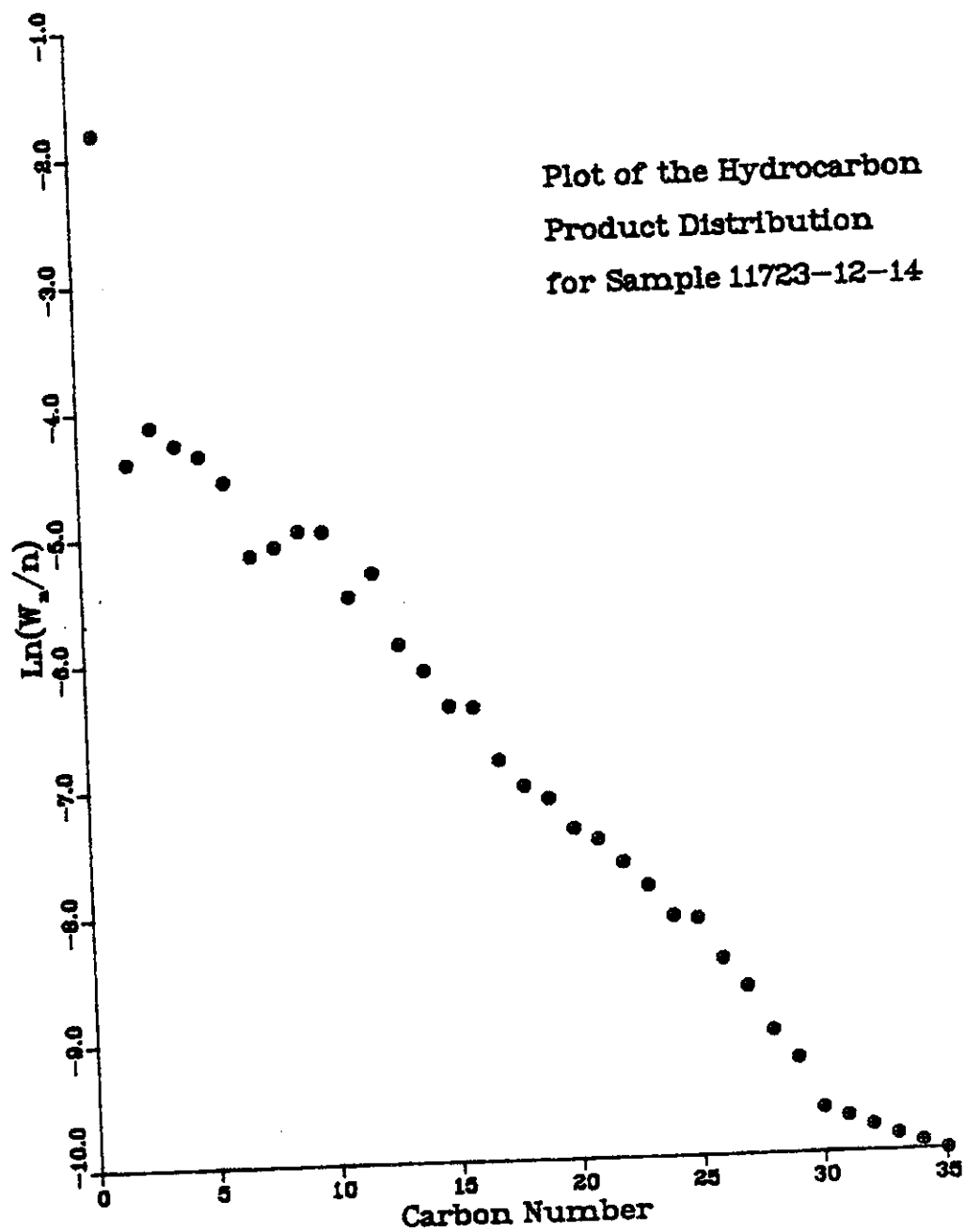




Fig. 107

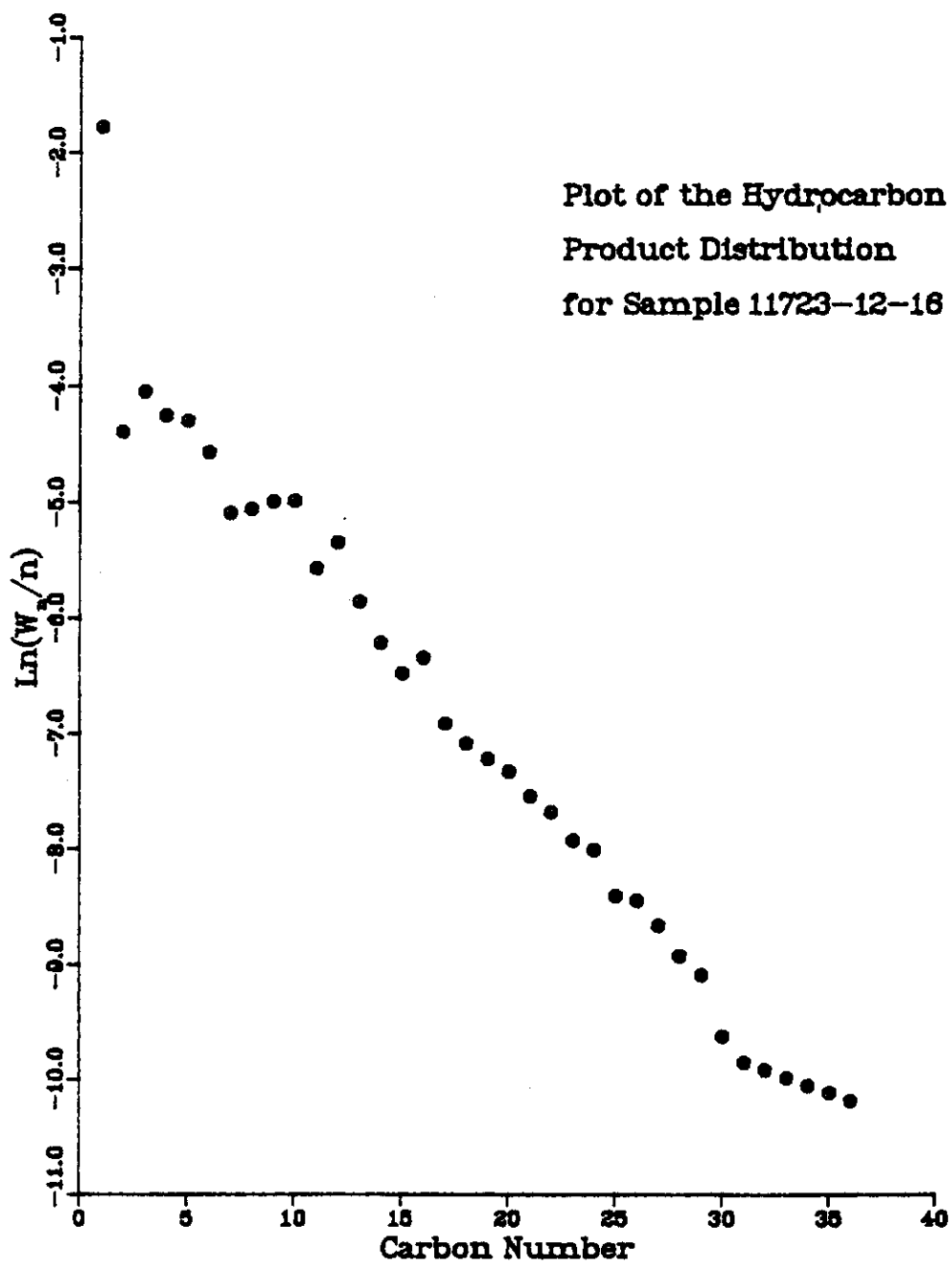


Fig. 108

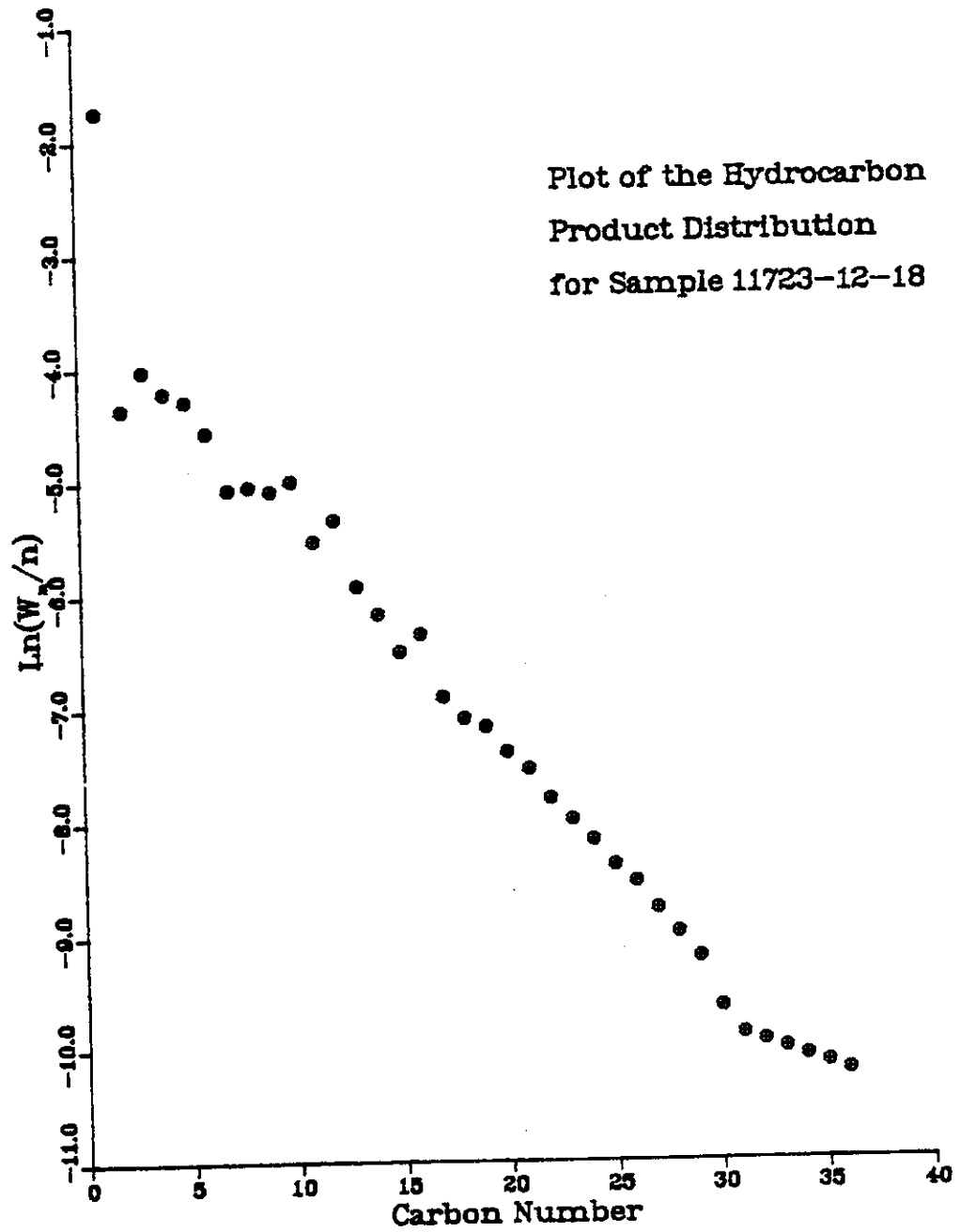


Fig. 109

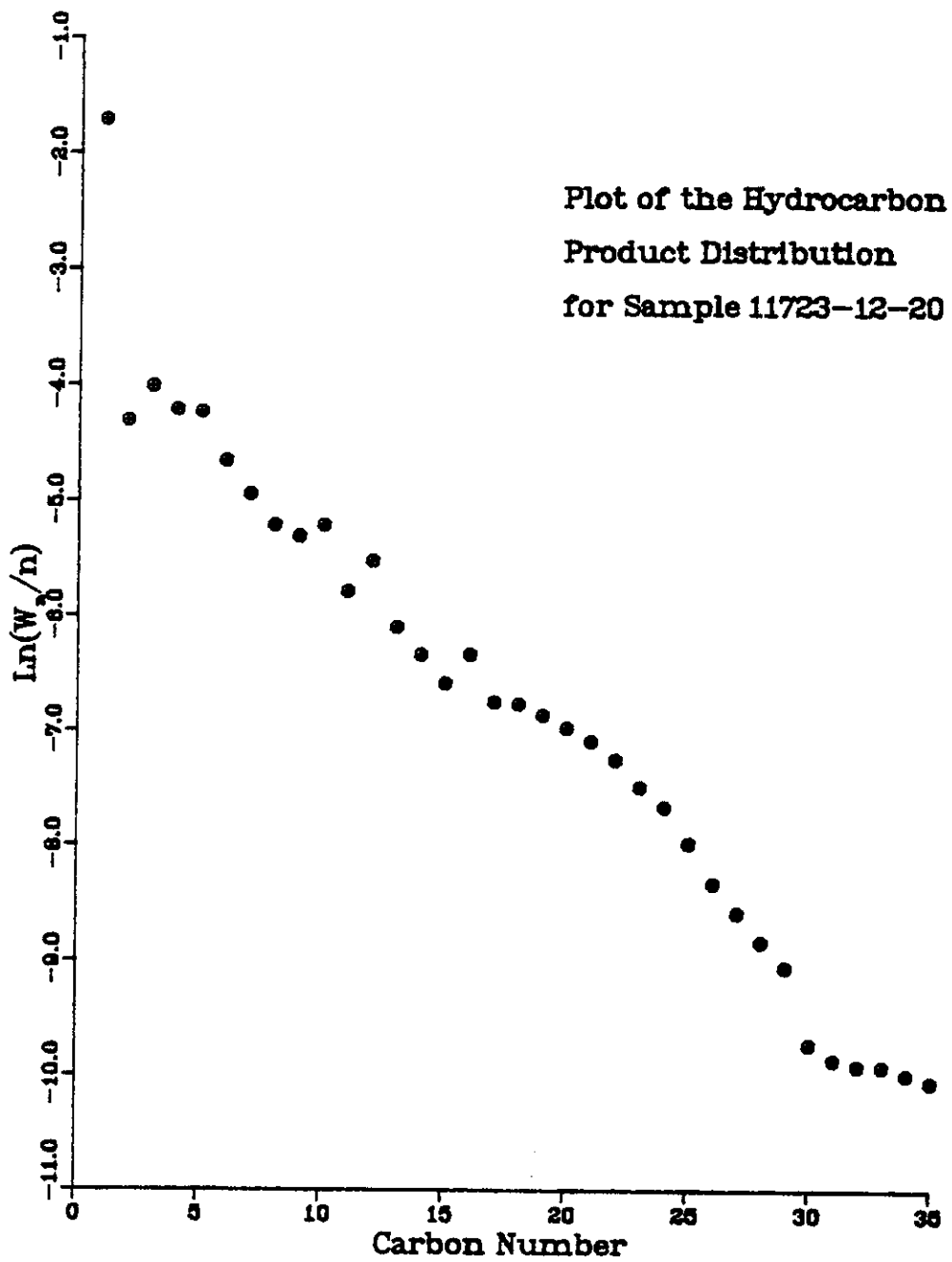


Fig. 110

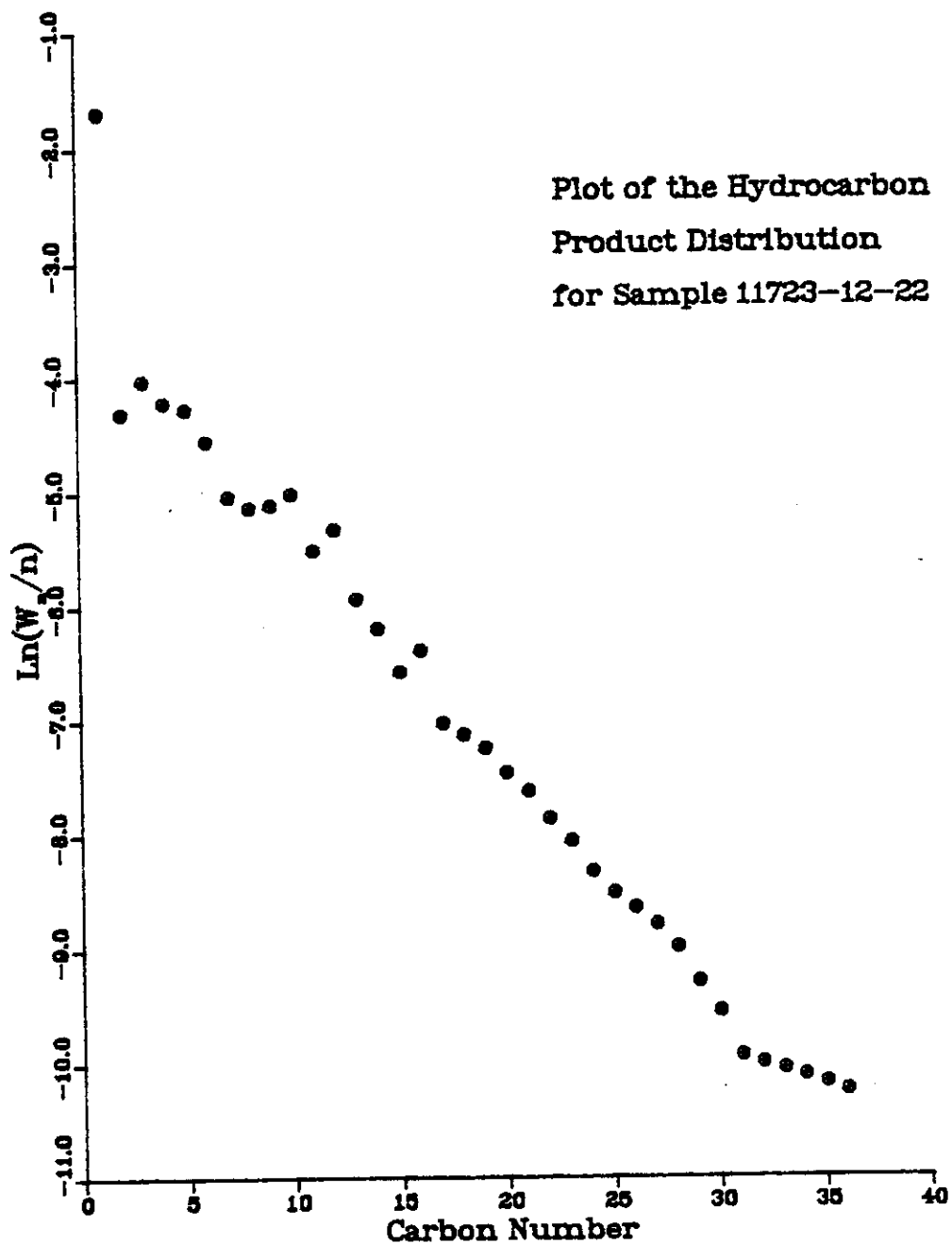


Fig. 111

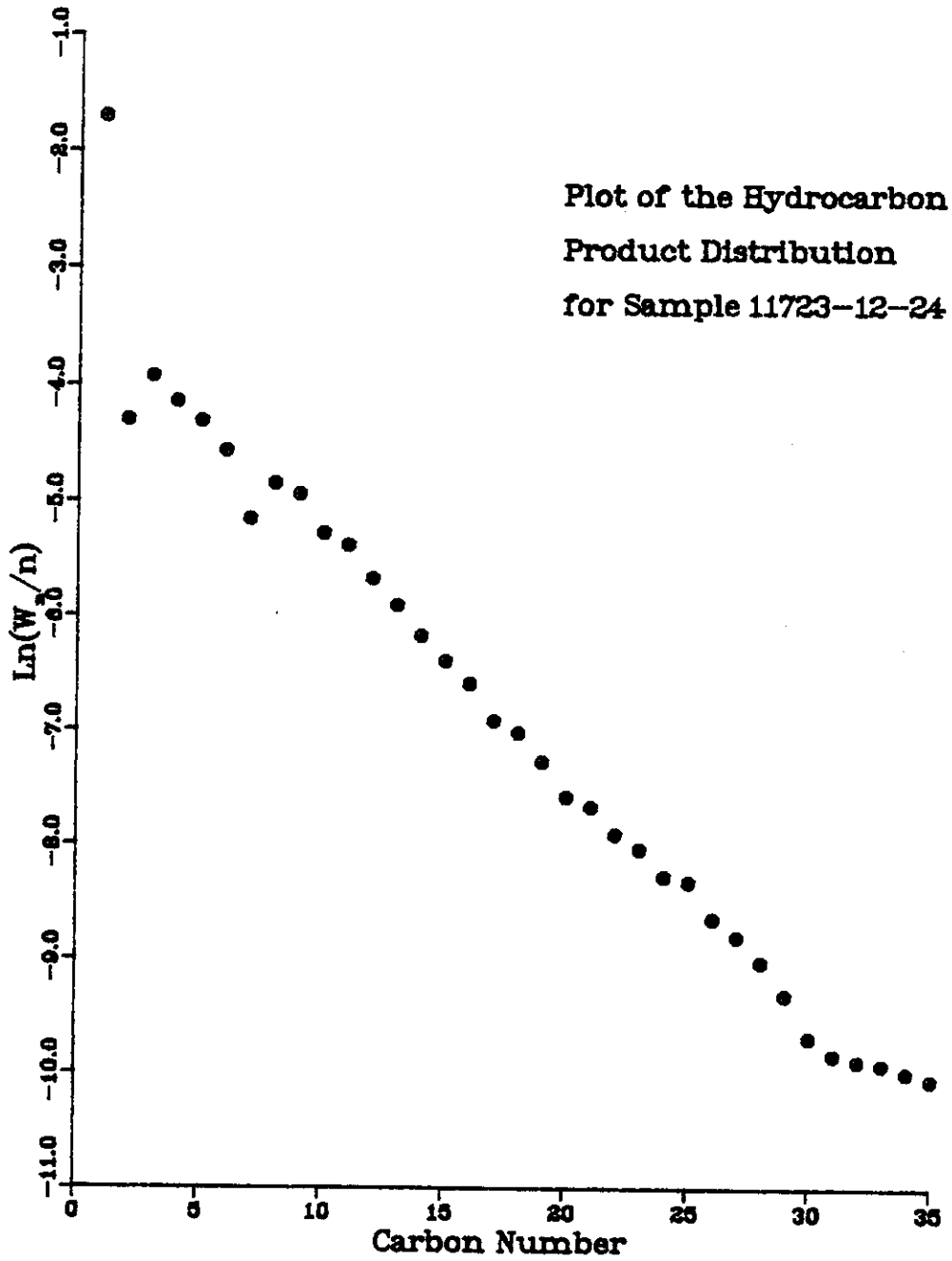


Fig. 112

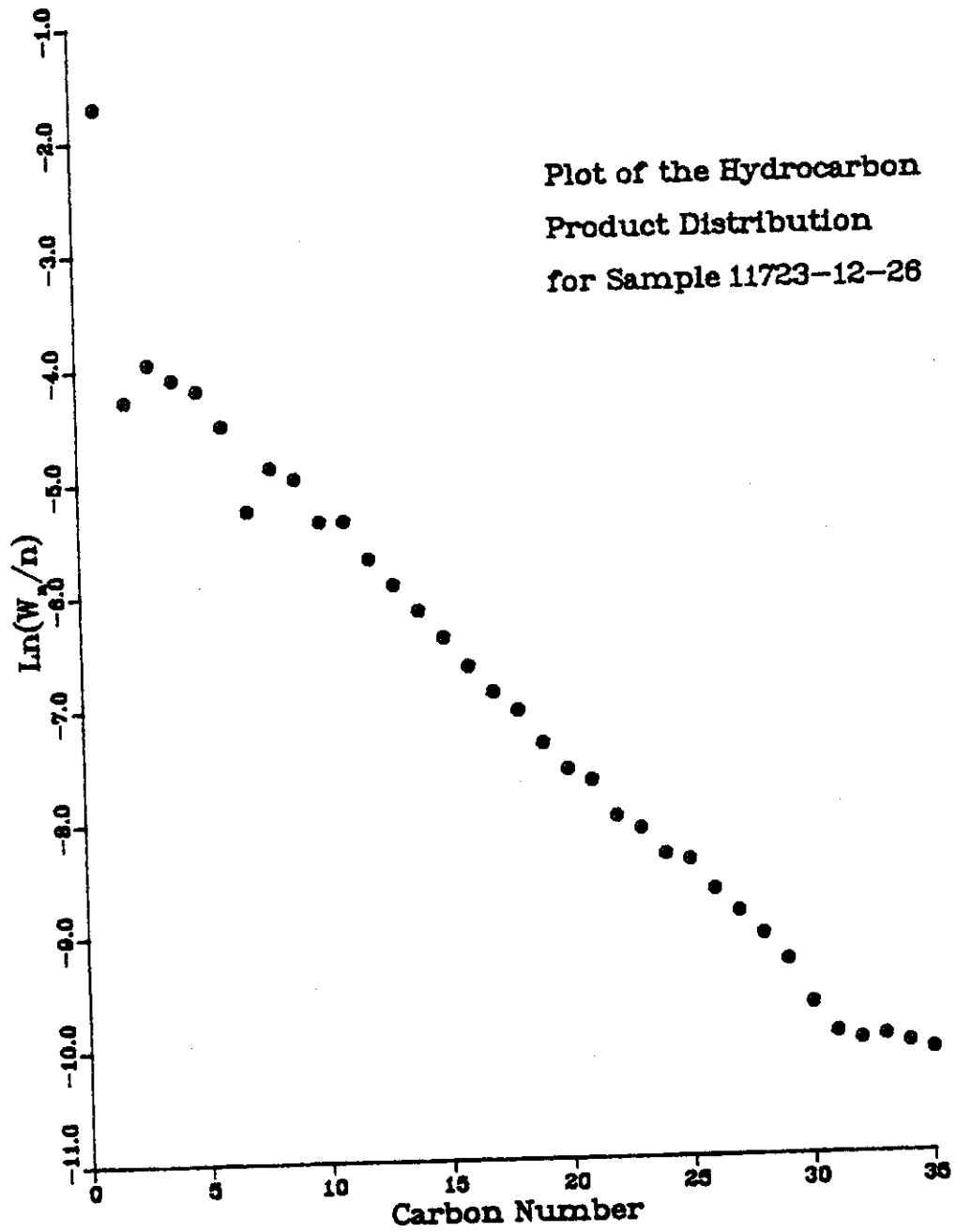


Fig. 113

OVEN TEMP NOT READY

RT: SLICED 0130

RT: OVEN TEMP=26°C SETPT=26°C LIMIT=405°C

RT: OVEN TEMP=176°C SETPT=176°C LIMIT=405°C

RT: OVEN TEMP=176°C SETPT=176°C LIMIT=405°C

RT: OVEN TEMP=276°C SETPT=276°C LIMIT=405°C

RT: OVEN TEMP=350°C SETPT=350°C LIMIT=405°C

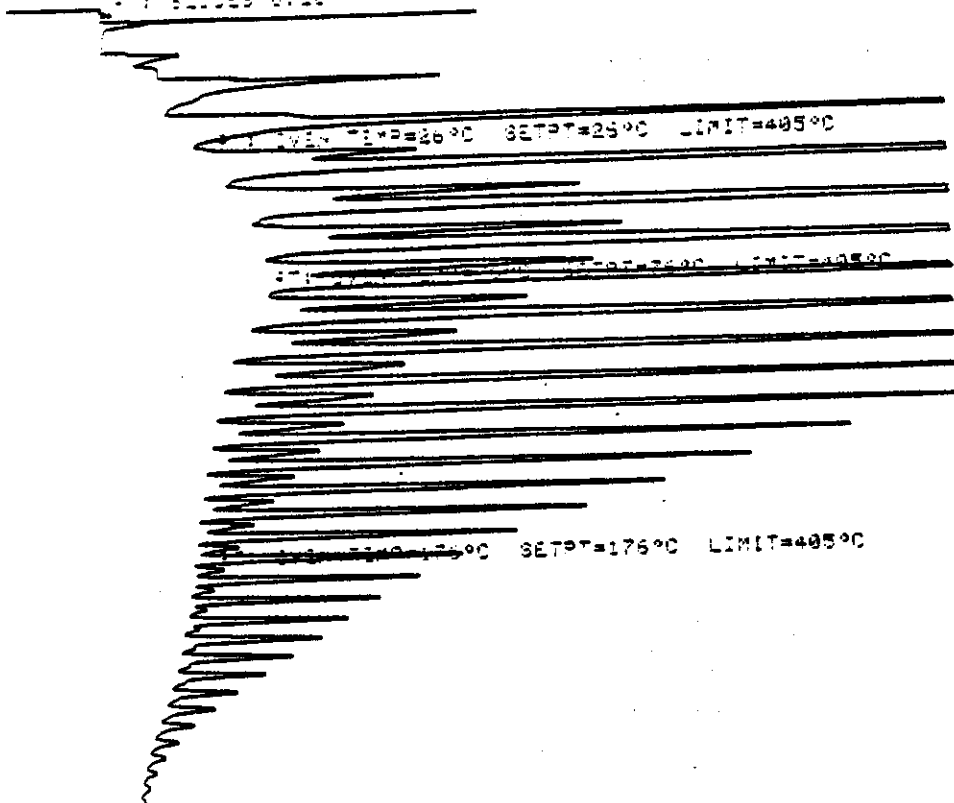
RT: STOP RUN

SAMPLE 011723-12-24

Fig. 114

OVEN TEMP NOT REACHED

RT: 81055 0.10



OVEN TEMP=26°C SETPT=25°C LIMIT=405°C

OVEN TEMP=26°C SETPT=25°C LIMIT=405°C

OVEN TEMP=175°C SETPT=176°C LIMIT=405°C

RT: OVEN TEMP=276°C SETPT=276°C LIMIT=405°C

RT: OVEN TEMP=350°C SETPT=350°C LIMIT=405°C

RT: STOP RUN

SAMPLE: 011723-12-26



Table 15

## RESULT OF SYNGAS OPERATION

RUN NO. 11723-12  
 CATALYST HiCoThU103+U101+CuZnAl2O3 250CC 120.GM (167 AFTER RUN +47 G)  
 FEED H2:CO:ARGON OF 50:50:0 @ 1260 CC/MN OR 302 GHSV

RUN & SAMPLE NO.	11723-12-01	723-12-02	723-12-03	723-12-04	723-12-05
FEED H2:CO:AR	50:50: 0	50:50: 0	50:50: 0	50:50: 0	50:50: 0
HRS ON STREAM	4.5	21.0	29.0	45.5	53.0
PRESSURE,PSIG	301	291	297	297	301
TEMP. C	266	266	266	265	265
FEED CC/MIN	1260	1260	1260	1260	1260
HOURS FEEDING	4.50	21.00	8.00	24.50	7.50
EFFLNT GAS LITER	111.70	597.80	246.95	776.60	246.40
GM AQUEOUS LAYER	43.03	200.85	77.46	237.23	71.73
GM OIL	18.01	84.05	29.76	91.15	32.28
MATERIAL BALANCE					
GM ATOM CARBON %	79.50	86.14	88.88	89.53	93.77
GM ATOM HYDROGEN %	84.95	91.11	93.60	95.35	98.08
GM ATOM OXYGEN %	92.29	93.00	96.83	96.32	98.54
RATIO CHX/(H2O+CO2)	0.7215	0.8358	0.8112	0.8347	0.8822
RATIO X IN CHX	2.2667	2.2720	2.3020	2.2951	2.3562
USAGE H2/CO PRODT	1.6690	1.8300	1.8799	1.9265	1.9231
FEED H2/CO FRM EFFLNT	1.0685	1.0577	1.0530	1.0650	1.0460
RESIDUAL H2/CO RATIO	0.3356	0.3529	0.3732	0.3947	0.3787
RATIO CO2/(H2O+CO2)	0.2299	0.1484	0.1419	0.1195	0.1172
K SHIFT IN EFFLNT	0.1002	0.0615	0.0617	0.0536	0.0503
SPECIFIC ACTIVITY SA	3.4199	2.6676	2.1852	2.0228	2.0544
CONVERSION					
ON CO %	54.96	47.71	45.12	43.76	43.21
ON H2 %	85.85	82.55	80.55	79.15	79.44
ON CO+H2 %	70.92	65.62	63.29	62.01	61.73
PRDT SELECTIVITY,WT %					
CH4	11.11	11.82	13.03	12.82	12.68
C2 HC'S	1.85	2.01	2.17	2.14	2.08
C3H8	2.39	2.47	2.85	2.71	2.69
C3H6=	1.91	2.05	2.33	2.30	2.00
C4H10	2.24	1.88	2.17	2.08	2.08
C4H8=	3.45	3.65	4.02	3.75	3.42
C5H12	3.06	2.30	2.64	2.44	2.27
C5H10=	3.50	3.95	4.31	4.13	4.23
C6H14	3.70	2.37	2.56	2.48	2.50
C6H12= & CYCLO'S	2.50	3.32	3.29	3.29	3.32
C7+ IN GAS	9.96	12.62	11.74	13.13	8.96
LIQ HC'S	54.31	51.55	48.89	48.73	53.79
TOTAL	100.00	100.00	100.00	100.00	100.00

Table 15 (continued)

SUB-GROUPING					
C1 -C4	22.96	23.88	26.57	25.80	24.95
C5 -420 F	50.50	50.92	47.19	48.05	46.21
420-700 F	23.09	21.92	20.91	20.84	23.00
700-END PT	3.45	3.28	5.33	5.31	5.84
C5+-END PT	77.04	76.12	73.43	74.20	75.05
ISO/NORMAL MOLE RATIO					
C4	0.3168	0.1067	0.0825	0.0785	0.0708
C5	0.6493	0.1864	0.1620	0.1340	0.0902
C6	1.2199	0.3674	0.3277	0.2812	0.2250
C4=	0.0411	0.0535	0.0548	0.0552	0.0611
PARAFFIN/OLEFIN RATIO					
C3	1.1922	1.1466	1.1702	1.1246	1.2830
C4	0.6270	0.4983	0.5213	0.5350	0.5875
C5	0.8491	0.5665	0.5943	0.5743	0.5207
SCHULZ-FLORY DISTRBTN					
ALPHA (EXP(SLOPE))		0.8137	0.8334	0.8317	
RATIO CH4/(1-A)**2		3.4065	4.6982	4.5288	
LIQ HC COLLECTION					
PHYS. APPEARANCE		OIL BL		OIL BL	
DENSITY		0.7536		0.7603	
N, REFRACTIVE INDEX		1.4269		1.4281	
SIMULT'D DISTILATN					
10 WT % @ DEG F		257		259	
16		289		300	
50		416		445	
84		613		661	
90		662		709	
RANGE(16-84 %)		324		361	
WT % @ 420 F	51.13	51.12	46.33	46.33	46.38
WT % @ 700 F	93.64	93.64	89.10	89.10	89.15

NEW FORMAT AUG 29,84

Table 16

## RESULT OF SYNGAS OPERATION

RUN NO. 11723-12  
 CATALYST HiCoThU103+U101+CuZnAl2O3 250CC 120 GM (167 AFTER RUN +47 G)  
 FEED H2:CO:ARGON OF 50:50:0 @ 1260 CC/MN OR 302 GHSV

RUN & SAMPLE NO.	11723-12-06	723-12-07	723-12-08	723-12-09	723-12-10
FEED H2:CO:AR	50:50:0	50:50:0	50:50:0	50:50:0	50:50:0
HRS ON STREAM	69.5	77.0	94.5	100.0	117.0
PRESSURE, PSIG	297	301	301	302	295
TEMP. C	265	265	265	265	265
FEED CC/MIN	1260	1260	1260	1260	1260
HOURS FEEDING	24.00	7.50	25.00	5.50	22.50
EFFLNT GAS LITER	796.60	254.45	879.30	202.85	846.00
GM AQUEOUS LAYER	229.54	69.23	230.75	45.57	194.62
GM OIL	103.29	30.37	101.22	20.60	84.28
MATERIAL BALANCE					
GM ATOM CARBON %	93.15	93.01	93.14	94.66	93.27
GM ATOM HYDROGEN %	98.36	95.36	98.98	96.08	99.23
GM ATOM OXYGEN %	97.99	97.91	97.65	97.23	97.61
RATIO CHX/(H2O+CO2)	0.8787	0.8731	0.8827	0.9271	0.8804
RATIO X IN CHX	2.3667	2.3079	2.3114	2.3336	2.3333
USAGE H2/CO PRDCT	1.9714	1.9533	1.9638	1.9078	1.9804
FEED H2/CO FRM EFFLNT	1.0559	1.0253	1.0627	1.0150	1.0638
RESIDUAL H2/CO RATIO	0.3901	0.3942	0.4518	0.4563	0.5053
RATIO CO2/(H2O+CO2)	0.1035	0.1023	0.0967	0.1076	0.0952
K SHIFT IN EFFLNT	0.0450	0.0449	0.0484	0.0550	0.0531
SPECIFIC ACTIVITY SA	1.9356	1.7803	1.4614	1.3382	1.1607
CONVERSION					
ON CO %	42.10	40.47	40.40	38.49	37.86
ON H2 %	78.61	77.11	74.66	72.35	70.48
ON CO+H2 %	60.85	59.02	58.05	55.55	54.68
PRDT SELECTIVITY, WT %					
CH4	13.07	13.42	13.54	14.65	14.68
C2 HC'S	2.18	2.20	2.16	2.28	2.27
C3H8	2.85	2.87	2.97	2.89	2.86
C3H6=	2.34	2.02	2.22	2.00	1.82
C4H10	2.20	2.15	2.19	2.28	2.36
C4H8=	3.30	3.45	3.24	3.30	3.11
C5H12	2.28	2.22	2.43	2.44	2.44
C5H10=	4.09	4.14	3.95	4.20	3.80
C6H14	2.48	2.58	2.59	2.88	2.70
C6H12= & CYCLO'S	2.49	3.50	3.26	3.34	3.09
C7+ IN GAS	7.93	7.56	7.94	8.40	8.27
LIQ HC'S	54.78	53.88	53.52	51.35	52.61
TOTAL	100.00	100.00	100.00	100.00	100.00

Table 16 (continued)

SUB-GROUPING					
C1 -C4	25.94	26.12	26.32	27.40	27.09
C5 -420 F	44.69	46.52	46.50	46.58	46.26
420-700 F	23.43	23.05	22.89	21.66	22.18
700-END PT	5.94	4.31	4.28	4.37	4.47
C5+-END PT	74.06	73.88	73.68	72.60	72.91
ISO/NORMAL MOLE RATIO					
C4	0.0964	0.0627	0.0868	0.0615	0.0540
C5	0.0833	0.0883	0.0783	0.0763	0.0710
C6	0.2348	0.2045	0.2080	0.1932	0.1731
C4=	0.0642	0.0625	0.0649	0.0620	0.0659
PARAFFIN/OLEFIN RATIO					
C3	1.1606	1.3591	1.2757	1.3764	1.4988
C4	0.6441	0.6024	0.6517	0.6678	0.7315
C5	0.5424	0.5199	0.5975	0.5634	0.6249
SCHULZ-FLORY DISTRBTN					
ALPHA (EXP(SLOPE))	0.8350	0.8588	0.8257	0.8687	0.8276
RATIO CH4/(1-A)**2	4.8028	6.7301	4.4580	8.5023	4.9365
LIQ HC COLLECTION					
PHYS. APPEARANCE	CLDY/SLD		OIL BL		OIL/SLD
DENSITY	0.7584		0.7564		0.7548
N, REFRACTIVE INDEX	1.4276		1.4265		1.4265
SIMULT'D DISTILATN					
10 WT % @ DEG F	261		260		258
16	301		300		292
50	442		427		424
84	652		625		629
90	711		678		684
RANGE(16-84 %)	351		325		337
WT % @ 420 F	46.38	49.22	49.22	49.33	49.33
WT % @ 700 F	89.15	92.00	92.00	91.50	91.50

NEW FORMAT AUG 29,84