SUB-GROUPING					
C1 -C4	41.27	40.70	40.88	40.41	40.22
C5 -420 F	46.49	47.03	46.97	46.75	46.95
420-700 F	11.07	11.10	10.99	11.73	11.72
700-END PT	1.17	1.17	1.16	1.11	1.11
C5+-END PT	58.73	59.30	59.12	59.59	59.78
ISO/NORMAL MOLE RATIO					
C4	0.0380	0.0385	0.0385	0.0346	0.0370
C5	0.0938	0.0921	0.0921	0.0923	0.0888
C6	0.1728	0.1784	0.1784	0.1515	0.1375
C4=	0.1451	0.1497	0.1497	0.1470	0.1452
PARAFFIN/OLEFIN RATIO					
C3	3.1441	3.1862	3.1862	2.9772	2.9689
C4	1.2027	1.2585	1.2585	1.2501	1.2081
C5	1.3282	1.3480	1.3480	1.3461	1.4032
SCHULZ-FLORY DISTRBTN					
ALPHA (EXP(SLOPE))	0.7750		0.7748		0.7756
RATIO CH4/(1-)**2	4.2963		4.3098		4.2356
LIQ HC COLLECTION					
PHYS. APPEARANCE	CLR OIL		CLR OIL		CLR OIL
DENSITY	0.714		.743 .726		0.712
N, REFRACTIVE INDEX	1.4192		1.4195		1.4191
SIMULT'D DISTILATN					
10 WT % @ DEG F	257		256		257
16	290		285		296
50	392		387		398
84	557		547		557
90	614		607		612
RANGE(16-84 %)	267		262		261
WT % @ 420 F	59.25	61.00	61.00	59.00	59.00
WT % @ 700 F	96.09	96.27	96.27	96.45	96.45

TABLE 15 RESULT OF SYNGAS OPERATION

RUN NO. 11723-03
CATALYST CO/TH+UCC-103+UCC-108 #11684-330 80 CC 37.6 GM
FEED H2:CO:ARGON OF 50:50: 0 @ 400 CC/MN OR 300 GHSV

	11723-03-16	723-03-17	723-03-18	723-03-19
FEED H2:CO:AR	50:50: 0	50:50: 0	50:50: 0	50:50: 0
HRS ON STREAM	197.6	215.5	222.5	239.5
PRESSURE,PSIG	305	309	300	305
TEMP. C	269	269	268	269
FEED CC/MIN	400	400	400	400
HOURS FEEDING	6.80	24.75	7.00	24.00
EFFLNT GAS LITER	75.95	277.40	69.90	273.10
GM AQUEOUS LAYER	18.34	66.74	18.84	64.59
GM OIL	5.52	20.11	5.89	20.18
MATERIAL BALANCE				
GM ATOM CARBON %	92.32	92.49	83.43	93.97
GM ATOM HYDROGEN %	98.68	98.79	92.53	100.24
GM ATOM OXYGEN %	94.10	94.28	87.06	94.79
RATIO CHX/(H2O+CO2)	0.9513	0.9508	0.8981	0.9774
RATIO X IN CHX	2.5168	2.5231	2.4971	2.5151
USAGE H2/CO PRODT	1.8931	1.8972	1.9078	1.9099
RATIO CO2/(H2O+CO2)	0.1210	0.1205	0.1069	0.1171
K SHIFT IN EFFLNT	0.06	0.06	0.05	0.06
CONVERSION				
ON CO %	42.40	42.26	42.94	42.29
ON H2 %	76.80	76.77	77.61	76.50
ON CO+H2 %	60.17	60.08	61.17	59.95
PROT SELECTIVITY,WT %				
CH4	21.22	21.32	20.57	20.90
C2 HC'S	3.95	4.42	3.81	4.29
C3H8	5.05	5.08	4.74	5.06
C3H6=	1.65	1.80	1.53	1.75
C4H10	4.46	4.49	4.29	4.79
C4H8=	3.45	3.38	3.23	3.70
C5H12	5.00	5.08	4.61	5.10
C5H10=	3.46	3.51	3.14	3.48
C6H14	5.15	5.08	4.74	4.93
C6H12= & CYCLO'S	2.46	2.43	1.65	1.82
C7+ IN GAS	11.58	10.82	11.09	11.19
LIQ HC'S	32.57	32.59	36.61	32.99
TOTAL	100.00	100.00	100.00	100.00

SUB-GROUPING				
C1 -C4	39.78	40.48	38.16	40.50
C5 -420 F	47.09	46.37	46.53	45.70
420-700 F	12.00	12.01	13.85	12.48
700-END PT	1.13	1.13	1.46	1.32
C5+-END PT	60.22	59.52	61.84	59.50
ISO/NORMAL MOLE RATIO				
C4	0.0352	0.0371	0.0342	0.0613
C5	0.0918	0.0871	0.0905	0.0951
C6	0.1408	0.1445	0.1391	0.1416
C4=	0.1476	0.1484	0.1511	0.1617
PARAFFIN/OLEFIN RATIO				
C3	2.9221	2.6930	2.9661	2.7584
C4	1.2459	1.2840	1.2810	1.2508
C5	1.4053	1.4050	1.4305	1.4250
SCHULZ-FLORY DISTRBTN				
ALPHA (EXP(SLOPE))		0.7767		0.7788
RATIO CH4/(1-)**2		4.2755		4.2735
LIQ HC COLLECTION				
PHYS. APPEARANCE		CLR OIL		CLR OIL
DENSITY		.745 .730		.746 .739
N, REFRACTIVE INDEX		1.4194		1.4199
SIMULT'D DISTILATN				
10 WT % @ DEG F		257		257
16		296		298
50		388		401
84		551		563
90		606		619
RANGE(16-84 %)		255		265
WT % @ 420 F	59.67	59.67	58.17	58.17
WT % @ 700 F	96.52	96.52	96.00	96.00

TABLE 16 RESULT OF SYNGAS OPERATION

RUN NO. 10225-07
CATALYST CO/TH +UCC-108 #10252-44C 80 CC 51.9GM (59.0 AFTER RUN +7. G)
FEED H2:CO:ARGON OF 50:50: 0 @ 400 CC/MN OR 300 GHSV

RUN & SAMPLE NO.	10225-07-01	225-07-02	225-07-03	225-07-04	225-07-05
FEED H2:CO:AR	50:50: 0	50:50: 0	50:50: 0	50:50: 0	50:50: 0
HRS ON STREAM	23.75	30.0	48.08	55.08	72.0
PRESSURE,PSIG	295	299	300	298	300
TEMP. C	273	273	269	269	269
FEED CC/MIN	400	400	400	400	400
HOURS FEEDING	23.75	6.25	24.33	7.00	23.92
EFFLNT GAS LITER	182.05	48.00	193.65	57.70	199.80
GM AQUEOUS LAYER	56.58	20.29	79.01	23.42	80.01
GM OIL	31.51	10.14	39.48	11.05	37.75
MATERIAL BALANCE					
GM ATOM CARBON %	87.71	91.46	90.71	91.90	92.27
GM ATOM HYDROGEN %	86.06	99.43	95.97	97.87	98.68
GM ATOM OXYGEN %	89.64	98.29	95.62	98.18	97.84
RATIO CHX/(H2O+CO2)	0.9568	0.8719	0.8977	0.8725	0.8855
RATIO X IN CHX	2.3926	2.3571	2.3213	2.3367	2.3489
USAGE H2/CO PRODT	1.3068	1.4113	1.5728	1.5808	1.6127
RATIO CO2/(H2O+CO2)	0.3755	0.2931	0.2136	0.2090	0.1989
K SHIFT IN EFFLNT	0.15	0.10	0.06	0.06	0.06
CONVERSION					
ON CO %	68.09	67.95	58.83	57.89	57.10
ON H2 %	92.15	93.05	91.48	91.00	90.65
ON CO+H2 %	80.00	81.03	75.61	74.97	74.44
PRDT SELECTIVITY,WT %					
CH4	18.25	16.73	15.20	15.96	16.56
C2 HC'S	2.39	2.20	2.01	2.07	2.16
C3H8	2.74	2.36	1.97	2.01	2.02
C3H6=	2.81	2.79	2.88	2.76	2.65
C4H10	1.88	1.65	1.39	1.43	1.44
C4H8=	4.63	4.44	4.08	4.17	3.94
C5H12	1.85	1.66	1.39	1.45	1.47
C5H10=	4.77	4.41	4.15	4.26	4.06
C6H14	2.19	1.92	1.63	1.68	1.74
C6H12= & CYCLO'S	2.49	2.57	2.79	2.85	2.85
C7+ IN GAS	12.56	10.17	9.40	9.52	9.44
LIQ HC'S	43.44	49.10	53.12	51.84	51.67
TOTAL	100.00	100.00	100.00	100.00	100.00

SUB-GROUPING					
C1 -C4	32.71	30.17	27.53	28.39	28.77
C5 -420 F	49.05	46.10	46.80	46.06	45.76
420-700 F	16.40	21.59	23.36	23.15	23.07
700-END PT	1.85	2.14	2.32	2.41	2.40
C5+-END PT	67.29	69.83	72.47	71.61	71.23
ISO/NORMAL MOLE RATIO					
C4	0.0458	0.0439	0.0362	0.0400	0.0351
C5	0.1159	0.1243	0.0862	0.0858	0.0838
C6	0.2050	0.2148	0.1454	0.1455	0.1421
C4=	0.0000	0.0000	0.0000	0.0000	0.0000
PARAFFIN/OLEFIN RATIO					
C3	0.9307	0.8072	0.6526	0.6964	0.7281
C4	0.3928	0.3584	0.3288	0.3312	0.3526
C5	0.3769	0.3660	0.3268	0.3317	0.3531
LIQ HC COLLECTION					
PHYS. APPEARANCE	CLR OIL	-	CLR OIL	-	CLR OIL
DENSITY	0.748		0.754		0.753
N, REFRACTIVE INDEX	1.4240		1.4262		1.4266
SIMULT'D DISTILATN					
10 WT % @ DEG F	244		254		254
16	261		283		285
50	391		409		415
84	573		598		604
90	628		645		650
RANGE(16-84 %)	312		315		319
WT % @ 420 F	58.00	51.67	51.67	50.71	50.71
WT % @ 700 F	95.75	95.64	95.64	95.36	95.36

TABLE 17 RESULT OF SYNGAS OPERATION

RUN NO. 10225-07
CATALYST CO/TH +UCC-108 #10252-44C 80 CC 51.9GM (59.0 AFTER RUN +7. G)
FEED H2:CO:ARGON OF 50:50: 0 @ 400 CC/MN OR 300 GHSV

RUN & SAMPLE NO.	10225-07-06	225-07-07	225-07-08	225-07-09	225-07-10
FEED H2:CO:AR	50:50: 0	50:50: 0	50:50: 0	50:50: 0	50:50: 0
HRS ON STREAM	76.33	95.0	102.0	119.0	126.0
PRESSURE,PSIG	303	295	299	303	303
TEMP. C	269	269	269	268	268
FEED CC/MIN	400	400	400	400	400
HOURS FEEDING	4.33	23.00	7.00	24.00	7.00
EFFLNT GAS LITER	37.12	207.75	69.45	244.05	73.20
GM AQUEOUS LAYER	14.00	74.33	20.67	70.88	19.35
GM OIL	6.07	32.22	8.80	30.16	7.63
MATERIAL BALANCE					
GM ATOM CARBON %	91.07	90.73	95.90	95.57	93.74
GM ATOM HYDROGEN %	96.09	99.95	100.43	103.41	97.07
GM ATOM OXYGEN %	97.40	97.30	99.00	98.47	97.94
RATIO CHX/(H2O+CO2)	0.8661	0.8607	0.9305	0.9350	0.8992
RATIO X IN CHX	2.3757	2.4002	2.4274	2.4651	2.4559
USAGE H2/CO PRODT	1.6089	1.6224	1.6110	1.6303	1.6253
RATIO CO2/(H2O+CO2)	0.2022	0.1996	0.2200	0.2187	0.2136
K SHIFT IN EFFLNT	0.06	0.08	0.10	0.11	0.11
CONVERSION					
ON CO %	55.40	55.13	53.48	53.78	49.41
ON H2 %	89.77	86.53	84.74	83.31	81.06
ON CO+H2 %	73.05	71.59	69.47	69.13	65.51
PRDT SELECTIVITY,WT %					
CH4	17.79	18.83	19.90	21.56	21.24
C2 HC'S	2.29	2.41	2.62	2.78	2.81
C3H8	2.19	2.44	2.71	2.92	2.80
C3H6=	2.81	2.32	2.57	2.24	2.45
C4H10	1.57	1.75	1.99	2.23	2.07
C4H8=	4.23	3.79	4.24	3.69	3.89
C5H12	1.62	1.78	2.16	2.40	2.20
C5H10=	4.25	3.77	4.50	3.94	4.18
C6H14	1.87	2.04	2.36	2.57	2.45
C6H12= & CYCLO'S	2.97	2.62	2.79	2.36	2.58
C7+ IN GAS	10.26	9.81	11.72	11.15	12.61
LIQ HC'S	48.15	48.42	42.44	42.15	40.72
TOTAL	100.00	100.00	100.00	100.00	100.00

SUB-GROUPING					
C1 -C4	30.88	31.55	34.03	35.42	35.26
C5 -420 F	46.30	45.50	44.04	42.80	41.80
420-700 F	20.39	20.50	19.61	19.48	20.19
700-END PT	2.44	2.45	2.32	2.30	2.75
C5+-END PT	69.12	68.45	65.97	64.58	64.74
ISO/NORMAL MOLE RATIO					
C4	0.0366	0.0301	0.0313	0.0323	0.0316
C5	0.0809	0.0797	0.0941	0.0905	0.0972
C6	0.1406	0.1422	0.1424	0.1497	0.1444
C4=	0.0000	0.0000	0.0000	0.0000	0.0000
PARAFFIN/OLEFIN RATIO					
C3	0.7446	1.0041	1.0059	1.2435	1.0886
C4	0.3577	0.4461	0.4516	0.5826	0.5145
C5	0.3697	0.4593	0.4654	0.5939	0.5106
LIQ HC COLLECTION					
PHYS. APPEARANCE	-	CLR OIL	-	CLR OIL	
DENSITY		0.753		0.753	
N, REFRACTIVE INDEX		1.4260		1.4260	
SIMULT'D DISTILATN					
10 WT % @ DEG F		255		262	
16		283		305	
50		407		429	
84		586		603	
90		637		652	
RANGE(16-84 %)		303		298	
WT % @ 420 F	52.60	52.60	48.33	48.33	43.67
WT % @ 700 F	94.94	94.94	94.54	94.54	93.25

TABLE 18 RESULT OF SYNGAS OPERATION

RUN NO. 10225-07
CATALYST CO/TH +UCC-108 #10252-44C 80 CC 51.9GM (59.0 AFTER RUN +7.0G)
FEED H2:CO:ARGON OF 50:50: 0 @ 400 CC/MN OR 300 GHSV

RUN & SAMPLE NO.	10225-07-11	225-07-12	225-07-13	225-07-14	225-07-15
FEED H2:CO:AR	50:50: 0	50:50: 0	50:50: 0	50:50: 0	50:50: 0
HRS ON STREAM	143.0	150.0	167.0	174.0	191.0
PRESSURE,PSIG	297	294	301	298	298
TEMP. C	268	269	269	269	269
FEED CC/MIN	400	400	400	414	414
HOURS FEEDING	24.00	7.00	24.00	7.00	24.00
EFFLNT GAS LITER	257.50	75.45	263.60	78.90	272.80
GM AQUEOUS LAYER	66.34	19.34	66.29	19.01	65.19
GM OIL	26.17	7.67	26.31	7.14	24.49
MATERIAL BALANCE					
GM ATOM CARBON %	95.48	95.83	96.51	93.79	93.76
GM ATOM HYDROGEN %	101.51	101.57	102.41	99.51	100.11
GM ATOM OXYGEN %	97.99	98.07	98.65	95.57	95.31
RATIO CHX/(H2O+CO2)	0.9400	0.9462	0.9484	0.9548	0.9603
RATIO X IN CHX	2.5043	2.5050	2.5133	2.5209	2.5243
USAGE H2/CO PRODT	1.6501	1.6632	1.6779	1.6839	1.7031
RATIO CO2/(H2O+CO2)	0.2175	0.2128	0.2081	0.2078	0.2008
K SHIFT IN EFFLNT	0.11	0.11	0.11	0.11	0.11
CONVERSION					
ON CO %	50.77	50.33	49.61	48.86	48.40
ON H2 %	80.84	80.80	80.20	79.05	78.54
ON CO+H2 %	66.27	66.01	65.36	64.40	63.96
PRDT SELECTIVITY,WT %					
CH4	23.32	23.41	23.78	24.04	24.23
C2 HC'S	3.02	3.00	3.10	3.11	3.14
C3H8	3.19	3.15	3.20	3.37	3.33
C3H6=	2.22	2.25	2.25	2.44	2.72
C4H10	2.41	2.39	2.38	2.47	2.48
C4H8=	3.66	3.59	3.68	3.87	3.99
C5H12	2.59	2.54	2.60	2.67	2.65
C5H10=	3.92	3.75	3.95	3.97	3.83
C6H14	2.76	2.72	2.66	2.87	2.88
C6H12= & CYCLO'S	2.40	2.28	2.20	2.43	2.39
C7+ IN GAS	11.92	12.13	11.33	12.31	11.82
LIQ HC'S	38.59	38.79	38.87	36.46	36.54
TOTAL	100.00	100.00	100.00	100.00	100.00

SUB-GROUPING					
C1 -C4	37.81	37.79	38.39	39.30	39.88
C5 -420 F	40.45	40.36	39.71	40.65	40.02
420-700 F	19.13	19.38	19.42	17.56	17.60
700-END PT	2.61	2.47	2.47	2.49	2.50
C5+-END PT	62.19	62.21	61.61	60.70	60.12
ISO/NORMAL MOLE RATIO					
C4	0.0302	0.0347	0.0309	0.0338	0.0311
C5	0.0909	0.0907	0.0908	0.0825	0.0920
C6	0.1420	0.1420	0.1424	0.1385	0.1448
C4=	0.0000	0.0000	0.0000	0.0000	0.0000
PARAFFIN/OLEFIN RATIO					
C3	1.3747	1.3364	1.3597	1.3206	1.1650
C4	0.6348	0.6439	0.6248	0.6170	0.5999
C5	0.6423	0.6595	0.6403	0.6535	0.6720
LIQ HC COLLECTION					
PHYS. APPEARANCE	CLR OIL	-	CLR OIL	-	CLR OIL
DENSITY	0.754		0.752		0.757
N, REFRACTIVE INDEX	1.4255		1.4253		1.4253
SIMULT'D DISTILATN					
10 WT % @ DEG F	268		267		270
16	315		312		312
50	442		442		438
84	618		613		614
90	667		662		666
RANGE(16-84 %)	303		301		302
WT % @ 420 F	43.67	43.67	43.67	45.00	45.00
WT % @ 700 F	93.25	93.64	93.64	93.17	93.17

V. Run 4 (11723-06) with Catalyst 4 (Co/Th+UCC-103+UCC-108)

This catalyst is the same as Catalyst 3, to be tested at a charge of 250 cc instead of the usual 80 cc. The purpose is to obtain larger samples for separation into gasoline, diesel oil and jet fuel fractions. Henceforth the 250 cc charge is to be standard.

Conversion, product selectivity, isomerization of the pentane, and percent olefins of the C_4's are plotted against time on stream in Figs. 81-84. Simulated distillations of the C_5^+ product are plotted in Figs. 85-87. Carbon number product distributions are plotted in Figs. 88-96. Chromatograms from simulated distillations are reproduced in Figs. 97-105. Detailed material balances appear in Tables 19-21.

Due to a number of temperature control malfunctions, the conversion data from this test are not very reliable. Conversion of syngas was about 60 percent, compared to 70 percent for Catalyst 3, and water gas shift activity was about the same.

Despite the temperature fluctuations, the selectivity held fairly constant. The initial production of methane was 18.5 percent, and of C_5^+ 62.5 percent; corresponding values for Catalyst 3 were 18.8 and 63.4 percent. Motor fuels were 61.1 percent of the product hydrocarbons, with 49.2 percent of the total pro-

duct gasoline and 11.9 percent diesel; corresponding values for Catalyst 3 were 62, 48.5 and 13.5 percent. The reproducibility of the product distribution was surprisingly consistent in light of the widely different catalyst charges (both tested at constant space velocity) and the temperature aberrations in the present run.

The liquid product was separated by distillation into gasoline, jet fuel and diesel oil fractions. The gasoline fraction had a density (Rho) of 0.7299 gm/ml and a refractive index (RI) of 1.4116, for a refractive intercept (RI - Rho/2) of 1.0467. This corresponds to about 15 percent olefins, the same as the olefin content of the gasoline from Eleventh Quarter Catalyst 7 (Run 10225-16), which was Co/Th+UCC-103. The jet fuel fraction had a refractive intercept which corresponded to a similar low olefin level, and a pour point of -15F. The diesel oil fraction had a refractive intercept corresponding to about 10 percent olefins, and had a pour point of 20F. With Eleventh Quarter Catalyst 7 the pour points were 5F for the jet fuel fraction and 35F for the diesel oil fraction. The chromatograms from the simulated distillations show that the liquid contains more than just normal paraffins, but there is little sign of extensive isomerization. The improved pour point of the heavier fraction suggests that the UCC-108 may be exerting some effect, but which molecules it may be acting on is not clear; even if its effect is due to some secondary perturbation on the system, it seems to make a useful contribution to the final product.

Fig. 81

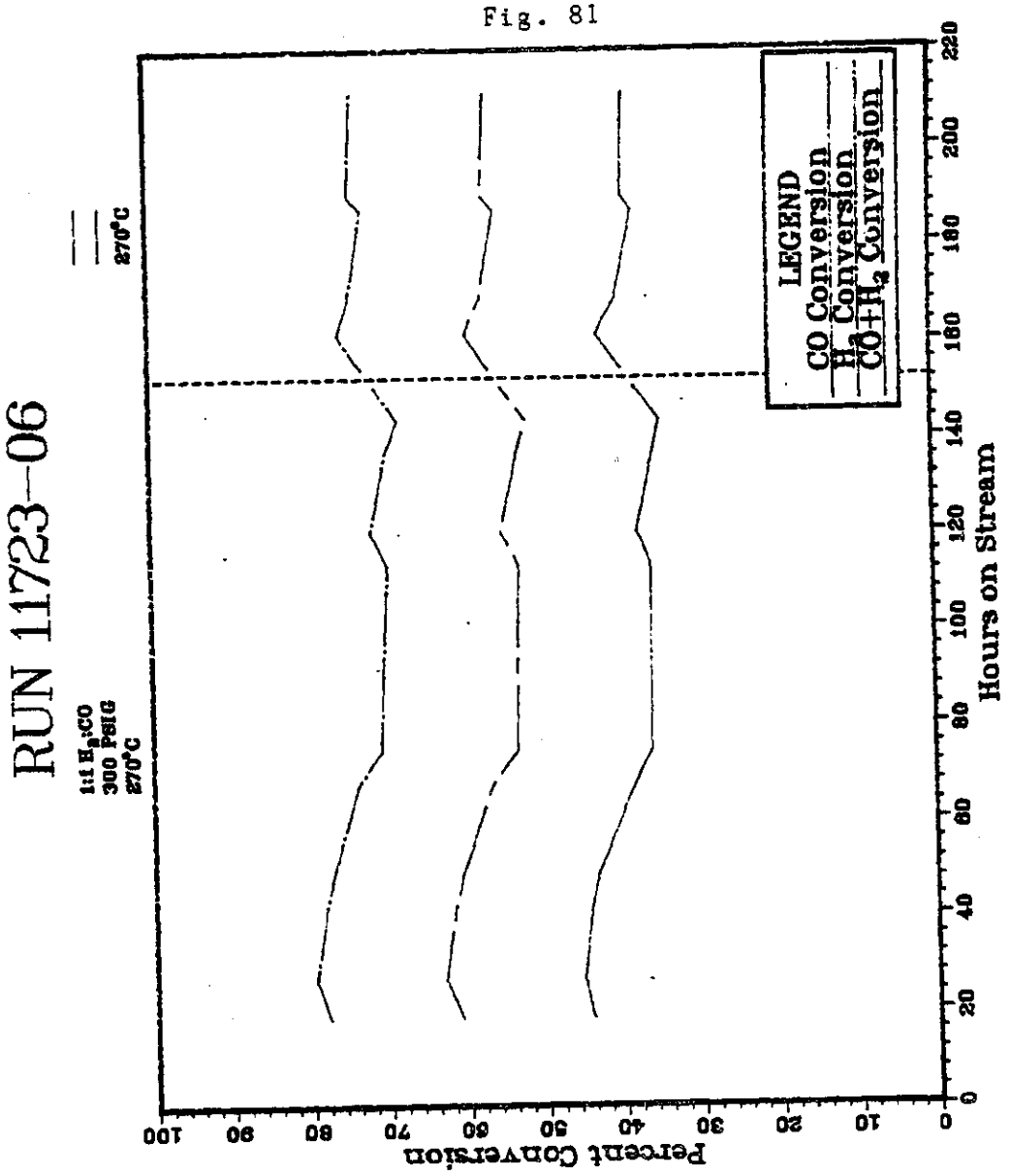

RUN 11723-06
1:1 H2:CO
300 PSIG
270°C
270°C
LEGEND
CO Conversion
H2 Conversion
CO+H2 Conversion
Percent Conversion
Hours on Stream
0
10
20
30
40
50
60
70
80
90
100
0
20
40
60
80
100
120
140
160
180
200
220

Fig. 82

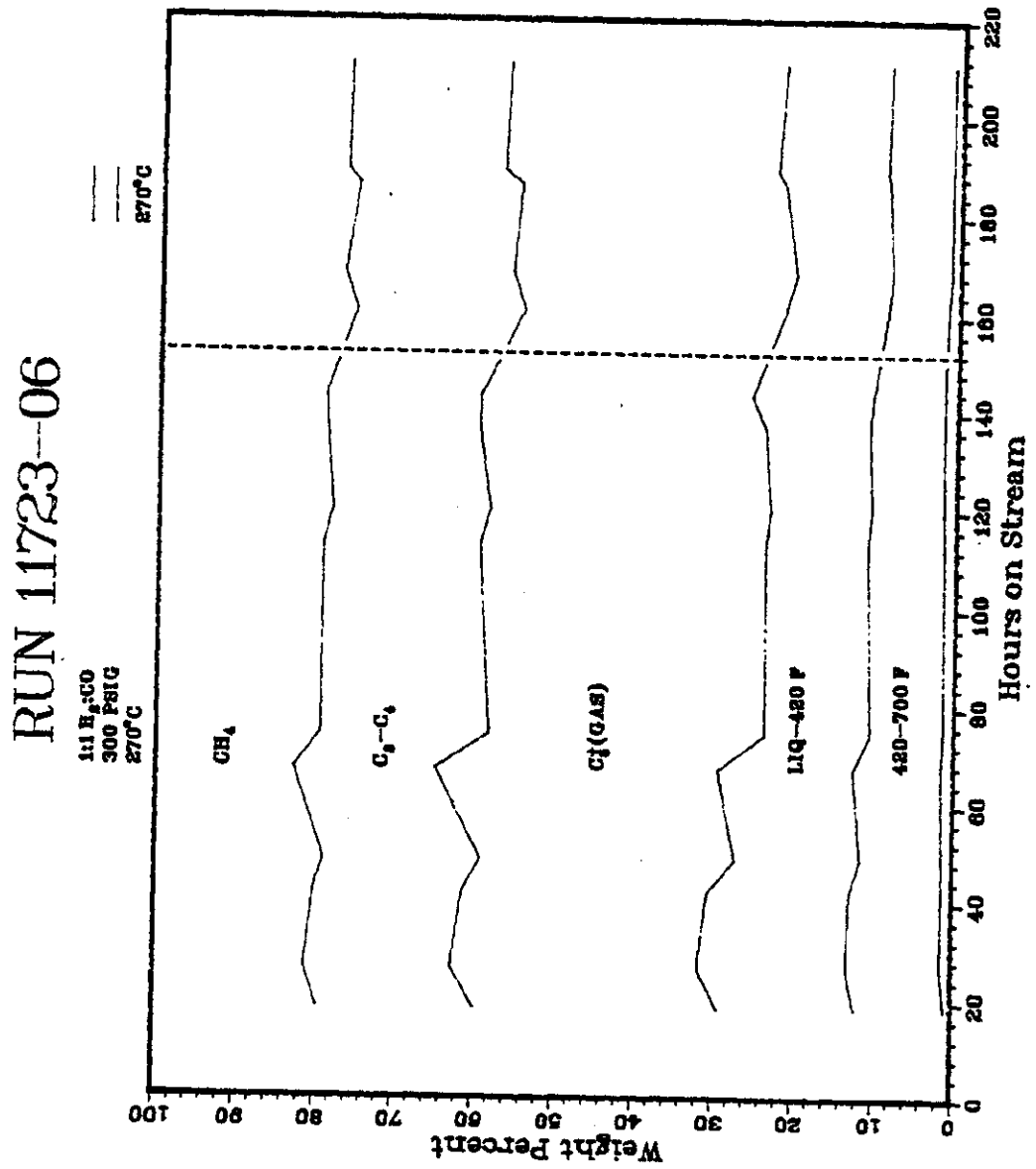

RUN 11723--06
1:1 H2:CO
300 PSIG
270°C
270°C
CH4
C2-C4
C5(GAS)
LIQ-420 F
420-700 F
Weight Percent
Hours on Stream
0
10
20
30
40
50
60
70
80
90
100
0
20
40
60
80
100
120
140
160
180
200
220

Fig. 83

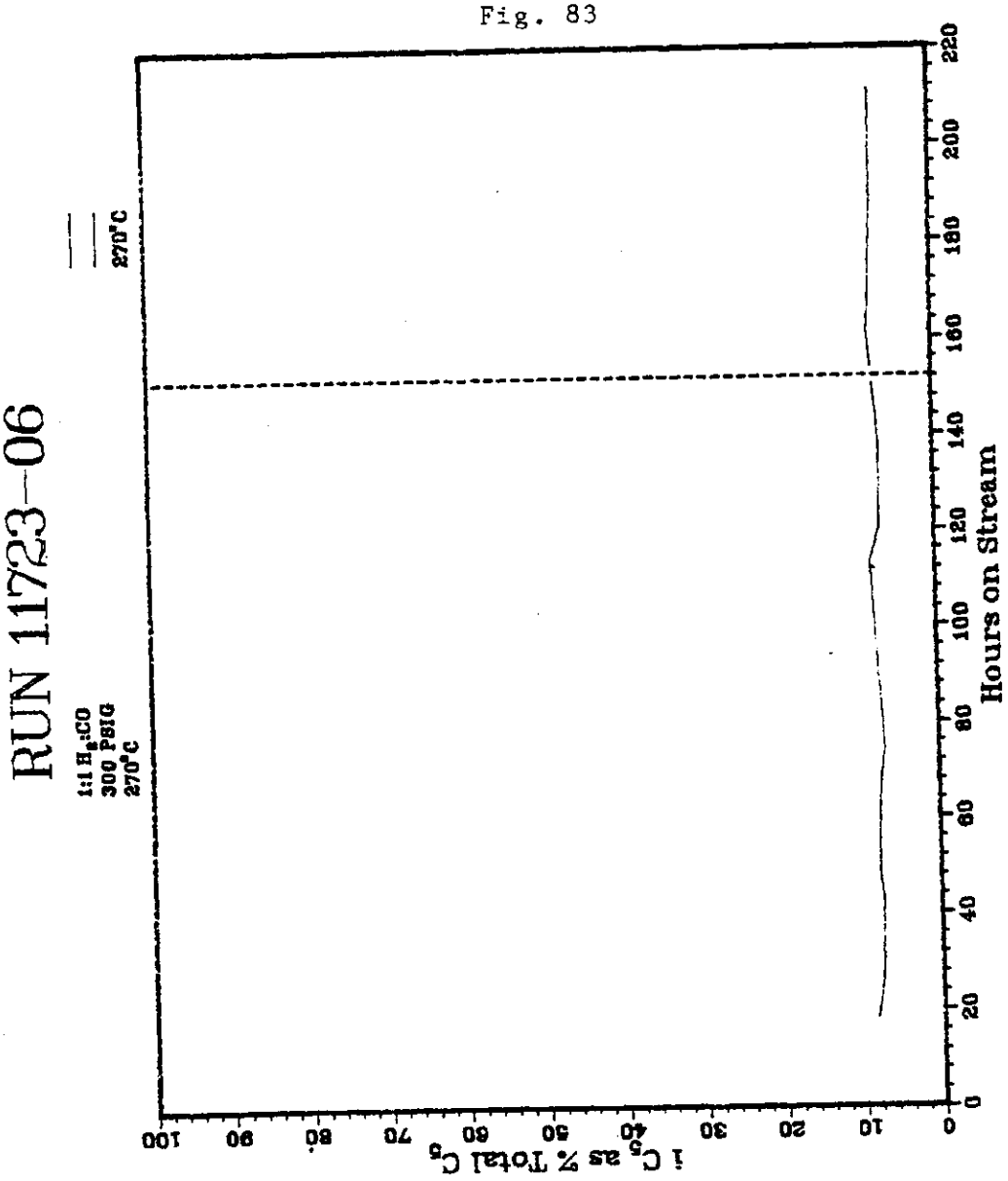

RUN 11723-06
1:1 H2:CO
300 PSIG
270°C
270°C
i C5 as % Total C5
Hours on Stream
0
10
20
30
40
50
60
70
80
90
100
0
20
40
60
80
100
120
140
160
180
200
220

Fig. 84

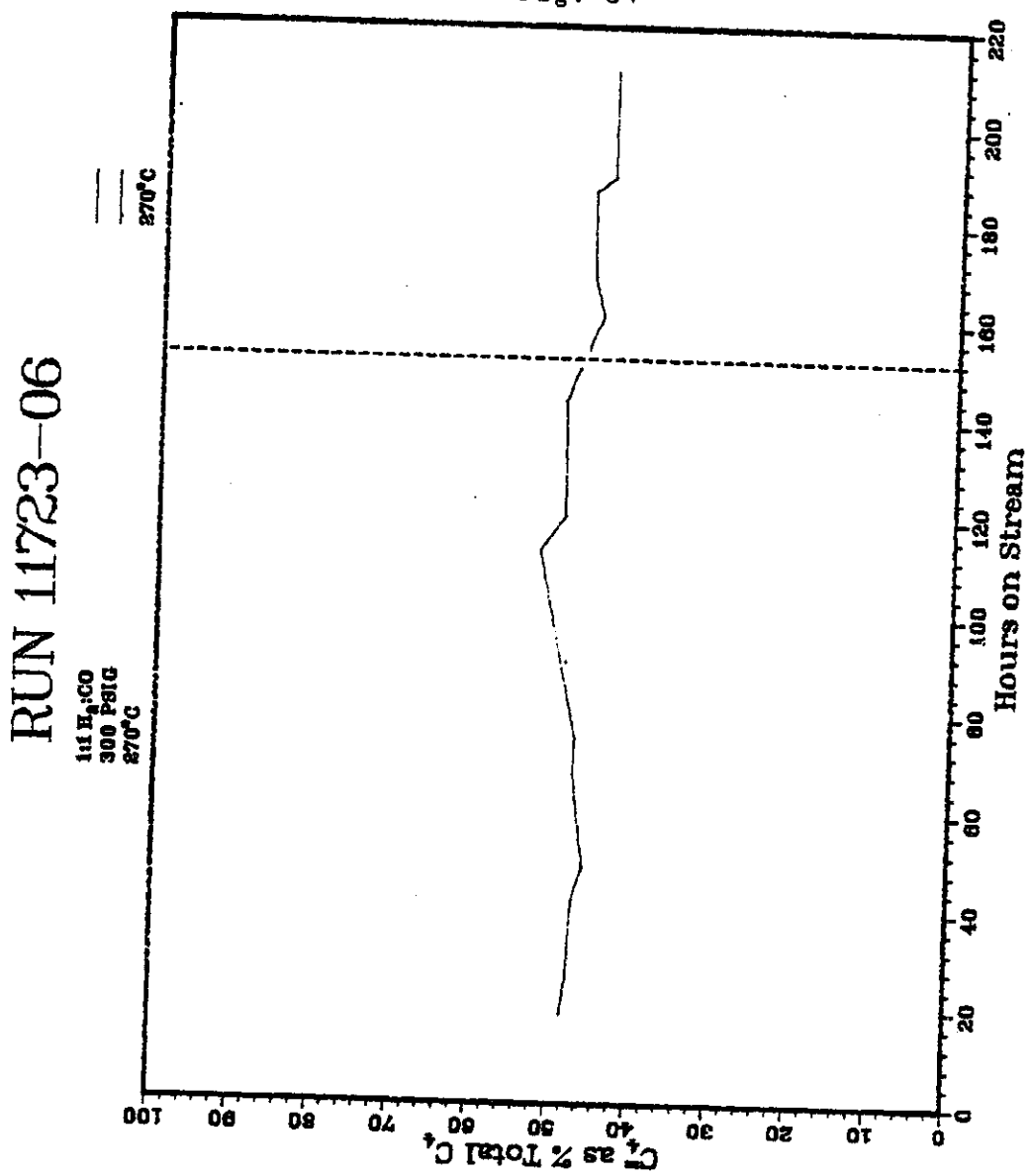

RUN 11723-06
1:1 H2:CO
300 PSIG
270°C
270°C
C4= as % Total C4
Hours on Stream
0
10
20
30
40
50
60
70
80
90
100
0
20
40
60
80
100
120
140
160
180
200
220

Fig. 85

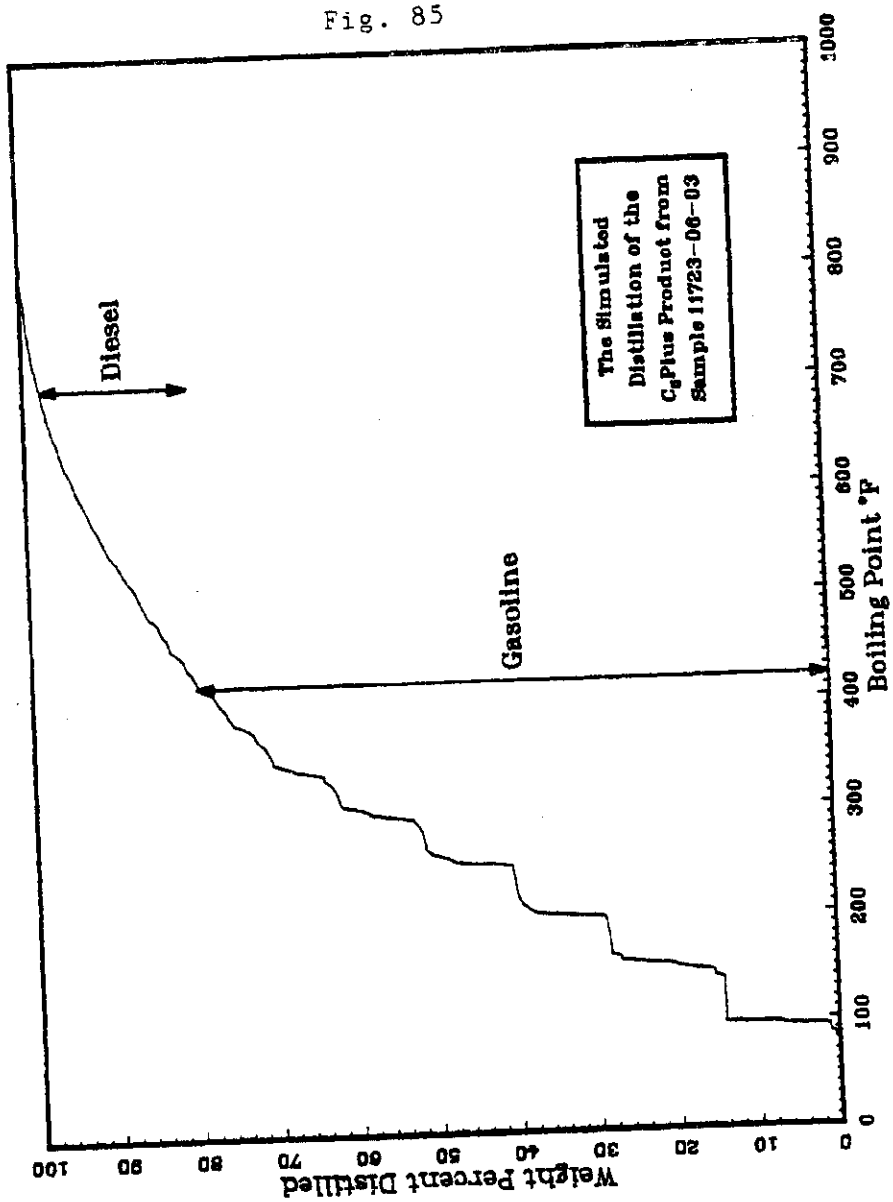

The Simulated Distillation of the C5 Plus Product from Sample 11723-06-03
Diesel
Gasoline
Boiling Point °F
Weight Percent Distilled
0
100
200
300
400
500
600
700
800
900
1000
10
20
30
40
50
60
70
80
90
100

Fig. 86

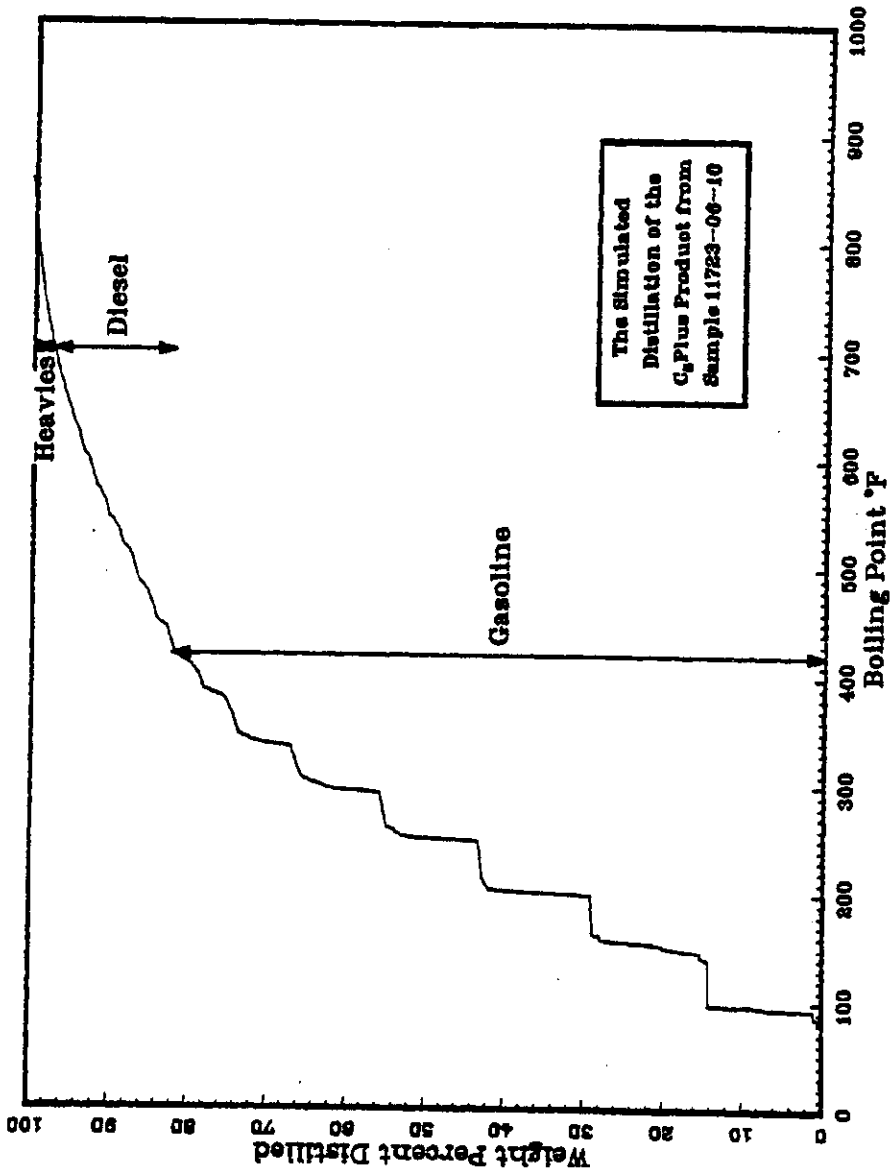

Heavies
Diesel
Gasoline
The Simulated Distillation of the C5Plus Product from Sample 11723-06-10
Boiling Point °F
Weight Percent Distilled
0
100
200
300
400
500
600
700
800
900
1000
10
20
30
40
50
60
70
80
90
100

Fig. 87

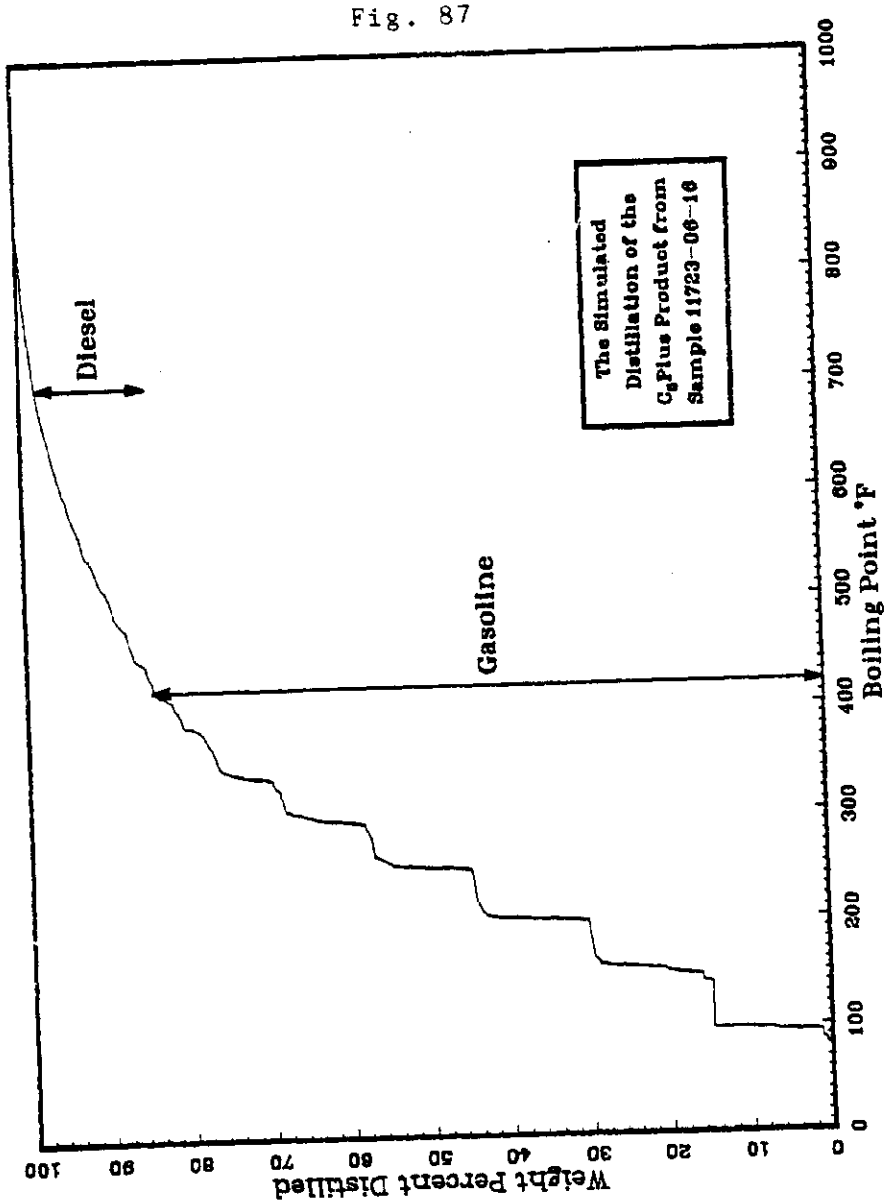
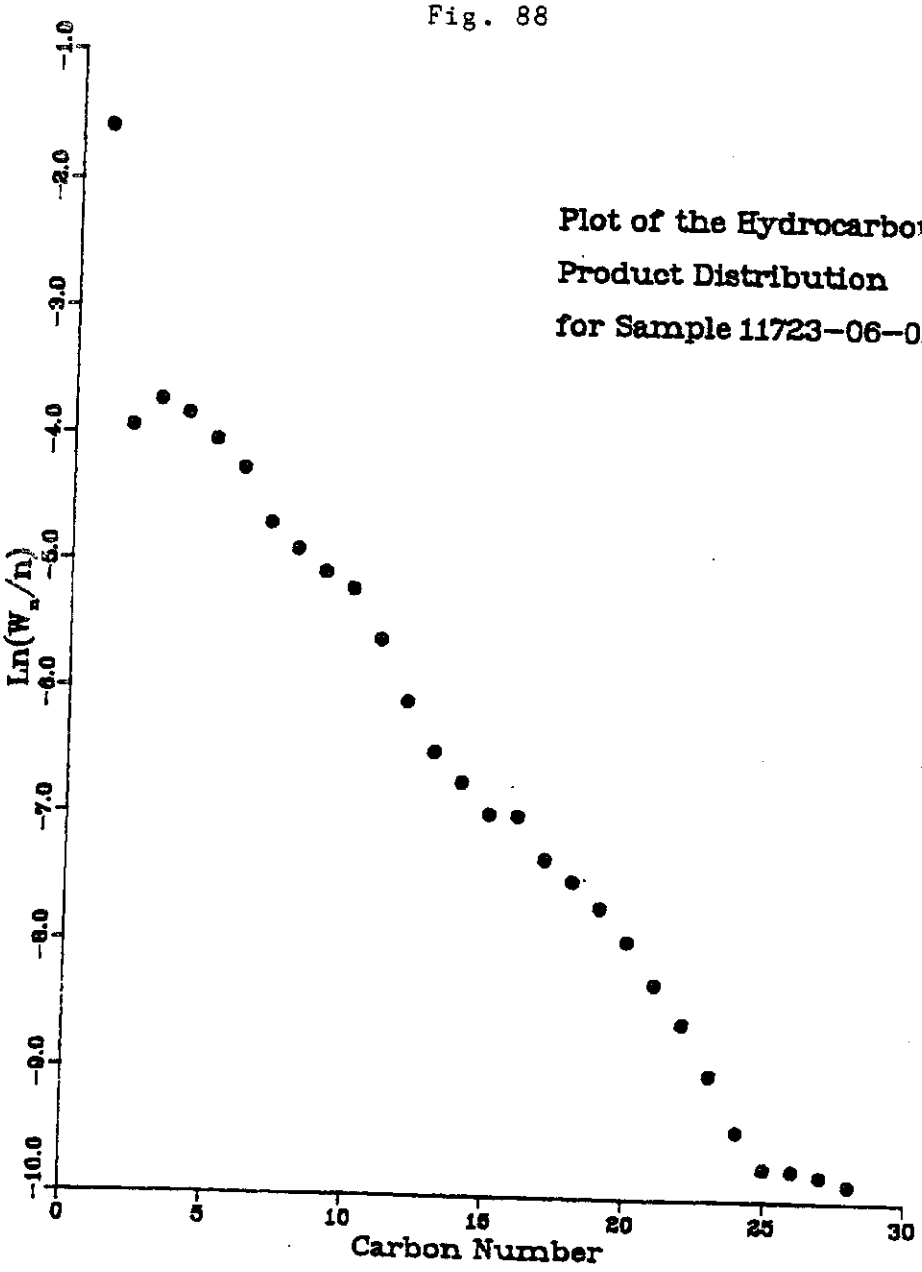

The Simulated Distillation of the C5 Plus Product from Sample 11723-06-10
Diesel
Gasoline
Weight Percent Distilled
Boiling Point °F
0
10
20
30
40
50
60
70
80
90
100
0
100
200
300
400
500
600
700
800
900
1000

Fig. 88



Plot of the Hydrocarbon Product Distribution for Sample 11723-06-01

Fig. 89

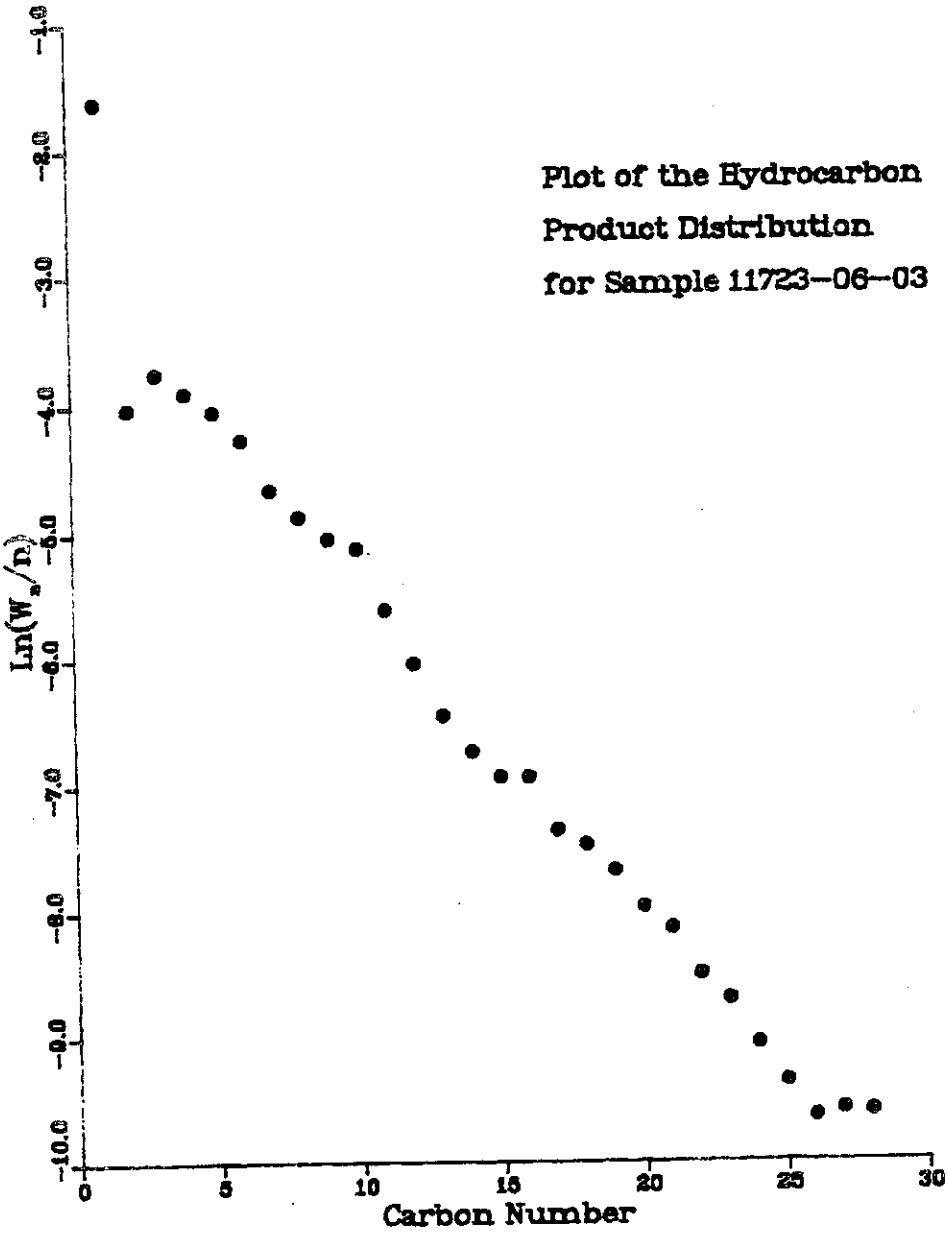

Plot of the Hydrocarbon
Product Distribution
for Sample 11723-06-03
Ln(W_n/n)
-1.0
-2.0
-3.0
-4.0
-5.0
-6.0
-7.0
-8.0
-9.0
-10.0
0
5
10
15
20
25
30
Carbon Number

Fig. 90

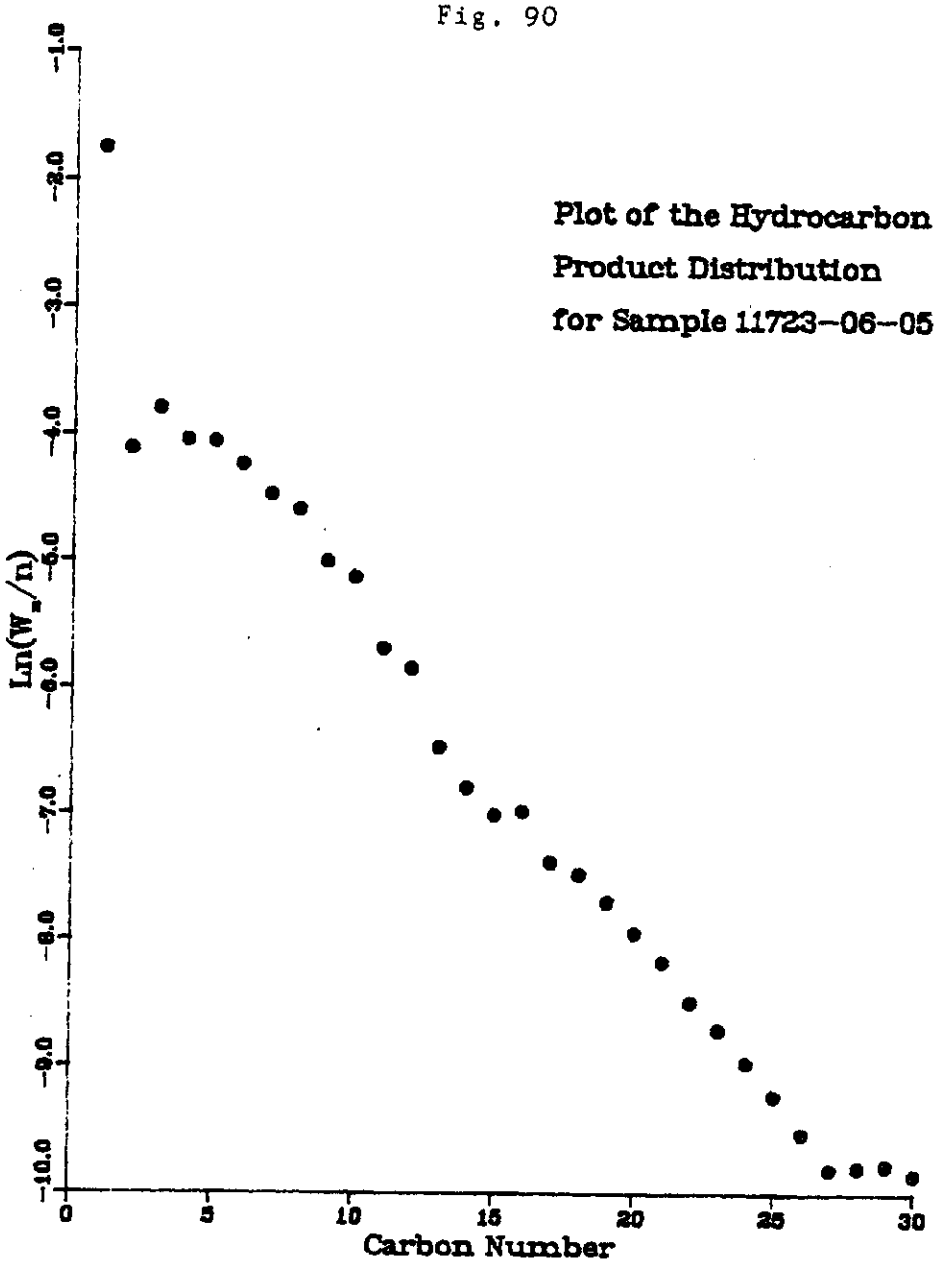

Plot of the Hydrocarbon
Product Distribution
for Sample 11723-06-05
Ln(W_n/n)
-1.0
-2.0
-3.0
-4.0
-5.0
-6.0
-7.0
-8.0
-9.0
-10.0
0
5
10
15
20
25
30
Carbon Number

Fig. 91

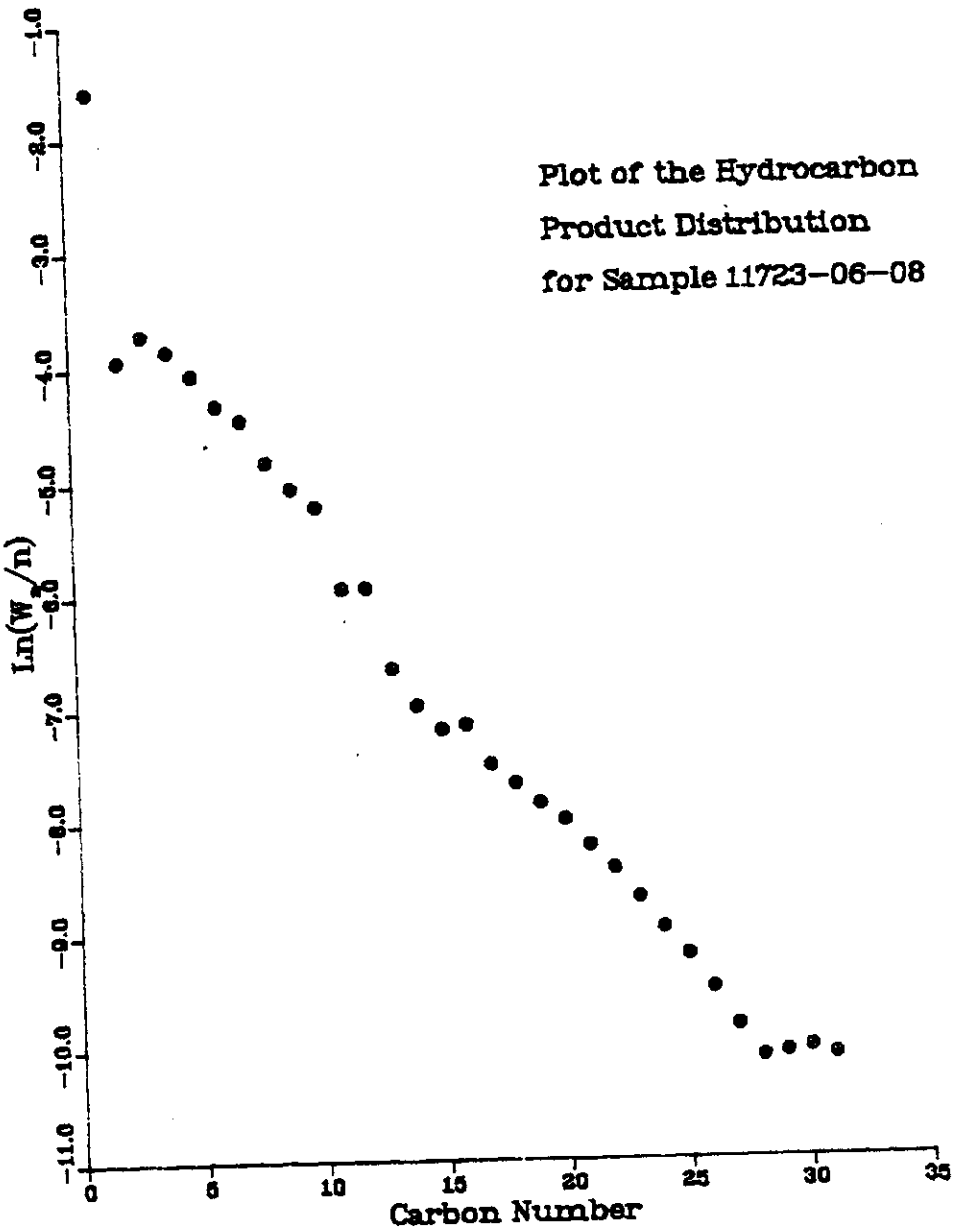
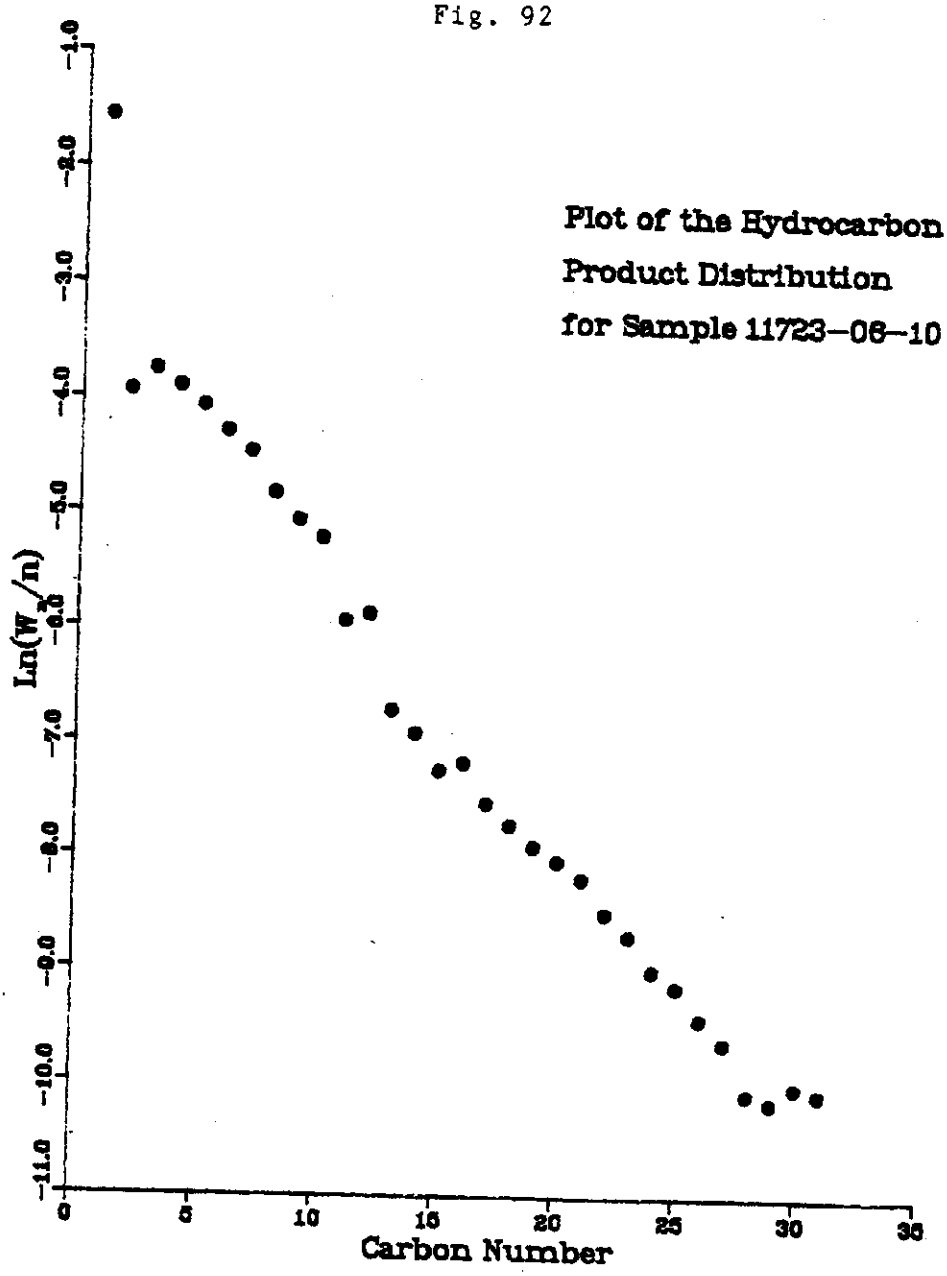

Plot of the Hydrocarbon
Product Distribution
for Sample 11723-06-08
Ln(W_n/n)
-1.0
-2.0
-3.0
-4.0
-5.0
-6.0
-7.0
-8.0
-9.0
-10.0
-11.0
0
5
10
15
20
25
30
35
Carbon Number

Fig. 92



Plot of the Hydrocarbon Product Distribution for Sample 11723–06–10

Fig. 93

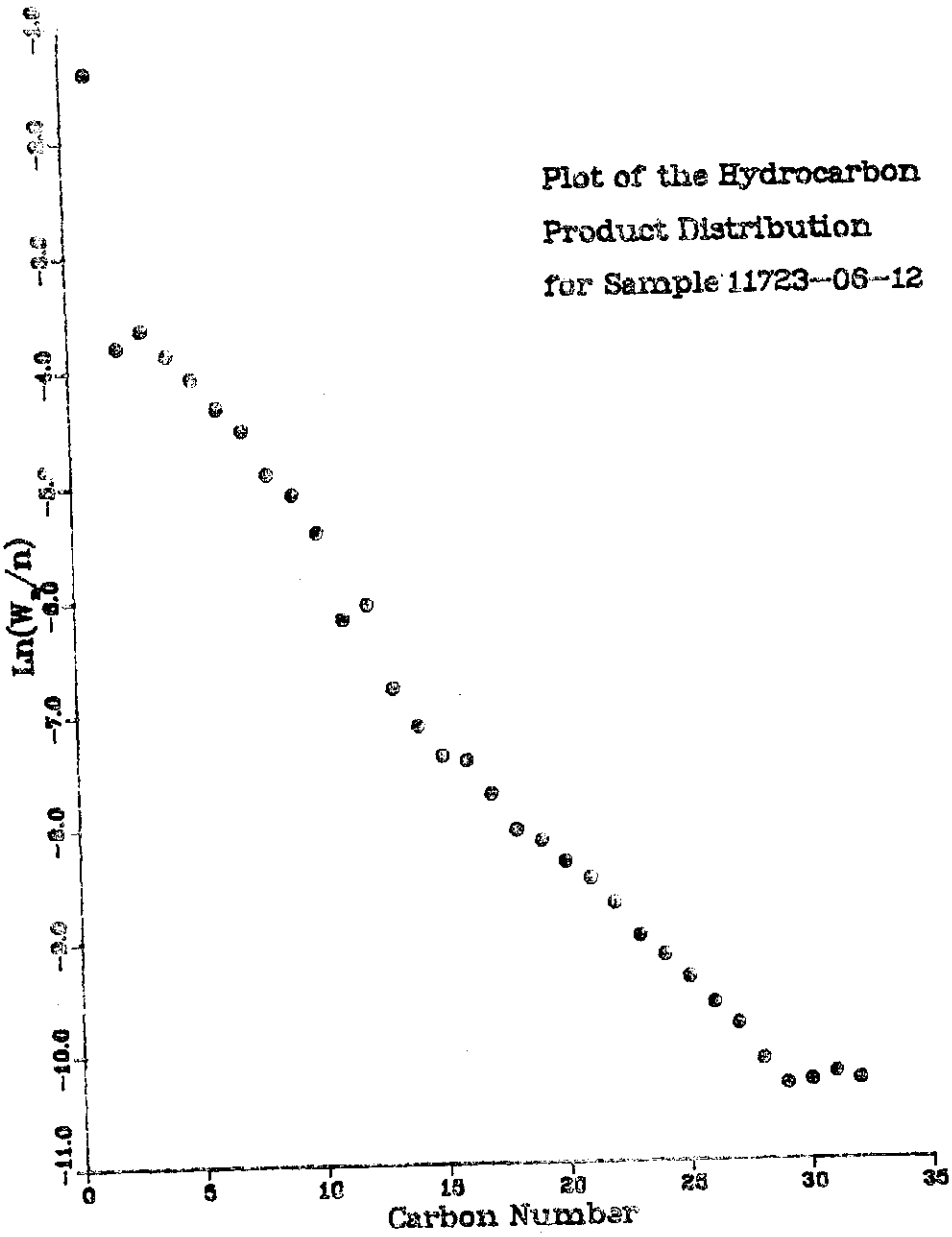
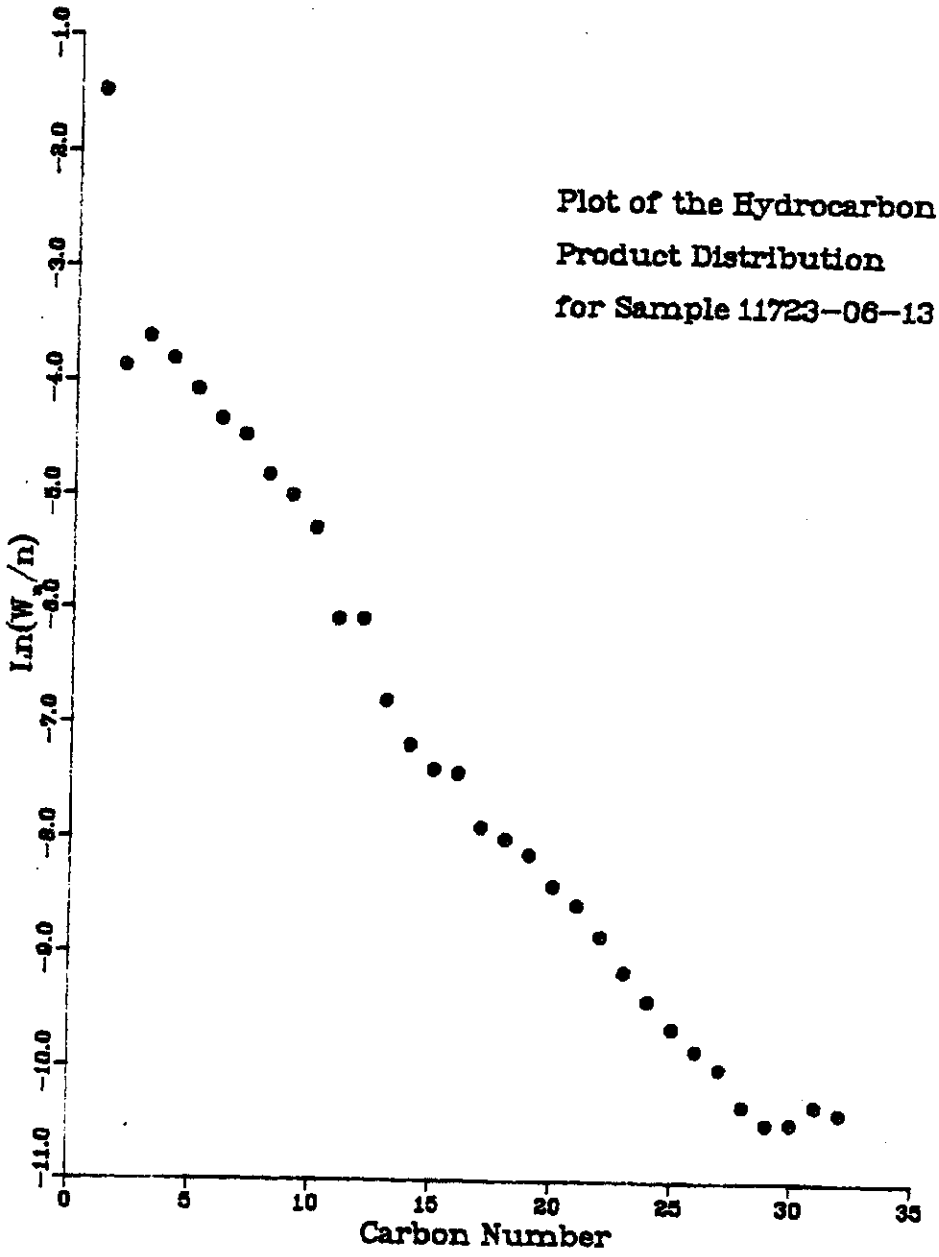

Plot of the Hydrocarbon
Product Distribution
for Sample 11723--06-12
Ln(W_n/n)
-11.0
-10.0
-8.0
-7.0
-6.0
-4.0
0
5
10
15
20
25
30
35
Carbon Number

Fig. 94



Plot of the Hydrocarbon Product Distribution for Sample 11723-06-13