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O. D. Thomas (r) LMR *EDW.*

J. A. Reid (r) DCS

J. G. Erdman

CL
COMPANY
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North Sea, Norwegian Sector, Torfelt
Er-172-72

June 19, 1972

O. J. Koop (2)
International Department

Attention: C. D. Wilkinson

In accord with the advice contained in your note to me of April 19, we are reporting herewith for current information and future exploration reference the detailed component by component compositional data for the companion gas-liquid samples from the Torfelt well 2/4-SAX and the Amoco Torfelt well 2/5-1X transmitted to me under letter SB-071-72 by P. W. Reynolds on April 6, 1972. The data are for those samples which were collected using F-kits. Samples so collected permit the detailed compositional and isotopic determinations reported in this letter.

Data for well 2/4-SAX are contained in Tables I, III, IV and VI and in Figure 1. In Table I are given the compositions of the well head streams for six of the seven samplings. Due to a loose connection on the cylinder, the liquid sample for DST 5-Post Acid, collected on March 19, was lost in transit. Except for production variables, the wellhead composition should represent the composition of the petroleum in the reservoir. In Table I the numerical data are given to two decimal places in accord with the precision of the determination. The graphical presentation shows the compositional variation between the samplings and probably represents production variables. In Table III, part A, are given the percentages of total sulfur and total nitrogen contained in the C₅ (pentanes) through C₁₀ (decane) fractions and the total sulfur, total nitrogen, vanadium, and nickel in the C₁₁⁺ fractions. The C₅ through C₁₁ fraction spans a boiling range of 97 to 345° F (36 to 174° C) and approximates the gasoline range. In Table IV are provided the numerical data for the carbon isotopic compositions of the gas fractions and for the individual components methane through n-butane. In Figure 1, parts A through G, the carbon isotopic data are presented graphically. The composite of these curves, Figure 1, part H, shows that the isotopic composition is less affected by production variables than is the component composition. Table VI, parts A through G, are the computer readouts for the compositional data and contains the component concentrations in both weight and mole per cent for the gas streams, the liquid streams, and the composite wellhead streams. Values are to three decimal places for computational purposes.

The data for well 2/5-1X are contained in Tables II, III, V, and VII and in Figure 2. In Table II is given the composition of the wellhead stream for DST #4. The wellhead streams for the other three samples could not be calculated for lack of gas-oil ratios or the means to calculate them. In the case of the samples collected on November 3 and November 10, 1970, neither ratio or flow rate data are provided. For the sample collected on November 4, 1970, the recorded gas-oil ratio and the flow rate are not compatible. The graphical presentation permits comparison of the composition of the C₁ through C₁₀ fraction of the petroleum from the Amoco Torfelt

O. J. Koop
June 19, 1972

Er-172-72
page 2

well in Block 2/5 with that from the Torfelt well in Block 2/4. In Table V are provided the numerical data for the carbon isotopic composition of the gas fractions and for the individual components methane through n-butane. In Figure 2, parts A through D, the carbon isotopic data are presented graphically. A composite of these curves is provided in Figure 2, part E. Table VII, parts A through D, is the computer readout for the compositional data.

Characterizing data for the C_{11}^+ will be provided in a later letter.

Concepts and techniques for use of the above data to assist exploration are contained in the Geochemistry Manual.

Original Signed By
J. GORDON ERDMAN

J. Gordon Erdman

JGE:gml

Attachments: Tables I-VII
Figures 1 & 2

TABLE I
COMPONENT COMPOSITION OF CRUDE OIL
THROUGH N-DECANE, BP = 345.4F (≅ 174.1C)
North Sea, Norwegian Sector
Torfelt Well 2/4-8AX

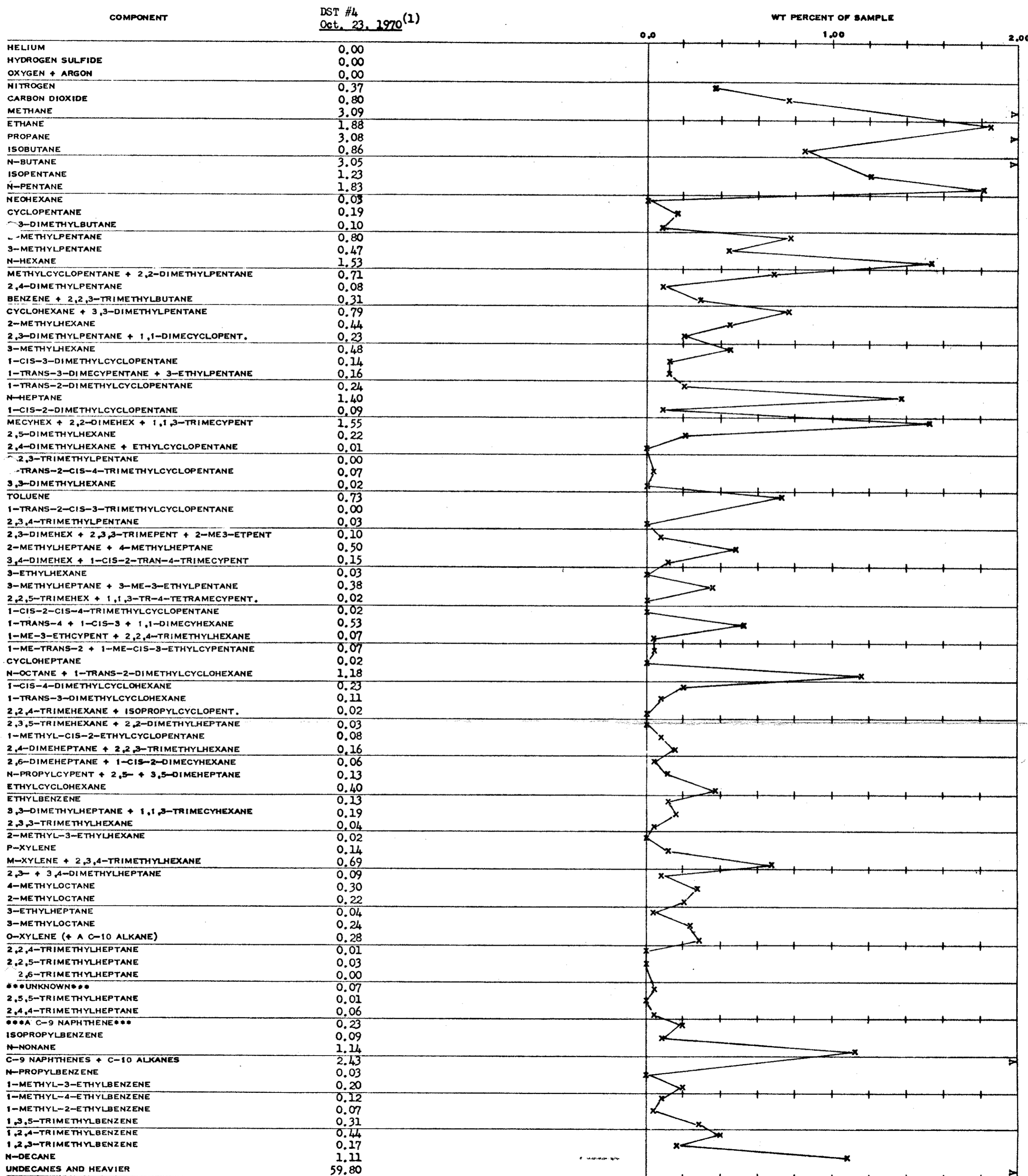
Er-172-72

COMPONENT	DST #2	DST #3 (Rerun DST #1)	DST #4	DST #4	DST #5	DST #6	WT PERCENT OF SAMPLE		
				Post- Acid (1)	Pre- Acid		0.0	1.00	2.00
HELIUM	0.00	0.00	0.00	0.00	0.00	0.00			
HYDROGEN SULFIDE	0.00	0.00	0.00	0.00	0.00	0.00			
OXYGEN + ARGON	0.00	0.00	0.00	0.00	0.00	0.00			
NITROGEN	0.38	0.41	0.43	0.53	0.30	0.49			
CARBON DIOXIDE	1.17	1.27	1.34	2.80	0.82	1.76			
METHANE	16.43	17.36	21.78	20.80	13.39	19.36			
ETHANE	5.34	5.27	6.38	6.21	4.38	6.05			
PROPANE	4.90	4.62	5.02	5.16	4.28	5.51			
ISOBUTANE	1.04	0.96	0.93	1.01	0.95	1.17			
N-BUTANE	3.21	2.86	2.64	2.92	2.93	3.38			
ISOPENTANE	1.40	1.45	1.13	1.48	1.43	1.49			
N-PENTANE	2.22	2.30	1.75	3.18	2.19	2.19			
NEOHEXANE	0.03	0.03	0.02	0.03	0.03	0.03			
CYCLOPENTANE	0.18	0.18	0.15	0.19	0.19	0.16			
1-DIMETHYLBUTANE	0.10	0.10	0.08	0.11	0.11	0.09			
2-METHYLPENTANE	0.80	0.79	0.63	0.79	0.82	0.67			
3-METHYLPENTANE	0.46	0.46	0.36	0.44	0.48	0.38			
N-HEXANE	1.48	1.47	1.19	1.38	1.54	1.22			
METHYLCYCLOPENTANE + 2,2-DIMETHYLPENTANE	0.68	0.67	0.59	0.62	0.71	0.55			
2,4-DIMETHYLPENTANE	0.08	0.08	0.07	0.07	0.08	0.06			
BENZENE + 2,2,3-TRIMETHYLBUTANE	0.29	0.29	0.25	0.26	0.31	0.24			
CYCLOHEXANE + 3,3-DIMETHYLPENTANE	0.75	0.73	0.62	0.65	0.79	0.58			
2-METHYLHEXANE	0.42	0.41	0.35	0.36	0.44	0.33			
2,3-DIMETHYLPENTANE + 1,1-DIMETHYLCYCLOPENTANE	0.22	0.21	0.18	0.19	0.23	0.17			
3-METHYLHEXANE	0.45	0.44	0.38	0.39	0.47	0.35			
1-CIS-3-DIMETHYLCYCLOPENTANE	0.14	0.13	0.11	0.12	0.14	0.10			
1-TRANS-3-DIMETHYLCYCLOPENTANE + 3-ETHYLPENTANE	0.15	0.15	0.12	0.13	0.16	0.11			
1-TRANS-2-DIMETHYLCYCLOPENTANE	0.22	0.22	0.19	0.19	0.24	0.17			
N-HEPTANE	1.30	1.29	1.11	1.13	1.38	1.01			
1-CIS-2-DIMETHYLCYCLOPENTANE	0.05	0.05	0.04	0.04	0.05	0.06			
METHYLHEXANE + 2,2-DIMETHYLPENTANE + 1,1,3-TRIMETHYLPENTANE	1.47	1.44	1.27	1.33	1.63	1.10			
2,5-DIMETHYLHEXANE	0.21	0.20	0.18	0.13	0.15	0.16			
2,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.01	0.01	0.01	0.01	0.01	0.01			
2,3-TRIMETHYLPENTANE	0.07	0.07	0.06	0.06	0.07	0.05			
1-TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.00	0.00	0.00	0.00	0.02	0.00			
3,3-DIMETHYLHEXANE	0.02	0.02	0.01	0.01	0.00	0.01			
TOLUENE	0.67	0.66	0.58	0.58	0.69	0.52			
1-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.00	0.00	0.00	0.00	0.00	0.00			
2,3,4-TRIMETHYLPENTANE	0.06	0.04	0.04	0.04	0.05	0.02			
2,3-DIMETHYLPENTANE + 2,3,3-TRIMETHYLPENTANE + 2-METHYLHEPTANE	0.11	0.10	0.09	0.09	0.11	0.07			
2-METHYLHEPTANE + 4-METHYLHEPTANE	0.46	0.46	0.41	0.40	0.49	0.35			
3,4-DIMETHYLPENTANE + 1-CIS-2-TRANS-4-TRIMETHYLPENTANE	0.14	0.14	0.13	0.12	0.15	0.11			
3-ETHYLHEXANE	0.04	0.03	0.03	0.03	0.03	0.02			
3-METHYLHEPTANE + 3-METHYL-3-ETHYLPENTANE	0.34	0.35	0.31	0.30	0.37	0.26			
2,2,5-TRIMETHYLPENTANE + 1,1,3-TRIMETHYLPENTANE	0.02	0.02	0.02	0.02	0.02	0.01			
1-CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.03	0.02	0.02	0.02	0.02	0.01			
1-TRANS-4 + 1-CIS-3 + 1,1-DIMETHYLHEXANE	0.53	0.53	0.48	0.47	0.59	0.36			
1-METHYL-3-ETHYLPENTANE + 2,2,4-TRIMETHYLHEXANE	0.00	0.00	0.00	0.00	0.00	0.05			
1-METHYL-TRANS-2 + 1-METHYL-CIS-3-ETHYLPENTANE	0.06	0.06	0.06	0.06	0.07	0.05			
CYCLOHEPTANE	0.03	0.02	0.02	0.02	0.02	0.02			
N-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	1.07	1.15	1.03	1.01	1.26	0.83			
1-CIS-4-DIMETHYLCYCLOHEXANE	0.20	0.12	0.12	0.11	0.12	0.15			
1-TRANS-3-DIMETHYLCYCLOHEXANE	0.11	0.10	0.10	0.09	0.11	0.08			
2,2,4-TRIMETHYLPENTANE + ISOPROPYLCYCLOPENTANE	0.03	0.02	0.02	0.02	0.03	0.02			
2,3,5-TRIMETHYLPENTANE + 2,2-DIMETHYLHEPTANE	0.03	0.03	0.03	0.03	0.03	0.02			
1-METHYL-CIS-2-ETHYLCYCLOPENTANE	0.08	0.08	0.07	0.07	0.08	0.06			
2,4-DIMETHYLHEPTANE + 2,2,3-TRIMETHYLHEXANE	0.14	0.21	0.13	0.18	0.22	0.11			
2,6-DIMETHYLHEPTANE + 1-CIS-2-DIMETHYLHEXANE	0.06	0.10	0.15	0.00	0.11	0.04			
N-PROPYLCYCLOPENTANE + 2,5- + 3,5-DIMETHYLHEPTANE	0.12	0.01	0.01	0.10	0.01	0.10			
ETHYLCYCLOHEXANE	0.36	0.35	0.33	0.32	0.39	0.27			
ETHYLBENZENE	0.11	0.12	0.10	0.10	0.12	0.10			
3,3-DIMETHYLHEPTANE + 1,1,3-TRIMETHYLHEXANE	0.17	0.17	0.16	0.15	0.19	0.13			
2,3,3-TRIMETHYLHEXANE	0.04	0.04	0.04	0.03	0.04	0.03			
2-METHYL-3-ETHYLHEXANE	0.02	0.02	0.02	0.02	0.02	0.02			
P-XYLENE	0.11	0.13	0.11	0.11	0.13	0.10			
M-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.60	0.61	0.58	0.55	0.66	0.49			
2,3- + 3,4-DIMETHYLHEPTANE	0.09	0.07	0.08	0.07	0.08	0.07			
4-METHYLOCTANE	0.28	0.27	0.26	0.25	0.30	0.21			
2-METHYLOCTANE	0.19	0.19	0.19	0.18	0.21	0.17			
3-ETHYLHEPTANE	0.04	0.04	0.03	0.03	0.04	0.04			
3-METHYLOCTANE	0.22	0.21	0.20	0.19	0.24	0.19			
O-XYLENE (+ A C-10 ALKANE)	0.24	0.26	0.24	0.22	0.28	0.23			
2,2,4-TRIMETHYLHEPTANE	0.01	0.01	0.01	0.01	0.03	0.02			
2,5-TRIMETHYLHEPTANE	0.02	0.03	0.02	0.02	0.00	0.05			
2,2,6-TRIMETHYLHEPTANE	0.00	0.00	0.00	0.00	0.00	0.00			
UNKNOWN	0.05	0.05	0.05	0.04	0.06	0.07			
2,5,5-TRIMETHYLHEPTANE	0.01	0.01	0.01	0.01	0.01	0.01			
2,4,4-TRIMETHYLHEPTANE	0.04	0.05	0.04	0.04	0.05	0.07			
A C-9 NAPHTHENE	0.19	0.20	0.18	0.17	0.22	0.23			
ISOPROPYLBENZENE	0.08	0.08	0.08	0.07	0.09	0.09			
N-NONANE	1.01	1.02	0.98	0.92	1.11	0.86			
C-9 NAPHTHENES + C-10 ALKANES	1.81	1.99	1.82	1.64	2.16	3.39			
N-PROPYLBENZENE	0.04	0.08	0.07	0.05	0.05	0.15			
1-METHYL-3-ETHYLBENZENE	0.14	0.16	0.15	0.14	0.17	0.21			
1-METHYL-4-ETHYLBENZENE	0.09	0.10	0.10	0.09	0.10	0.17			
1-METHYL-2-ETHYLBENZENE	0.25	0.28	0.26	0.23	0.22	0.43			
1,3,5-TRIMETHYLBENZENE	0.27	0.28	0.27	0.24	0.29	0.34			
1,2,4-TRIMETHYLBENZENE	0.31	0.35	0.33	0.30	0.32	0.51			
1,2,3-TRIMETHYLBENZENE	0.01	0.16	0.15	0.12	0.15	0.07			
N-DECANE	0.97	0.97	0.97	0.86	0.99	0.99			
UNDECANES AND HEAVIER	42.23	41.51	38.98	36.34	45.95	37.98			

(1) The composition of the composite stream for DST #5, Post Acid could not be computed because the liquid sample was lost in transit. For the component composition of the gas, see Table VI, part F.

TABLE II
 COMPONENT COMPOSITION OF CRUDE OIL
 THROUGH N-DECANE, BP = 345.4F (= 174.1C)
 North Sea, Norwegian Sector
 Amoco Torfält 2/5-1X

Er-172-72



(1) The composition of the composite streams for the companion gas-liquid samples collected on November 3, 1970, Nov. 4, 1970, and Nov. 10, 1970 could not be computed. For the first and last of these, gas-oil ratios and/or flow rates were not reported; for the second, the ratio and flow rates reported were not consistent. For the component compositions of the gas and liquid streams, see Tables VIIb, c and d.

TABLE III

Sulfur, Nitrogen and Trace Metals

Part 1 Torfelt Well 2/4-8AX							
Geochemistry Branch Code	DST 2 <u>JBU</u>	DST 3 (Rerun DST 1) <u>JBW</u>	DST 4 <u>JBV</u>	DST 4 Post Acid <u>JCA</u>	DST 5 Pre-Acid <u>JCC</u>	DST 5 ⁽¹⁾ Post Acid <u>JCE</u>	DST 6 <u>JCG</u>
<u>Fraction C₅ through C₁₀</u>							
sulfur, wt %	0.0002	-	-	-	-	-	0.0002
nitrogen, wt %	<0.03	<0.03	<0.03	<0.03	<0.03	-	
<u>Fraction C₁₁ plus</u>							
sulfur, wt %	0.13	0.13	0.13	0.13	0.14	-	0.13
nitrogen, wt %	0.07	0.10	0.07	0.05	0.07	-	0.06
vanadium, ppm	0.65	1.29	<0.47	<0.47	1.21	-	1.21
nickel, ppm	3.78	4.24	1.72	2.73	4.33	-	2.89
Part 2 Amoco Well 2/5-1X							
Geochemistry Branch Code	DST 4 10/23/70 <u>JFW</u>	DST 11/3/70 <u>JFY</u>	DST 11/4/70 <u>JGA</u>	DST 11/10/70 <u>JGC</u>			
<u>Fraction C₅ through C₁₀</u>							
sulfur, wt %	0.0002	0.0002	0.0002	0.0002	0.0001		
nitrogen, wt %	<0.03	<0.03	<0.03	<0.03	<0.03		
<u>Fraction C₁₁ plus</u>							
sulfur, wt %	0.13	0.13	0.12	0.13			
nitrogen, wt %	0.09	0.05	0.06	0.05			
vanadium, ppm	<0.66	<0.62	<0.62	<0.62			
nickel, ppm	4.26	8.44	6.44	13.6			

(1) Sample lost in transit.

TABLE IV

Carbon Isotopic Compositions of the Gas Fractions (Companion Gas Samples),
and Components, Methane Through n-Butane
Torfelt Well 2/4-8AX

	<u>DST 2</u>	DST 3 (Rerun <u>DST 1</u>)	<u>DST 4</u>	DST 4 <u>Post Acid</u>	DST 5 <u>Pre-Acid</u>	DST 5 <u>Post Acid</u>	<u>DST 6</u>
<u>Geochemistry Branch Code</u>	JBT	JBV	JBX	JEZ	JCB	JCD	JCF
<u>Raw Gas, δC^{13} PDB</u>	-40.1	-40.1	-40.4	-38.2	-37.8	-40.8	-39.0
<u>Component, δC^{13} PDB</u>							
methane	-46.8	-46.9	-46.7	-45.7	-46.0	-47.0	-46.8
ethane	-32.7	-32.7	-32.3	-31.7	-32.6	-32.8	-32.9
propane	-30.2	-30.3	-29.9	-28.6	-30.1	-30.3	-29.0
isobutane	-30.4	-30.9	-30.9	(1)	-31.0	-31.1	-30.9
n-butane	-29.4	-29.4	-29.2	(1)	-29.6	-29.6	-29.6

(1) Insufficient sample to complete analysis.

TABLE V

Carbon Isotopic Compositions of the Gas Fractions (Companion Gas Samples)
and Components, Methane Through n-Butane
Amoco Torfelt 2/5-1X

	DST 4 <u>Oct. 23, 1970</u>	DST --- <u>Nov. 3, 1970</u>	DST --- <u>Nov. 4, 1970</u>	DST --- <u>Nov. 10, 1970</u>
<u>Geochemistry Branch Code</u>	JFV	JFX	JFZ	JGB
<u>Raw Gas, $\delta_{\text{PDB}}^{13}\text{C}$</u>	-38.8	-43.5	-38.8	-40.9
<u>Component, $\delta_{\text{PDB}}^{13}\text{C}$</u>				
methane	-47.0	-45.2	-47.2	-46.6
ethane	-32.9	-32.8	-32.6	-34.2
propane	-30.5	-31.0	-31.2	-30.1
isobutane	-31.0	-31.8	-31.0	-34.6
n-butane	-30.4	-30.3	(1)	-29.0

(1) Insufficient sample to complete analysis.

COMPONENT COMPOSITIONS OF COMPANION GAS, LIQUID AND COMBINED STREAMS

Well 2/A-RAT, DST 2, Feb. 25, 1972

COMPONENT	GAS SAMPLE		LIQUID SAMPLE		COMBINED STREAM	
	WT PCT.	MOL PCT	WT PCT.	MOL PCT	WT PCT.	MOL PCT
HELIUM	0.000	0.000	0.000	0.000	0.000	0.000
HYDROGEN SULFIDE	0.000	0.000	0.000	0.000	0.000	0.000
OXYGEN + ARGON	0.000	0.000	0.000	0.000	0.000	0.000
NITROGEN	1.332	1.035	0.012	0.064	0.381	0.722
CARBON DIOXIDE	3.844	1.901	0.117	0.392	1.173	1.415
METHANE	56.406	76.533	0.837	7.644	16.427	54.344
ETHANE	15.739	11.393	1.081	5.265	5.337	9.419
PROPANE	10.826	5.344	2.126	7.057	4.898	5.895
ISOBUTANE	1.627	0.609	0.657	1.655	1.036	0.946
N-BUTANE	4.105	1.537	2.325	5.854	3.206	2.928
ISOPENTANE	1.216	0.367	1.195	2.425	1.400	1.029
N-PENTANE	1.674	0.505	1.978	4.012	2.222	1.634
NEOHXANE	0.021	0.005	0.029	0.050	0.032	0.019
CYCLOPENTANE	0.098	0.030	0.176	0.368	0.184	0.139
2,3-DIMETHYLBUTANE	0.052	0.013	0.100	0.170	0.103	0.063
2-METHYLPENTANE	0.394	0.099	0.772	1.311	0.795	0.490
3-METHYLPENTANE	0.207	0.052	0.455	0.772	0.461	0.284
N-HEXANE	0.609	0.153	1.479	2.512	1.483	0.913
METHYLCYCLOPENTANE + 2,2-DIMETHYLPENTANE	0.236	0.061	0.694	1.207	0.682	0.430
2,4-DIMETHYLPENTANE	0.027	0.005	0.081	0.118	0.079	0.042
BENZENE + 2,2,3-TRIMETHYLBUTANE	0.077	0.021	0.299	0.561	0.287	0.195
CYCLOHEXANE + 3,3-DIMETHYLPENTANE	0.207	0.053	0.776	1.350	0.747	0.471
2-METHYLHEXANE	0.107	0.023	0.435	0.636	0.416	0.220
2,3-DIMETHYLPENTANE + 1,1-DIMETHYLCYCLOPENTANE	0.054	0.011	0.226	0.331	0.216	0.114
3-METHYLHEXANE	0.107	0.023	0.470	0.687	0.448	0.237
1-CIS-3-DIMETHYLCYCLOPENTANE	0.030	0.006	0.143	0.213	0.135	0.073
1-TRANS-3-DIMETHYLCYCLOPENTANE + 3-ETHYLPENTANE	0.032	0.007	0.156	0.233	0.148	0.080
1-TRANS-2-DIMETHYLCYCLOPENTANE	0.048	0.010	0.235	0.351	0.222	0.120
N-HEPTANE	0.251	0.054	1.388	2.027	1.303	0.690
1-CIS-2-DIMETHYLCYCLOPENTANE	0.008	0.001	0.054	0.080	0.050	0.027
METHYLCYCLOHEXANE + 2,2-DIMETHYLPENTANE + 1,1,3-TRIMETHYLPENTANE	0.239	0.053	1.582	2.358	1.471	0.795
2,5-DIMETHYLHEXANE	0.028	0.005	0.221	0.284	0.205	0.095
2,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.000	0.000	0.006	0.008	0.005	0.002
2,2,3-TRIMETHYLPENTANE	0.009	0.001	0.074	0.095	0.069	0.032
1-TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.000	0.000	0.000	0.000
3,3-DIMETHYLHEXANE	0.001	0.000	0.017	0.022	0.016	0.007
TOLUENE	0.065	0.015	0.732	1.163	0.669	0.385
1-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.000	0.000	0.000	0.000
2,3,4-TRIMETHYLPENTANE	0.005	0.001	0.060	0.078	0.055	0.025
2,3-DIMETHYLPENTANE + 2,3,3-TRIMETHYLPENTANE + 2-METHYLPENTANE	0.007	0.001	0.116	0.149	0.105	0.049
2-METHYLHEPTANE + 4-METHYLHEPTANE	0.054	0.010	0.506	0.648	0.464	0.215
3,4-DIMETHYLPENTANE + 1-CIS-2-TRAN-4-TRIMETHYLPENTANE	0.001	0.000	0.156	0.200	0.139	0.064
3-ETHYLHEXANE	0.030	0.005	0.031	0.040	0.036	0.016
3-METHYLHEPTANE + 3-ME-3-ETHYLPENTANE	0.000	0.000	0.385	0.493	0.342	0.159
2,2,5-TRIMETHYLPENTANE + 1,1,3-TRIMETHYLPENTANE	0.000	0.000	0.022	0.025	0.019	0.008
1-CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.045	0.008	0.020	0.027	0.031	0.014
1-TRANS-4 + 1-CIS-3 + 1,1-DIMETHYLHEXANE	0.000	0.000	0.597	0.779	0.530	0.251
1-ME-3-ETHYLPENTANE + 2,2,4-TRIMETHYLHEXANE	0.000	0.000	0.000	0.000	0.000	0.000
1-ME-TRANS-2 + 1-ME-CIS-3-ETHYLPENTANE	0.008	0.001	0.069	0.090	0.064	0.030
CYCLOHEPTANE	0.060	0.013	0.016	0.025	0.031	0.017
N-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	0.015	0.003	1.202	1.541	1.072	0.498
1-CIS-4-DIMETHYLCYCLOHEXANE	0.006	0.001	0.219	0.286	0.196	0.092
1-TRANS-3-DIMETHYLCYCLOHEXANE	0.000	0.000	0.118	0.155	0.105	0.049
2,2,4-TRIMETHYLPENTANE + ISOPROPYLCYCLOPENTANE	0.002	0.000	0.027	0.031	0.025	0.010
2,3,5-TRIMETHYLPENTANE + 2,2-DIMETHYLHEPTANE	0.000	0.000	0.033	0.037	0.029	0.012
1-METHYL-CIS-2-ETHYLCYCLOPENTANE	0.008	0.001	0.082	0.107	0.075	0.035
2,4-DIMETHYLPENTANE + 2,2,3-TRIMETHYLHEXANE	0.006	0.001	0.162	0.185	0.146	0.060
2,6-DIMETHYLPENTANE + 1-CIS-2-DIMETHYLHEXANE	0.000	0.000	0.062	0.071	0.055	0.022
N-PROPYLCYCLOPENTANE + 2,5- + 3,5-DIMETHYLPENTANE	0.013	0.002	0.130	0.170	0.120	0.056
ETHYLCYCLOHEXANE	0.000	0.000	0.401	0.523	0.356	0.168
ETHYLBENZENE	0.000	0.000	0.122	0.168	0.108	0.054
3,3-DIMETHYLHEPTANE + 1,1,3-TRIMETHYLHEXANE	0.004	0.000	0.190	0.217	0.170	0.070
2,3,3-TRIMETHYLHEXANE	0.000	0.000	0.043	0.049	0.038	0.015
2-METHYL-3-ETHYLHEXANE	0.000	0.000	0.019	0.021	0.017	0.007
P-XYLENE	0.006	0.001	0.122	0.168	0.110	0.055
M-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.000	0.000	0.678	0.934	0.602	0.301
2,3- + 3,4-DIMETHYLHEPTANE	0.000	0.000	0.098	0.112	0.087	0.036
4-METHYLOCTANE	0.009	0.001	0.312	0.357	0.280	0.116
2-METHYLOCTANE	0.000	0.000	0.219	0.250	0.194	0.080
3-ETHYLHEPTANE	0.003	0.000	0.043	0.049	0.039	0.016
3-METHYLOCTANE	0.001	0.000	0.242	0.276	0.215	0.089
O-XYLENE (+ A C-10 ALKANE)	0.000	0.000	0.272	0.375	0.241	0.120
2,2,4-TRIMETHYLHEPTANE	0.000	0.000	0.014	0.014	0.012	0.004
2,2,5-TRIMETHYLHEPTANE	0.000	0.000	0.027	0.027	0.024	0.008
2,2,6-TRIMETHYLHEPTANE	0.000	0.000	0.000	0.000	0.000	0.000
*** UNKNOWN ***	0.000	0.000	0.057	0.058	0.050	0.018
2,5,5-TRIMETHYLHEPTANE	0.000	0.000	0.012	0.012	0.010	0.003
2,4,4-TRIMETHYLHEPTANE	0.000	0.000	0.048	0.050	0.043	0.016
*** A C-9 NAPHTHENE ***	0.013	0.002	0.214	0.248	0.193	0.081
ISOPROPYLBENZENE	0.000	0.000	0.088	0.108	0.078	0.034
N-NONANE	0.000	0.000	1.141	1.303	1.014	0.419
C-9 NAPHTHENES + C-10 ALKANES	0.000	0.000	2.035	2.359	1.808	0.760
N-PROPYLBENZENE	0.001	0.000	0.049	0.060	0.044	0.019
1-METHYL-3-ETHYLBENZENE	0.000	0.000	0.161	0.197	0.143	0.063
1-METHYL-4-ETHYLBENZENE	0.000	0.000	0.106	0.129	0.094	0.041
1-METHYL-2-ETHYLBENZENE	0.000	0.000	0.278	0.339	0.247	0.109
1,3,5-TRIMETHYLBENZENE	0.000	0.000	0.308	0.375	0.274	0.121
1,2,4-TRIMETHYLBENZENE	0.000	0.000	0.353	0.430	0.313	0.138
1,2,3-TRIMETHYLBENZENE	0.000	0.000	0.012	0.014	0.010	0.004
N-DECANE	0.000	0.000	1.089	1.120	0.967	0.360
UNDECANES AND HEAVIER	0.000	0.000	66.265	33.209	42.232	10.696

COMPONENT COMPOSITIONS OF COMPANION GAS, LIQUID AND COMBINED STREAMS
 Well 2/A-SAX, DST 3 (DST 1, Refsum), March 1, 1972

 CODE LETTERS OF LIQUID SAMPLE = AJBW L
 CODE LETTERS OF GAS SAMPLE = AJBV G TIME - 15:20:44 DATE - 5/1/1972

COMPONENT	GAS SAMPLE		LIQUID SAMPLE		COMBINED STREAM	
	WT PCT.	MOI PCT.	WT PCT.	MOI PCT.	WT PCT.	MOI PCT.
HELIUM	0.000	0.000	0.000	0.000	0.000	0.000
HYDROGEN SULFIDE	0.000	0.000	0.000	0.000	0.000	0.000
OXYGEN + ARGON	0.000	0.000	0.000	0.000	0.000	0.000
NITROGEN	1.419	1.063	0.005	0.033	0.408	0.756
CARBON DIOXIDE	4.206	2.007	0.079	0.283	1.267	1.493
METHANE	59.561	77.989	0.476	4.684	17.363	56.116
ETHANE	16.053	11.214	0.783	4.096	5.272	9.091
PROPANE	10.553	5.027	1.786	6.267	4.615	3.427
ISOBUTANE	1.483	0.536	0.591	1.598	0.956	0.853
N-BUTANE	3.513	1.269	2.061	5.575	2.863	2.554
ISOPENTANE	1.005	0.292	1.287	2.803	1.449	1.041
N-PENTANE	1.321	0.384	2.128	4.636	2.300	1.652
NEOHXANE	0.015	0.003	0.029	0.053	0.031	0.018
CYCLOPENTANE	0.052	0.015	0.188	0.423	0.185	0.137
2,3-DIMETHYLBUTANE	0.027	0.006	0.103	0.189	0.101	0.061
2-METHYLPENTANE	0.187	0.045	0.818	1.492	0.793	0.477
3-METHYLPENTANE	0.091	0.022	0.477	0.871	0.457	0.275
N-HEXANE	0.219	0.053	1.561	2.847	1.474	0.886
METHYLCYCLOPENTANE + 2,2-DIMETHYLPENTANE	0.076	0.019	0.717	1.340	0.670	0.413
2,4-DIMETHYLPENTANE	0.008	0.001	0.082	0.129	0.077	0.039
BENZENE + 2,2,3-TRIMETHYLBUTANE	0.009	0.002	0.317	0.638	0.289	0.192
CYCLOHEXANE + 3,3-DIMETHYLPENTANE	0.053	0.013	0.787	1.471	0.727	0.448
2-METHYLHEXANE	0.019	0.004	0.448	0.703	0.411	0.212
2,3-DIMETHYLPENTANE + 1,1-DIMETHYLCYCLOPENT.	0.010	0.002	0.230	0.361	0.211	0.109
3-METHYLHEXANE	0.018	0.003	0.482	0.756	0.441	0.228
1-CIS-3-DIMETHYLCYCLOPENTANE	0.005	0.001	0.144	0.231	0.132	0.069
1-TRANS-3-DIMETHYLCYCLOPENTANE + 3-ETHYLPENTANE	0.005	0.001	0.159	0.255	0.145	0.076
1-TRANS-2-DIMETHYLCYCLOPENTANE	0.008	0.001	0.237	0.380	0.217	0.114
N-HEPTANE	0.028	0.006	1.412	2.215	1.285	0.665
1-CIS-2-DIMETHYLCYCLOPENTANE	0.001	0.000	0.054	0.086	0.049	0.026
METHYHEX + 2,2-DIMETHYLPENTANE + 1,1,3-TRIMETHYLPENTANE	0.028	0.006	1.581	2.531	1.437	0.759
2,5-DIMETHYLHEXANE	0.000	0.000	0.222	0.306	0.201	0.091
2,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.001	0.000	0.007	0.010	0.007	0.003
2,2,3-TRIMETHYLPENTANE	0.000	0.000	0.076	0.105	0.069	0.031
1-TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.000	0.000	0.000	0.000
3,3-DIMETHYLHEXANE	0.000	0.000	0.018	0.025	0.016	0.007
TOLUENE	0.000	0.000	0.728	1.242	0.658	0.370
1-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.000	0.000	0.000	0.000
2,3,4-TRIMETHYLPENTANE	0.000	0.000	0.041	0.057	0.037	0.017
2,3-DIMETHYLPENTANE + 2,3-TRIMETHYLPENTANE + 2-METHYLPENTANE	0.000	0.000	0.111	0.153	0.101	0.045
2-METHYLHEPTANE + 4-METHYLHEPTANE	0.001	0.000	0.505	0.695	0.457	0.207
3,4-DIMETHYLPENTANE + 1-CIS-2-TRAN-4-TRIMETHYLPENTANE	0.000	0.000	0.153	0.211	0.138	0.062
3-ETHYLHEXANE	0.000	0.000	0.030	0.042	0.027	0.012
3-METHYLHEPTANE + 3-ME-3-ETHYLPENTANE	0.001	0.000	0.381	0.524	0.345	0.156
2,2,5-TRIMETHYLPENTANE + 1,1,3-TRIMETHYLPENTANE	0.000	0.000	0.020	0.025	0.018	0.007
1-CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.020	0.028	0.018	0.008
1-TRANS-4 + 1-CIS-3 + 1,1-DIMETHYLHEXANE	0.002	0.000	0.589	0.826	0.533	0.246
1-ME-3-ETHYLPENTANE + 2,2,4-TRIMETHYLHEXANE	0.000	0.000	0.000	0.000	0.000	0.000
1-ME-TRANS-2 + 1-ME-CIS-3-ETHYLPENTANE	0.000	0.000	0.069	0.097	0.063	0.029
CYCLOHEPTANE	0.000	0.000	0.017	0.027	0.015	0.008
N-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	0.001	0.000	1.267	1.743	1.166	0.520
1-CIS-4-DIMETHYLCYCLOHEXANE	0.000	0.000	0.137	0.192	0.124	0.057
1-TRANS-3-DIMETHYLCYCLOHEXANE	0.000	0.000	0.114	0.159	0.103	0.047
2,2,4-TRIMETHYLHEXANE + ISOPROPYLCYCLOPENT.	0.000	0.000	0.027	0.033	0.024	0.009
2,3,5-TRIMETHYLHEXANE + 2,2-DIMETHYLHEPTANE	0.000	0.000	0.033	0.041	0.030	0.012
1-METHYL-CIS-2-ETHYLCYCLOPENTANE	0.000	0.000	0.082	0.115	0.074	0.034
2,4-DIMETHYLHEPTANE + 2,2,3-TRIMETHYLHEXANE	0.000	0.000	0.225	0.276	0.204	0.082
2,6-DIMETHYLHEPTANE + 1-CIS-2-DIMETHYLHEXANE	0.000	0.000	0.113	0.138	0.102	0.041
N-PROPYLCYCLOPENTANE + 2,5- + 3,5-DIMETHYLHEPTANE	0.000	0.000	0.013	0.019	0.012	0.005
ETHYLCYCLOHEXANE	0.000	0.000	0.392	0.549	0.354	0.163
ETHYLBENZENE	0.000	0.000	0.128	0.190	0.116	0.056
3,3-DIMETHYLHEPTANE + 1,1,3-TRIMETHYLHEXANE	0.000	0.000	0.184	0.226	0.166	0.067
2,3,3-TRIMETHYLHEXANE	0.000	0.000	0.063	0.053	0.039	0.016
2-METHYL-3-ETHYLHEXANE	0.000	0.000	0.020	0.025	0.018	0.007
P-XYLENE	0.000	0.000	0.138	0.205	0.125	0.061
M-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.000	0.000	0.679	1.005	0.614	0.299
2,3- + 3,4-DIMETHYLHEPTANE	0.000	0.000	0.081	0.100	0.074	0.029
4-METHYLOCTANE	0.000	0.000	0.302	0.370	0.273	0.110
2-METHYLOCTANE	0.000	0.000	0.213	0.262	0.193	0.078
3-ETHYLHEPTANE	0.000	0.000	0.043	0.052	0.038	0.015
3-METHYLOCTANE	0.000	0.000	0.230	0.282	0.208	0.084
O-XYLENE (+ A C-10 ALKANE)	0.000	0.000	0.287	0.425	0.260	0.127
2,2,4-TRIMETHYLHEPTANE	0.000	0.000	0.012	0.014	0.011	0.004
2,2,5-TRIMETHYLHEPTANE	0.000	0.000	0.028	0.031	0.025	0.009
2,2,6-TRIMETHYLHEPTANE	0.000	0.000	0.000	0.000	0.000	0.000
*** UNKNOWN ***	0.000	0.000	0.059	0.065	0.053	0.019
2,4,5-TRIMETHYLHEPTANE	0.000	0.000	0.013	0.014	0.011	0.004
2,4,4-TRIMETHYLHEPTANE	0.000	0.000	0.051	0.057	0.046	0.017
*** A C-9 NAPHTHENE ***	0.000	0.000	0.219	0.272	0.198	0.081
ISOPROPYLBENZENE	0.000	0.000	0.092	0.120	0.083	0.035
N-NONANE	0.000	0.000	1.123	1.376	1.016	0.410
C-9 NAPHTHENES + C-10 ALKANES	0.006	0.001	2.199	2.738	1.990	0.817
N-PROPYLBENZENE	0.000	0.000	0.089	0.117	0.081	0.035
1-METHYL-3-ETHYLBENZENE	0.000	0.000	0.180	0.236	0.163	0.070
1-METHYL-4-ETHYLBENZENE	0.000	0.000	0.113	0.148	0.102	0.044
1-METHYL-2-ETHYLBENZENE	0.000	0.000	0.305	0.398	0.275	0.119
1,3,5-TRIMETHYLBENZENE	0.000	0.000	0.310	0.406	0.280	0.121
1,2,4-TRIMETHYLBENZENE	0.000	0.000	0.389	0.509	0.352	0.152
1,2,3-TRIMETHYLBENZENE	0.000	0.000	0.177	0.232	0.160	0.069
N-DECANE	0.000	0.000	1.076	1.188	0.973	0.354
UNDECANES AND HEAVIER	0.000	0.000	66.763	34.179	41.514	10.195

COMPONENT COMPOSITIONS OF COMPANION GAS, LIQUID AND COMBINED STREAMS
 Well 2/A-SAX, DST A, March 6, 1972

 CODE LETTERS OF LIQUID SAMPLE = AJBY L
 CODE LETTERS OF GAS SAMPLE = AJBX G
 TIME - 14:56:20 DATE - 4/26/1972

COMPONENT	GAS SAMPLE		LIQUID SAMPLE		COMBINED STREAM	
	WT PCT.	MOI PCT.	WT PCT.	MOI PCT.	WT PCT.	MOI PCT.
HELIUM	0.000	0.000	0.000	0.000	0.000	0.000
HYDROGEN SULFIDE	0.000	0.000	0.000	0.000	0.000	0.000
OXYGEN + ARGON	0.000	0.000	0.000	0.000	0.000	0.000
NITROGEN	1.274	0.921	0.004	0.026	0.428	0.692
CARBON DIOXIDE	3.766	1.732	0.100	0.345	1.338	1.378
METHANE	63.388	79.998	0.820	7.765	21.779	61.537
ETHANE	16.543	11.138	1.029	5.196	6.381	9.620
PROPANE	9.886	4.539	2.024	6.968	5.019	5.160
ISOBUTANE	1.183	0.412	0.626	1.636	0.929	0.725
N-BUTANE	2.451	0.853	2.131	5.566	2.639	2.058
ISOPENTANE	0.536	0.150	1.113	2.342	1.131	0.710
N-PENTANE	0.587	0.184	1.818	3.826	1.751	1.100
NEOHXANE	0.004	0.001	0.025	0.045	0.023	0.012
CYCLOPENTANE	0.020	0.006	0.161	0.349	0.145	0.093
2,3-DIMETHYLBUTANE	0.010	0.002	0.092	0.163	0.083	0.043
2-METHYLPENTANE	0.076	0.017	0.704	1.241	0.628	0.330
3-METHYLPENTANE	0.036	0.008	0.416	0.733	0.368	0.193
N-HEXANE	0.088	0.020	1.262	2.399	1.195	0.628
METHYLCYCLOPENTANE + 2,2-DIMETHYLPENTANE	0.030	0.007	0.640	1.155	0.558	0.300
2,4-DIMETHYLPENTANE	0.003	0.000	0.076	0.115	0.066	0.029
BENZENE + 2,2,3-TRIMETHYLBUTANE	0.007	0.001	0.286	0.556	0.247	0.143
CYCLOHEXANE + 3,3-DIMETHYLPENTANE	0.020	0.004	0.717	1.293	0.620	0.334
2-METHYLHEXANE	0.009	0.001	0.403	0.610	0.348	0.157
2,3-DIMETHYLPENTANE + 1,1-DIMETHYLCYCLOPENT.	0.004	0.000	0.211	0.321	0.182	0.082
3-METHYLHEXANE	0.008	0.001	0.437	0.663	0.377	0.170
1-CIS-3-DIMETHYLCYCLOPENTANE	0.002	0.000	0.133	0.206	0.114	0.053
1-TRANS-3-DIMETHYLPENTANE + 3-ETHYLPENTANE	0.002	0.000	0.144	0.223	0.124	0.057
1-TRANS-2-DIMETHYLCYCLOPENTANE	0.003	0.000	0.219	0.239	0.188	0.087
N-HEPTANE	0.017	0.003	1.289	1.953	1.109	0.501
1-CIS-2-DIMETHYLCYCLOPENTANE	0.000	0.000	0.050	0.077	0.042	0.019
MECYHEX + 2,2-DIMEHEX + 1,1,3-TRIMECYPENT	0.016	0.003	1.473	2.278	1.266	0.584
2,5-DIMETHYLHEXANE	0.001	0.000	0.208	0.277	0.179	0.071
2,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.000	0.000	0.007	0.009	0.006	0.002
2,2,3-TRIMETHYLPENTANE	0.000	0.000	0.070	0.093	0.060	0.024
1-TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.000	0.000	0.000	0.000
3,3-DIMETHYLHEXANE	0.000	0.000	0.017	0.023	0.014	0.005
TOLUENE	0.001	0.000	0.675	1.113	0.578	0.284
1-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.000	0.000	0.000	0.000
2,3,4-TRIMETHYLPENTANE	0.000	0.000	0.051	0.068	0.044	0.017
2,3-DIMEHEX+2,3,3-TRIMEPENT+2-ME3-ETPENT	0.000	0.000	0.108	0.144	0.092	0.036
2-METHYLHEPTANE + 4-METHYLHEPTANE	0.003	0.000	0.478	0.635	0.410	0.162
3,4-DIMEHEX + 1-CIS-2-TRAN-4-TRIMECYPENT	0.000	0.000	0.148	0.197	0.127	0.050
3-ETHYLHEXANE	0.001	0.000	0.029	0.039	0.025	0.010
3-METHYLHEPTANE + 3-ME-3-ETHYLPENTANE	0.000	0.000	0.364	0.484	0.312	0.123
2,2,5-TRIMEHEX+1,1,3-TR-4-TETRAMECYPENT.	0.000	0.000	0.020	0.024	0.017	0.006
1-CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.002	0.000	0.018	0.025	0.016	0.006
1-TRANS-4 + 1-CIS-3 + 1,1-DIMECYHEXANE	0.000	0.000	0.563	0.762	0.482	0.194
1-ME-3-ETHCYPENT + 2,2,4-TRIMETHYLHEXANE	0.000	0.000	0.000	0.000	0.000	0.000
1-ME-TRANS-2 + 1-ME-CIS-3-ETHYLCYPENTANE	0.000	0.000	0.065	0.089	0.056	0.022
CYCLOHEPTANE	0.004	0.000	0.016	0.025	0.015	0.007
N-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	0.000	0.000	1.203	1.599	1.030	0.408
1-CIS-4-DIMETHYLCYCLOHEXANE	0.000	0.000	0.142	0.193	0.122	0.049
1-TRANS-3-DIMETHYLCYCLOHEXANE	0.000	0.000	0.110	0.150	0.095	0.038
2,2,4-TRIMEHEXANE + ISOPROPYLCYCLOPENT.	0.000	0.000	0.025	0.030	0.021	0.007
2,3,5-TRIMEHEXANE + 2,2-DIMETHYLHEPTANE	0.000	0.000	0.032	0.038	0.027	0.009
1-METHYL-CIS-2-ETHYLCYCLOPENTANE	0.000	0.000	0.079	0.107	0.067	0.027
2,4-DIMEHEPTANE + 2,2,3-TRIMETHYLHEXANE	0.000	0.000	0.156	0.184	0.133	0.047
2,6-DIMEHEPTANE + 1-CIS-2-DIMECYHEXANE	0.000	0.000	0.173	0.205	0.148	0.052
N-PROPYLCYPENT + 2,5- + 3,5-DIMEHEPTANE	0.001	0.000	0.013	0.018	0.011	0.004
ETHYLCYCLOHEXANE	0.000	0.000	0.381	0.516	0.326	0.132
ETHYLBENZENE	0.000	0.000	0.122	0.175	0.104	0.044
3,3-DIMETHYLHEPTANE + 1,1,3-TRIMECYHEXANE	0.000	0.000	0.182	0.215	0.156	0.055
2,3,3-TRIMETHYLHEXANE	0.000	0.000	0.042	0.050	0.036	0.012
2-METHYL-3-ETHYLHEXANE	0.000	0.000	0.019	0.022	0.016	0.005
P-XYLENE	0.000	0.000	0.126	0.181	0.108	0.046
M-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.000	0.000	0.680	0.972	0.582	0.248
2,3- + 3,4-DIMETHYLHEPTANE	0.000	0.000	0.090	0.107	0.077	0.027
4-METHYLOCTANE	0.000	0.000	0.302	0.357	0.258	0.091
2-METHYLOCTANE	0.000	0.000	0.217	0.257	0.186	0.065
3-ETHYLHEPTANE	0.000	0.000	0.042	0.050	0.036	0.012
3-METHYLOCTANE	0.000	0.000	0.238	0.282	0.204	0.072
0-XYLENE (+ A C-10 ALKANE)	0.000	0.000	0.277	0.396	0.237	0.101
2,2,4-TRIMETHYLHEPTANE	0.000	0.000	0.013	0.014	0.011	0.003
2,2,5-TRIMETHYLHEPTANE	0.000	0.000	0.027	0.028	0.023	0.007
2,2,6-TRIMETHYLHEPTANE	0.000	0.000	0.000	0.000	0.000	0.000
*** UNKNOWN ***	0.000	0.000	0.057	0.061	0.048	0.015
2,5,5-TRIMETHYLHEPTANE	0.000	0.000	0.012	0.012	0.010	0.003
2,4,4-TRIMETHYLHEPTANE	0.000	0.000	0.049	0.053	0.042	0.013
*** A C-9 NAPHTHENE ***	0.000	0.000	0.215	0.259	0.184	0.066
ISOPROPYLBENZENE	0.000	0.000	0.089	0.113	0.076	0.028
N-NDANE	0.000	0.000	1.144	1.354	0.979	0.346
C-9 NAPHTHENES + C-10 ALKANES	0.000	0.000	2.132	2.563	1.824	0.655
N-PROPYLBENZENE	0.000	0.000	0.079	0.100	0.068	0.025
1-METHYL-3-ETHYLBENZENE	0.000	0.000	0.177	0.223	0.151	0.057
1-METHYL-4-ETHYLBENZENE	0.000	0.000	0.112	0.142	0.096	0.036
1-METHYL-2-ETHYLBENZENE	0.000	0.000	0.303	0.383	0.259	0.097
1,3,5-TRIMETHYLBENZENE	0.000	0.000	0.318	0.402	0.272	0.102
1,2,4-TRIMETHYLBENZENE	0.000	0.000	0.390	0.493	0.334	0.126
1,2,3-TRIMETHYLBENZENE	0.000	0.000	0.169	0.214	0.145	0.054
N-DECANE	0.000	0.000	1.129	1.204	0.966	0.307
UNDECANES AND HEAVIER	0.000	0.000	67.551	33.842	38.975	8.649

COMPONENT COMPOSITIONS OF COMPANION GAS, LIQUID AND COMBINED STREAM
Well 2/1-8AX, DST A Foot Acid, March 8, 1972

COMPONENT	GAS SAMPLE		LIQUID SAMPLE		COMBINED STREAM	
	WT. PCT.	MOL. PCT.	WT. PCT.	MOL. PCT.	WT. PCT.	MOL. PCT.
HELIUM	0.000	0.000	0.000	0.000	0.000	0.000
HYDROGEN SULFIDE	0.000	0.000	0.000	0.000	0.000	0.000
OXYGEN + ARGON	0.000	0.000	0.000	0.000	0.000	0.000
NITROGEN	1.437	1.162	0.011	0.057	0.534	0.867
CARBON DIOXIDE	7.052	3.567	0.273	0.895	2.800	2.890
METHANE	54.517	75.659	1.055	9.482	20.798	58.896
ETHANE	14.360	10.632	1.190	5.707	6.212	9.385
PROPANE	9.300	4.896	2.185	7.143	5.160	5.316
ISOBUTANE	1.333	0.510	0.652	1.619	1.012	0.791
N-BUTANE	3.142	1.203	2.197	5.451	2.914	2.279
ISOPENTANE	1.389	0.428	1.207	2.413	1.479	0.931
N-PENTANE	4.782	1.475	1.778	3.553	3.179	2.001
NEOHEXANE	0.032	0.008	0.026	0.045	0.033	0.017
CYCLOPENTANE	0.149	0.047	0.169	0.348	0.191	0.123
2,3-DIMETHYLBUTANE	0.076	0.019	0.097	0.162	0.106	0.055
2-METHYLPENTANE	0.538	0.139	0.761	1.260	0.793	0.618
3-METHYLPENTANE	0.257	0.066	0.438	0.734	0.446	0.235
N-HEXANE	0.634	0.163	1.421	2.378	1.375	0.724
METHYLCYCLOPENTANE + 2,2-DIMETHYLPENTANE	0.209	0.055	0.670	1.148	0.615	0.332
2,4-DIMETHYLPENTANE	0.019	0.004	0.079	0.113	0.070	0.032
BENZENE + 2,2,3-TRIMETHYLBUTANE	0.059	0.016	0.296	0.548	0.260	0.151
CYCLOHEXANE + 3,3-DIMETHYLPENTANE	0.137	0.036	0.750	1.286	0.653	0.352
2-METHYLHEXANE	0.061	0.013	0.422	0.607	0.361	0.164
2,3-DIMETHYLPENTANE + 1,1-DIMETHYLCYCLOPENT.	0.030	0.006	0.220	0.317	0.188	0.085
3-METHYLHEXANE	0.058	0.013	0.457	0.658	0.389	0.176
1-CIS-3-DIMETHYLCYCLOPENTANE	0.015	0.003	0.139	0.204	0.117	0.054
1-TRANS-3-DIMETHYLPENTANE + 3-ETHYLPENTANE	0.017	0.003	0.151	0.221	0.127	0.059
1-TRANS-2-DIMETHYLCYCLOPENTANE	0.024	0.005	0.230	0.337	0.193	0.089
N-HEPTANE	0.116	0.025	1.352	1.946	1.130	0.512
1-CIS-2-DIMETHYLCYCLOPENTANE	0.005	0.001	0.052	0.076	0.044	0.020
METHYLCYCLOHEXANE + 2,2-DIMETHYLPENTANE	0.096	0.021	1.607	2.360	1.327	0.614
2,5-DIMETHYLHEXANE	0.011	0.002	0.150	0.190	0.125	0.049
2,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.000	0.000	0.007	0.009	0.005	0.002
2,2,3-TRIMETHYLPENTANE	0.004	0.000	0.073	0.092	0.060	0.024
1-TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.000	0.000	0.000	0.000
3,3-DIMETHYLHEXANE	0.000	0.000	0.017	0.022	0.014	0.005
TOLUENE	0.021	0.005	0.706	1.105	0.575	0.283
1-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.000	0.000	0.000	0.000
2,3,4-TRIMETHYLPENTANE	0.000	0.000	0.049	0.062	0.039	0.015
2,3-DIMETHYLPENTANE + 2,3-TRIMETHYLPENTANE	0.002	0.000	0.110	0.140	0.090	0.035
2-METHYLHEPTANE + 4-METHYLHEPTANE	0.018	0.003	0.493	0.622	0.403	0.160
3,4-DIMETHYLPENTANE + 1-CIS-2-TRAN-4-TRIMETHYLPENTANE	0.004	0.000	0.152	0.193	0.124	0.049
3-ETHYLHEXANE	0.011	0.002	0.030	0.037	0.028	0.011
3-METHYLHEPTANE + 3-ME-3-ETHYLPENTANE	0.000	0.000	0.377	0.475	0.303	0.120
2,2,5-TRIMETHYLPENTANE + 1,1,3-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.021	0.023	0.016	0.005
1-CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.011	0.002	0.020	0.025	0.020	0.008
1-TRANS-4 + 1-CIS-3 + 1,1-DIMETHYLPENTANE	0.000	0.000	0.584	0.751	0.470	0.190
1-ME-3-ETHYLPENTANE + 2,2,4-TRIMETHYLHEXANE	0.000	0.000	0.000	0.000	0.000	0.000
1-ME-TRANS-2 + 1-ME-CIS-3-ETHYLPENTANE	0.001	0.000	0.068	0.087	0.055	0.022
CYCLOHEPTANE	0.028	0.006	0.017	0.025	0.024	0.011
N-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	0.004	0.000	1.252	1.580	1.008	0.400
1-CIS-4-DIMETHYLCYCLOHEXANE	0.002	0.000	0.137	0.176	0.111	0.045
1-TRANS-3-DIMETHYLCYCLOHEXANE	0.000	0.000	0.114	0.146	0.091	0.037
2,2,4-TRIMETHYLPENTANE + ISOPROPYLCYCLOPENT.	0.000	0.000	0.026	0.029	0.021	0.007
2,3,5-TRIMETHYLPENTANE + 2,2-DIMETHYLHEPTANE	0.000	0.000	0.033	0.037	0.026	0.009
1-METHYL-CIS-2-ETHYLCYCLOPENTANE	0.002	0.000	0.081	0.104	0.066	0.026
2,4-DIMETHYLPENTANE + 2,2,3-TRIMETHYLHEXANE	0.000	0.000	0.222	0.249	0.178	0.063
2,6-DIMETHYLPENTANE + 1-CIS-2-DIMETHYLPENTANE	0.000	0.000	0.000	0.000	0.000	0.000
N-PROPYLCYCLOPENTANE + 2,5- + 3,5-DIMETHYLPENTANE	0.004	0.000	0.128	0.164	0.104	0.042
ETHYLCYCLOHEXANE	0.000	0.000	0.392	0.504	0.315	0.127
ETHYLBENZENE	0.000	0.000	0.124	0.169	0.100	0.042
3,3-DIMETHYLHEPTANE + 1,1,3-TRIMETHYLPENTANE	0.001	0.000	0.184	0.207	0.149	0.052
2,3,3-TRIMETHYLHEXANE	0.000	0.000	0.062	0.067	0.033	0.012
2-METHYL-3-ETHYLHEXANE	0.000	0.000	0.018	0.021	0.015	0.005
P-XYLENE	0.000	0.000	0.131	0.178	0.105	0.045
M-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.000	0.000	0.689	0.936	0.554	0.237
2,3- + 3,4-DIMETHYLHEPTANE	0.000	0.000	0.086	0.097	0.069	0.024
4-METHYLOCTANE	0.002	0.000	0.304	0.341	0.245	0.086
2-METHYLOCTANE	0.000	0.000	0.217	0.245	0.175	0.062
3-ETHYLHEPTANE	0.001	0.000	0.041	0.046	0.034	0.012
3-METHYLOCTANE	0.000	0.000	0.238	0.268	0.192	0.068
O-XYLENE (+ A C-10 ALKANE)	0.000	0.000	0.278	0.378	0.223	0.095
2,2,4-TRIMETHYLHEPTANE	0.000	0.000	0.012	0.012	0.010	0.003
2,2,5-TRIMETHYLHEPTANE	0.000	0.000	0.024	0.025	0.019	0.006
2,2,6-TRIMETHYLHEPTANE	0.000	0.000	0.000	0.000	0.000	0.000
*** UNKNOWN ***	0.000	0.000	0.055	0.056	0.044	0.014
2,5,5-TRIMETHYLHEPTANE	0.000	0.000	0.011	0.012	0.009	0.003
2,4,4-TRIMETHYLHEPTANE	0.000	0.000	0.048	0.048	0.038	0.012
*** A C-9 NAPHTHENE ***	0.004	0.000	0.212	0.242	0.172	0.061
ISOPROPYLBENZENE	0.000	0.000	0.089	0.107	0.071	0.027
N-NDANE	0.000	0.000	1.140	1.281	0.916	0.324
C-9 NAPHTHENES + C-10 ALKANES	0.001	0.000	2.036	2.325	1.637	0.589
N-PROPYLBENZENE	0.000	0.000	0.056	0.068	0.045	0.017
1-METHYL-3-ETHYLBENZENE	0.000	0.000	0.171	0.205	0.137	0.052
1-METHYL-4-ETHYLBENZENE	0.000	0.000	0.107	0.128	0.086	0.032
1-METHYL-2-ETHYLBENZENE	0.000	0.000	0.286	0.343	0.230	0.087
1,3,5-TRIMETHYLBENZENE	0.000	0.000	0.304	0.365	0.244	0.092
1,2,4-TRIMETHYLBENZENE	0.000	0.000	0.369	0.442	0.296	0.112
1,2,3-TRIMETHYLBENZENE	0.000	0.000	0.153	0.184	0.123	0.046
N-DECANE	0.000	0.000	1.074	1.088	0.863	0.275
UNDECANES AND HEAVIER	0.000	0.000	66.335	32.198	36.343	8.156

COMPONENT COMPOSITIONS OF COMBINATION GAS, LIQUID AND COMBINED STREAMS
 Well 2/4-643, DST 5, Pre Acid, March 18, 1972

 CODE LETTERS OF LIQUID SAMPLE = AJCC L
 CODE LETTERS OF GAS SAMPLE = AJCR G

TIME = 1411911A DATE = 4/28/1972

COMPONENT	GAS SAMPLE		LIQUID SAMPLE		COMBINED STREAM	
	WT PCT.	MOI PCT.	WT PCT.	MOI PCT.	WT PCT.	MOI PCT.
HELIUM	0.000	0.000	0.000	0.000	0.000	0.000
HYDROGEN SULFIDE	0.000	0.000	0.000	0.000	0.000	0.000
OXYGEN + ARGON	0.000	0.000	0.000	0.000	0.000	0.000
NITROGEN	1.033	0.819	0.051	0.318	0.304	0.656
CARBON DIOXIDE	3.256	1.642	0.019	0.076	0.823	1.128
METHANE	53.951	74.669	0.051	0.563	13.394	50.315
ETHANE	16.516	12.195	0.309	1.790	4.379	8.776
PROPANE	12.796	6.443	1.171	4.621	4.276	5.844
ISOBUTANE	2.015	0.770	0.478	1.431	0.952	0.987
N-BUTANE	4.998	1.909	1.784	5.339	2.928	3.036
ISOPENTANE	1.446	0.445	1.133	2.731	1.432	1.196
N-PENTANE	1.886	0.580	1.814	6.373	2.187	1.826
NEOHEXANE	0.019	0.005	0.027	0.054	0.030	0.021
CYCLOPENTANE	0.095	0.030	0.176	0.438	0.191	0.164
2,3-DIMETHYLBUTANE	0.048	0.012	0.099	0.200	0.106	0.074
2-METHYLPENTANE	0.343	0.088	0.775	1.566	0.820	0.573
3-METHYLPENTANE	0.173	0.044	0.459	0.926	0.478	0.334
N-HEXANE	0.454	0.117	1.503	3.034	1.538	1.075
METHYLCYCLOPENTANE + 2,2-DIMETHYLPENTANE	0.169	0.044	0.704	1.456	0.710	0.508
2,4-DIMETHYLPENTANE	0.017	0.003	0.084	0.146	0.084	0.050
BENZENE + 2,2,3-TRIMETHYLBUTANE	0.052	0.014	0.313	0.698	0.310	0.239
CYCLOHEXANE + 3,3-DIMETHYLPENTANE	0.130	0.036	0.795	1.645	0.787	0.563
2-METHYLHEXANE	0.055	0.012	0.445	0.773	0.436	0.262
2,3-DIMETHYLPENTANE + 1,1-DIMETHYLCYCLOPENT.	0.029	0.006	0.233	0.405	0.228	0.137
3-METHYLHEXANE	0.054	0.012	0.483	0.839	0.472	0.283
1-CIS-3-DIMETHYLCYCLOPENTANE	0.016	0.003	0.147	0.261	0.144	0.088
1-TRANS-3-DIMETHYLCYCLOPENTANE + 3-ETHYLPENTANE	0.016	0.003	0.161	0.286	0.157	0.096
1-TRANS-2-DIMETHYLCYCLOPENTANE	0.024	0.005	0.243	0.431	0.237	0.145
N-HEPTANE	0.112	0.025	1.421	2.467	1.376	0.827
1-CIS-2-DIMETHYLCYCLOPENTANE	0.006	0.001	0.054	0.097	0.053	0.032
METHYLCYCLOHEXANE + 2,2-DIMETHYLHEXANE + 1,1,3-TRIMETHYLCYCLOPENTANE	0.110	0.025	1.690	2.994	1.631	1.001
2,5-DIMETHYLHEXANE	0.012	0.002	0.158	0.240	0.153	0.080
2,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.000	0.000	0.007	0.011	0.007	0.003
2,2,3-TRIMETHYLPENTANE	0.003	0.000	0.078	0.118	0.074	0.039
1-TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.018	0.029	0.017	0.009
3,3-DIMETHYLHEXANE	0.000	0.000	0.000	0.000	0.000	0.000
TOLUENE	0.023	0.005	0.724	1.367	0.692	0.453
1-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.000	0.000	0.000	0.000
2,3,4-TRIMETHYLPENTANE	0.001	0.000	0.043	0.075	0.047	0.024
2,3-DIMETHYLHEXANE + 2,3-TRIMETHYLHEPTANE + 2-METHYLHEPTANE + 4-METHYLHEPTANE	0.003	0.000	0.115	0.176	0.110	0.058
2-METHYLHEPTANE + 4-METHYLHEPTANE	0.015	0.003	0.517	0.787	0.494	0.260
3,4-DIMETHYLHEXANE + 1-CIS-2-TRAN-4-TRIMETHYLCYCLOPENTANE	0.004	0.000	0.157	0.239	0.150	0.079
3-ETHYLHEXANE	0.010	0.001	0.031	0.047	0.032	0.016
3-METHYLHEPTANE + 3-ME-3-ETHYLPENTANE	0.000	0.000	0.391	0.595	0.371	0.195
2,2,5-TRIMETHYLHEXANE + 1,1,3-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.021	0.028	0.020	0.009
1-CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.021	0.032	0.020	0.010
1-TRANS-4 + 1-CIS-3 + 1,1-DIMETHYLHEXANE	0.016	0.003	0.614	0.952	0.586	0.315
1-ME-3-ETHYLHEPTANE + 2,2,4-TRIMETHYLHEXANE	0.000	0.000	0.000	0.000	0.000	0.000
1-ME-TRANS-2 + 1-ME-CIS-3-ETHYLHEPTANE	0.001	0.000	0.072	0.111	0.068	0.037
CYCLOHEPTANE	0.021	0.004	0.018	0.031	0.022	0.013
N-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	0.006	0.001	1.325	2.017	1.258	0.663
1-CIS-4-DIMETHYLCYCLOHEXANE	0.000	0.000	0.122	0.190	0.116	0.062
1-TRANS-3-DIMETHYLCYCLOHEXANE	0.002	0.000	0.118	0.183	0.112	0.060
2,2,4-TRIMETHYLHEXANE + ISOPROPYLCYCLOPENTANE	0.000	0.000	0.026	0.036	0.025	0.012
2,3,5-TRIMETHYLHEXANE + 2,2-DIMETHYLHEPTANE	0.000	0.000	0.034	0.047	0.032	0.015
1-METHYL-CIS-2-ETHYLCYCLOPENTANE	0.003	0.000	0.085	0.132	0.082	0.044
2,4-DIMETHYLHEPTANE + 2,2,3-TRIMETHYLHEXANE	0.002	0.000	0.235	0.319	0.224	0.105
2,6-DIMETHYLHEPTANE + 1-CIS-2-DIMETHYLHEXANE	0.000	0.000	0.119	0.162	0.113	0.053
N-PROPYLCYCLOPENTANE + 2,5- + 3,5-DIMETHYLHEPTANE	0.005	0.001	0.014	0.022	0.015	0.008
ETHYLCYCLOHEXANE	0.000	0.000	0.413	0.641	0.392	0.210
ETHYLBENZENE	0.000	0.000	0.128	0.210	0.121	0.069
3,3-DIMETHYLHEPTANE + 1,1,3-TRIMETHYLHEXANE	0.001	0.000	0.197	0.267	0.187	0.088
2,3,3-TRIMETHYLHEXANE	0.000	0.000	0.066	0.062	0.043	0.020
2-METHYL-3-ETHYLHEXANE	0.000	0.000	0.022	0.030	0.021	0.009
P-XYLENE	0.002	0.000	0.134	0.220	0.128	0.072
M-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.000	0.000	0.699	1.146	0.663	0.376
2,3- + 3,4-DIMETHYLHEPTANE	0.000	0.000	0.087	0.118	0.083	0.039
4-METHYLOCTANE	0.004	0.000	0.318	0.431	0.302	0.142
2-METHYLOCTANE	0.000	0.000	0.222	0.301	0.210	0.099
3-ETHYLHEPTANE	0.001	0.000	0.043	0.058	0.041	0.019
3-METHYLOCTANE	0.000	0.000	0.248	0.336	0.235	0.110
O-XYLENE (+ A C-10 ALKANE)	0.000	0.000	0.297	0.486	0.281	0.159
2,2,4-TRIMETHYLHEPTANE	0.000	0.000	0.027	0.033	0.026	0.011
2,2,5-TRIMETHYLHEPTANE	0.000	0.000	0.000	0.000	0.000	0.000
2,2,6-TRIMETHYLHEPTANE	0.000	0.000	0.000	0.000	0.000	0.000
*** UNKNOWN ***	0.000	0.000	0.060	0.074	0.057	0.024
2,5,5-TRIMETHYLHEPTANE	0.000	0.000	0.012	0.015	0.012	0.005
2,4,4-TRIMETHYLHEPTANE	0.000	0.000	0.052	0.063	0.049	0.021
*** A C-9 NAPHTHENE ***	0.006	0.001	0.226	0.312	0.216	0.103
ISOPROPYLBENZENE	0.000	0.000	0.085	0.137	0.090	0.045
N-NONANE	0.000	0.000	1.169	1.586	1.109	0.521
C-9 NAPHTHENES + C-10 ALKANES	0.007	0.001	2.275	3.135	2.160	1.037
N-PROPYLBENZENE	0.000	0.000	0.057	0.082	0.054	0.027
1-METHYL-3-ETHYLBENZENE	0.000	0.000	0.174	0.252	0.165	0.082
1-METHYL-4-ETHYLBENZENE	0.000	0.000	0.109	0.158	0.104	0.052
1-METHYL-2-ETHYLBENZENE	0.000	0.000	0.227	0.329	0.215	0.108
1,3,5-TRIMETHYLBENZENE	0.000	0.000	0.307	0.444	0.291	0.146
1,2,4-TRIMETHYLBENZENE	0.000	0.000	0.337	0.488	0.320	0.160
1,2,3-TRIMETHYLBENZENE	0.000	0.000	0.154	0.223	0.146	0.073
N-DECANE	0.001	0.000	1.065	1.777	0.991	0.420
UNDECANES AND HEAVIER	0.001	0.000	69.091	39.141	45.948	12.863

COMPONENT COMPOSITION OF GAS SAMPLE

Well 2/1-6AX, DET 5 Post Acid, March 18, 1972

SAMPLE CODE LETTERS = AJCO G TIME - 9038453 DATE - 5/10/1972

GAS SAMPLE ANALYSIS		
COMPONENT	WEIGHT PERCENT	MOL PERCENT
HELIUM	0.000	0.000
HYDROGEN SULFIDE	0.000	0.000
OXYGEN + ARGON	0.000	0.000
NITROGEN	1.314	0.884
CARBON DIOXIDE	5.810	2.770
METHANE	59.561	77.891
ETHANE	15.828	11.047
PROPANE	10.129	4.854
ISOBUTANE	1.434	0.518
N-BUTANE	3.280	1.292
ISOPENTANE	0.812	0.236
N-PENTANE	0.288	0.281
NEOHXANE	0.008	0.002
CYCLOPENTANE	0.022	0.007
2,3-DIMETHYLBUTANE	0.018	0.004
2-METHYLPENTANE	0.125	0.030
3-METHYLPENTANE	0.057	0.014
N-HEXANE	0.125	0.030
METHYLCYCLOPENTANE + 2,2-DIMETHYLPENTANE	0.038	0.009
2,4-DIMETHYLPENTANE	0.003	0.000
BENZENE + 2,2,3-TRIMETHYLBUTANE	0.000	0.000
CYCLOHEXANE + 3,3-DIMETHYLPENTANE	0.022	0.005
2-METHYLHEXANE	0.010	0.002
2,3-DIMETHYLPENTANE + 1,1-DIMETHYLCYCLOPENTANE	0.004	0.001
3-METHYLHEXANE	0.009	0.001
1-CIS-3-DIMETHYLCYCLOPENTANE	0.002	0.000
1-TRANS-3-DIMETHYLCYCLOPENTANE + 3-ETHYLPENTANE	0.002	0.000
1-TRANS-2-DIMETHYLCYCLOPENTANE	0.003	0.000
N-HEPTANE	0.016	0.003
1-CIS-2-DIMETHYLCYCLOPENTANE	0.000	0.000
MECYHEX + 2,2-DIMETHEX + 1,1,3-TRIMETHYLPENTANE	0.013	0.002
2,5-DIMETHYLHEXANE	0.001	0.000
2,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.000	0.000
2,2,3-TRIMETHYLPENTANE	0.000	0.000
1-TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000
3,3-DIMETHYLHEXANE	0.000	0.000
TOLUENE	0.000	0.000
1-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.000	0.000
2,3,4-TRIMETHYLPENTANE	0.000	0.000
2,3-DIMETHEX+2,3,3-TRIMETHYLPENTANE+2-METHYLHEPTANE	0.000	0.000
2-METHYLHEPTANE + 4-METHYLHEPTANE	0.002	0.000
3,4-DIMETHEX + 1-CIS-2-TRAN-4-TRIMETHYLPENTANE	0.000	0.000
3-ETHYLHEXANE	0.001	0.000
3-METHYLHEPTANE + 3-ME-3-ETHYLPENTANE	0.000	0.000
2,2,5-TRIMETHEX+1,1,3-TR-4-TETRAMETHYLPENTANE	0.000	0.000
1-CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000
1-TRANS-4 + 1-CIS-3 + 1,1-DIMETHYLHEXANE	0.001	0.000
1-ME-3-ETHYLPENTANE + 2,2,4-TRIMETHYLHEXANE	0.000	0.000
1-ME-TRANS-2 + 1-ME-CIS-3-ETHYLPENTANE	0.000	0.000
CYCLOHEPTANE	0.000	0.000
N-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	0.002	0.000
1-CIS-4-DIMETHYLCYCLOHEXANE	0.000	0.000
1-TRANS-3-DIMETHYLCYCLOHEXANE	0.000	0.000
2,2,4-TRIMETHEXANE + ISOPROPYLCYCLOPENTANE	0.000	0.000
2,3,5-TRIMETHEXANE + 2,2-DIMETHYLHEPTANE	0.000	0.000
1-METHYL-CIS-2-ETHYLCYCLOPENTANE	0.000	0.000
2,4-DIMETHYLPENTANE + 2,2,3-TRIMETHYLHEXANE	0.000	0.000
2,6-DIMETHYLPENTANE + 1-CIS-2-DIMETHYLHEXANE	0.000	0.000
N-PROPYLCYCLOPENTANE + 2,5- + 3,5-DIMETHYLPENTANE	0.000	0.000
ETHYLCYCLOHEXANE	0.000	0.000
ETHYLBENZENE	0.000	0.000
3,3-DIMETHYLHEPTANE + 1,1,3-TRIMETHYLHEXANE	0.000	0.000
2,3,3-TRIMETHYLHEXANE	0.000	0.000
2-METHYL-3-ETHYLHEXANE	0.000	0.000
P-XYLENE	0.000	0.000
M-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.000	0.000
2,3- + 3,4-DIMETHYLHEPTANE	0.000	0.000
4-METHYLOCTANE	0.000	0.000
2-METHYLOCTANE	0.000	0.000
3-ETHYLHEPTANE	0.000	0.000
3-METHYLOCTANE	0.000	0.000
O-XYLENE (+ A C-10 ALKANE)	0.000	0.000
2,2,4-TRIMETHYLHEPTANE	0.000	0.000
2,2,5-TRIMETHYLHEPTANE	0.000	0.000
2,2,6-TRIMETHYLHEPTANE	0.000	0.000
*** UNKNOWN ***	0.000	0.000
2,5,5-TRIMETHYLHEPTANE	0.000	0.000
2,4,4-TRIMETHYLHEPTANE	0.000	0.000
*** A C-9 NAPHTHENE ***	0.000	0.000
ISOPROPYLBENZENE	0.000	0.000
N-NONANE	0.000	0.000
C-9 NAPHTHENES + C-10 ALKANES	0.001	0.000
N-PROPYLBENZENE	0.000	0.000
1-METHYL-3-ETHYLBENZENE	0.000	0.000
1-METHYL-4-ETHYLBENZENE	0.000	0.000
1-METHYL-2-ETHYLBENZENE	0.000	0.000
1,3,5-TRIMETHYLBENZENE	0.000	0.000
1,2,4-TRIMETHYLBENZENE	0.000	0.000
1,2,3-TRIMETHYLBENZENE	0.000	0.000
N-DECANE	0.000	0.000
UNDECANES AND HEAVIER	0.001	0.000

* Liquid sample was lost in transit.

COMPONENT COMPOSITIONS OF COMPANION GAS, LIQUID AND COMBINED STREAMS
 Well 2/4-SAX, DST 6, March 22, 1972

COMPONENT	GAS SAMPLE		LIQUID SAMPLE		COMBINED STREAM	
	WT PCT.	MOL PCT.	WT PCT.	MOL PCT.	WT PCT.	MOL PCT.
HELIUM	0.000	0.000	0.000	0.000	0.000	0.000
HYDROGEN SULFIDE	0.000	0.000	0.000	0.000	0.000	0.000
OXYGEN + ARGON	0.000	0.000	0.000	0.000	0.000	0.000
NITROGEN	1.348	1.066	0.069	0.057	0.488	0.830
CARBON DIOXIDE	4.857	2.445	0.041	0.159	1.764	1.910
METHANE	54.003	74.599	0.144	1.537	19.359	57.481
ETHANE	15.984	11.780	0.430	2.432	6.054	9.590
PROPANE	12.194	6.128	1.388	5.354	5.505	5.947
ISOBUTANE	1.985	0.756	0.554	1.623	1.171	0.959
N-BUTANE	4.813	1.835	1.991	5.827	3.380	2.770
ISOPENTANE	1.362	0.418	1.199	2.826	1.488	0.982
N-PENTANE	1.772	0.544	1.862	4.390	2.189	1.445
NEOHEXANE	0.017	0.004	0.023	0.046	0.025	0.014
CYCLOPENTANE	0.085	0.026	0.151	0.366	0.156	0.106
2,3-DIMETHYLBUTANE	0.043	0.011	0.086	0.170	0.087	0.048
2-METHYLPENTANE	0.303	0.078	0.669	1.321	0.668	0.369
3-METHYLPENTANE	0.151	0.039	0.391	0.773	0.381	0.211
N-HEXANE	0.389	0.100	1.291	2.548	1.219	0.673
METHYLCYCLOPENTANE + 2,2-DIMETHYLPENTANE	0.142	0.037	0.591	1.196	0.545	0.308
2,4-DIMETHYLPENTANE	0.013	0.003	0.069	0.118	0.063	0.030
BENZENE + 2,2,3-TRIMETHYLBUTANE	0.044	0.012	0.268	0.584	0.240	0.146
CYCLOHEXANE + 3,3-DIMETHYLPENTANE	0.107	0.028	0.652	1.318	0.583	0.330
2-METHYLHEXANE	0.042	0.009	0.372	0.631	0.326	0.155
3,3-DIMETHYLPENTANE + 1,1-DIMETHYLCYCLOPENT.	0.022	0.004	0.191	0.324	0.168	0.079
3-METHYLHEXANE	0.040	0.008	0.400	0.679	0.349	0.166
1-CIS-3-DIMETHYLCYCLOPENTANE	0.012	0.002	0.120	0.208	0.104	0.050
1-TRANS-3-DIMETHYLCYCLOPENTANE + 3-ETHYLPENTANE	0.012	0.002	0.131	0.228	0.114	0.055
1-TRANS-2-DIMETHYLCYCLOPENTANE	0.018	0.004	0.198	0.343	0.172	0.083
N-HEPTANE	0.077	0.017	1.177	1.999	1.013	0.481
1-CIS-2-DIMETHYLCYCLOPENTANE	0.004	0.000	0.066	0.115	0.057	0.027
METHYLCYCLOHEXANE + 2,2-DIMETHYL + 1,1,3-TRIMETHYLCYCLOPENTANE	0.073	0.016	1.285	2.227	1.101	0.534
2,5-DIMETHYLHEXANE	0.006	0.001	0.186	0.277	0.158	0.065
2,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.000	0.000	0.005	0.008	0.004	0.001
2,2,3-TRIMETHYLPENTANE	0.002	0.000	0.061	0.091	0.052	0.021
1-TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.000	0.000	0.000	0.000
3,3-DIMETHYLHEXANE	0.000	0.000	0.013	0.020	0.011	0.004
TOLUENE	0.015	0.003	0.618	1.141	0.522	0.270
1-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.000	0.000	0.000	0.000
2,3,4-TRIMETHYLPENTANE	0.000	0.000	0.024	0.037	0.020	0.008
2,3-DIMETHYLHEXANE + 2,3,3-TRIMETHYLHEPTANE + 2-METHYLHEPTANE	0.000	0.000	0.083	0.124	0.070	0.029
2-METHYLHEPTANE + 4-METHYLHEPTANE	0.008	0.001	0.414	0.616	0.349	0.145
3,4-DIMETHYLHEXANE + 1-CIS-2-TRAN-4-TRIMETHYLCYCLOPENTANE	0.002	0.000	0.129	0.192	0.109	0.045
3-ETHYLHEXANE	0.005	0.001	0.023	0.034	0.021	0.008
3-METHYLHEPTANE + 3-ME-3-ETHYLPENTANE	0.000	0.000	0.315	0.470	0.264	0.110
2,2,5-TRIMETHYLHEXANE + 1,1,3-TR-4-TETRAMETHYLCYCLOPENT.	0.000	0.000	0.016	0.021	0.013	0.005
1-CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.015	0.023	0.012	0.005
1-TRANS-4 + 1-CIS-3 + 1,1-DIMETHYLHEXANE	0.008	0.001	0.432	0.655	0.364	0.154
1-ME-3-ETHYLPENTANE + 2,2,4-TRIMETHYLHEXANE	0.000	0.000	0.057	0.086	0.047	0.020
1-ME-TRANS-2 + 1-ME-CIS-3-ETHYLCYCLOPENTANE	0.000	0.000	0.057	0.087	0.048	0.020
CYCLOHEPTANE	0.010	0.002	0.014	0.024	0.015	0.007
N-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	0.000	0.000	0.990	1.475	0.828	0.345
1-CIS-4-DIMETHYLCYCLOHEXANE	0.002	0.000	0.180	0.273	0.151	0.064
1-TRANS-3-DIMETHYLCYCLOHEXANE	0.001	0.000	0.094	0.143	0.079	0.033
2,2,4-TRIMETHYLHEXANE + ISOPROPYLCYCLOPENTANE	0.000	0.000	0.020	0.027	0.017	0.006
2,3,5-TRIMETHYLHEXANE + 2,2-DIMETHYLHEPTANE	0.000	0.000	0.026	0.035	0.022	0.008
1-METHYL-CIS-2-ETHYLCYCLOPENTANE	0.000	0.000	0.066	0.101	0.056	0.023
2,4-DIMETHYLHEPTANE + 2,2,3-TRIMETHYLHEXANE	0.000	0.000	0.133	0.176	0.111	0.041
2,6-DIMETHYLHEPTANE + 1-CIS-2-DIMETHYLHEXANE	0.000	0.000	0.047	0.062	0.039	0.014
N-PROPYLCYCLOPENTANE + 2,5- + 3,5-DIMETHYLHEPTANE	0.002	0.000	0.111	0.169	0.094	0.040
ETHYLCYCLOHEXANE	0.000	0.000	0.322	0.488	0.269	0.114
ETHYLBENZENE	0.000	0.000	0.116	0.185	0.097	0.043
3,3-DIMETHYLHEPTANE + 1,1,3-TRIMETHYLHEXANE	0.000	0.000	0.155	0.206	0.130	0.048
2,3,3-TRIMETHYLHEXANE	0.000	0.000	0.040	0.054	0.034	0.012
2-METHYL-3-ETHYLHEXANE	0.000	0.000	0.022	0.029	0.018	0.007
P-XYLENE	0.000	0.000	0.120	0.192	0.100	0.045
M-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.000	0.000	0.588	0.943	0.492	0.221
2,3- + 3,4-DIMETHYLHEPTANE	0.000	0.000	0.083	0.110	0.069	0.025
4-METHYLOCTANE	0.001	0.000	0.255	0.339	0.214	0.079
2-METHYLOCTANE	0.000	0.000	0.200	0.265	0.167	0.062
3-ETHYLHEPTANE	0.000	0.000	0.052	0.069	0.043	0.016
3-METHYLOCTANE	0.000	0.000	0.233	0.309	0.195	0.072
O-XYLENE (+ A C-10 ALKANE)	0.000	0.000	0.276	0.442	0.231	0.103
2,2,4-TRIMETHYLHEPTANE	0.000	0.000	0.022	0.027	0.019	0.006
2,2,5-TRIMETHYLHEPTANE	0.000	0.000	0.058	0.069	0.048	0.016
2,2,6-TRIMETHYLHEPTANE	0.000	0.000	0.000	0.000	0.000	0.000
*** UNKNOWN ***	0.000	0.000	0.086	0.103	0.072	0.024
2,5,5-TRIMETHYLHEPTANE	0.000	0.000	0.016	0.020	0.014	0.004
2,4,4-TRIMETHYLHEPTANE	0.000	0.000	0.082	0.098	0.069	0.023
*** A C-9 NAPHTHENE ***	0.000	0.000	0.278	0.375	0.232	0.087
ISOPROPYLBENZENE	0.001	0.000	0.106	0.150	0.089	0.035
N-NONANE	0.000	0.000	1.025	1.359	0.857	0.318
C-9 NAPHTHENES + C-10 ALKANES	0.000	0.000	4.047	5.452	3.385	1.277
N-PROPYLBENZENE	0.000	0.000	0.175	0.247	0.146	0.058
1-METHYL-3-ETHYLBENZENE	0.000	0.000	0.252	0.357	0.211	0.083
1-METHYL-4-ETHYLBENZENE	0.000	0.000	0.205	0.290	0.171	0.068
1-METHYL-2-ETHYLBENZENE	0.000	0.000	0.515	0.728	0.430	0.170
1,3,5-TRIMETHYLBENZENE	0.000	0.000	0.412	0.583	0.344	0.136
1,2,4-TRIMETHYLBENZENE	0.000	0.000	0.611	0.865	0.511	0.202
1,2,3-TRIMETHYLBENZENE	0.000	0.000	0.089	0.126	0.074	0.029
N-DECANE	0.000	0.000	1.189	1.421	0.994	0.333
UNDECANES AND HEAVIER	0.000	0.000	68.450	38.292	37.983	8.971

COMPONENT COMPOSITIONS OF COMPANION GAS, LIQUID AND COMBINED STREAMS
Well 2/5-11, DST A, October 23, 1970

CODE LETTERS OF LIQUID SAMPLE = AJFW L
CODE LETTERS OF GAS SAMPLE = AJFV G TIME --13:41: 2 DATE - 5/25/1972

COMPONENT	GAS SAMPLE		LIQUID SAMPLE		COMBINED STREAM	
	WT PCT.	MOI PCT	WT PCT.	MOI PCT	WT PCT.	MOI PCT
HELIUM	0.000	0.000	0.000	0.000	0.000	0.000
HYDROGEN SULFIDE	0.000	0.000	0.000	0.000	0.000	0.000
OXYGEN + ARGON	0.000	0.000	0.000	0.000	0.000	0.000
NIITROGEN	1.083	0.864	0.308	1.635	0.365	1.452
CARBON DIOXIDE	10.896	5.407	0.297	1.004	0.799	2.020
METHANE	54.754	74.542	0.589	5.462	3.085	21.392
ETHANE	16.079	11.678	1.118	5.529	1.878	6.947
PROPANE	10.489	5.195	2.528	8.525	3.075	7.757
ISOBUTANE	1.414	0.531	0.778	1.990	0.864	1.653
N-BUTANE	3.311	1.244	2.816	7.203	3.046	5.829
ISOPENTANE	0.608	0.184	1.173	2.416	1.233	1.902
N-PENTANE	0.646	0.195	1.752	3.611	1.832	2.823
NEOHXANE	0.008	0.002	0.027	0.047	0.028	0.037
CYCLOPENTANE	0.032	0.010	0.179	0.380	0.186	0.295
2,3-DIMETHYL BUTANE	0.015	0.003	0.097	0.168	0.101	0.130
2-METHYL PENTANE	0.112	0.028	0.772	1.332	0.729	1.031
3-METHYL PENTANE	0.057	0.014	0.450	0.776	0.465	0.600
N-HEXANE	0.149	0.037	1.483	2.559	1.532	1.977
METHYLCYCLOPENTANE + 2,2-DIMETHYL PENTANE	0.057	0.014	0.690	1.219	0.712	0.941
2,4-DIMETHYL PENTANE	0.005	0.001	0.078	0.117	0.081	0.090
BENZENE + 2,2,3-TRIMETHYL BUTANE	0.019	0.005	0.301	0.573	0.310	0.442
CYCLOHEXANE + 3,3-DIMETHYL PENTANE	0.044	0.011	0.765	1.351	0.788	1.042
2-METHYL HEXANE	0.019	0.004	0.429	0.636	0.442	0.490
2,3-DIMETHYL PENTANE + 1,1-DIMECYCLOPENT.	0.010	0.002	0.221	0.329	0.228	0.253
3-METHYL HEXANE	0.019	0.004	0.462	0.686	0.476	0.529
1-CIS-3-DIMETHYLCYCLOPENTANE	0.005	0.001	0.139	0.211	0.144	0.162
1-TRANS-3-DIMECYPENTANE + 3-ETHYL PENTANE	0.006	0.001	0.154	0.233	0.158	0.179
1-TRANS-2-DIMETHYLCYCLOPENTANE	0.008	0.001	0.228	0.345	0.235	0.266
N-HEPTANE	0.040	0.008	1.355	2.011	1.396	1.549
1-CIS-2-DIMETHYLCYCLOPENTANE	0.002	0.000	0.088	0.134	0.091	0.103
MECYHEX + 2,2-DIMEHEX +1,1,3-TRIMECYPENT	0.040	0.008	1.509	2.284	1.553	1.759
2,5-DIMETHYLHEXANE	0.003	0.000	0.217	0.282	0.223	0.217
2,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.000	0.000	0.006	0.009	0.007	0.006
2,2,3-TRIMETHYL PENTANE	0.000	0.000	0.000	0.000	0.000	0.000
1-TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.001	0.000	0.072	0.096	0.074	0.074
3,3-DIMETHYLHEXANE	0.000	0.000	0.015	0.020	0.016	0.015
TOLUENE	0.011	0.002	0.708	1.142	0.729	0.879
1-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.000	0.000	0.000	0.000
2,3,4-TRIMETHYL PENTANE	0.000	0.000	0.031	0.041	0.032	0.031
2,3-DIMEHEX+2,3,3-TRIMEPENT+2-ME3-ETPENT	0.000	0.000	0.097	0.126	0.100	0.097
2-METHYL HEPTANE + 4-METHYLHEPTANE	0.006	0.001	0.482	0.628	0.496	0.483
3,4-DIMEHEX + 1-CIS-2-TRAN-4-TRIMECYPENT	0.001	0.000	0.145	0.189	0.149	0.145
3-ETHYLHEXANE	0.004	0.000	0.027	0.035	0.028	0.027
3-METHYLHEPTANE + 3-ME-3-ETHYL PENTANE	0.000	0.000	0.366	0.476	0.376	0.366
2,2,5-TRIMEHEX+1,1,3-TR-4-TETRAMECYPENT.	0.000	0.000	0.018	0.021	0.019	0.016
1-CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.018	0.023	0.018	0.018
1-TRANS-4 + 1-CIS-3 + 1,1-DIMECYHEXANE	0.006	0.001	0.515	0.683	0.530	0.525
1-ME-3-ETHCYPENT + 2,2,4-TRIMETHYLHEXANE	0.000	0.000	0.064	0.085	0.066	0.065
1-ME-TRANS-2 + 1-ME-CIS-3-ETHYLCYPENTANE	0.000	0.000	0.068	0.090	0.070	0.069
CYCLOHEPTANE	0.000	0.000	0.017	0.026	0.017	0.020
N-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	0.009	0.001	1.142	1.486	1.175	1.144
1-CIS-4-DIMETHYLCYCLOHEXANE	0.002	0.000	0.225	0.298	0.231	0.229
1-TRANS-3-DIMETHYLCYCLOHEXANE	0.000	0.000	0.109	0.144	0.112	0.111
2,2,4-TRIMEHEXANE + ISOPROPYLCYCLOPENT.	0.000	0.000	0.022	0.025	0.022	0.019
2,3,5-TRIMEHEXANE + 2,2-DIMETHYLHEPTANE	0.000	0.000	0.031	0.036	0.032	0.027
1-METHYL-CIS-2-ETHYLCYCLOPENTANE	0.000	0.000	0.079	0.105	0.082	0.081
2,4-DIMEHEPTANE + 2,2,3-TRIMETHYLHEXANE	0.000	0.000	0.157	0.182	0.161	0.140
2,6-DIMEHEPTANE + 1-CIS-2-DIMECYHEXANE	0.000	0.000	0.058	0.067	0.059	0.051
N-PROPYLCYPENT + 2,5- + 3,5-DIMEHEPTANE	0.002	0.000	0.129	0.171	0.133	0.132
ETHYLCYCLOHEXANE	0.000	0.000	0.386	0.512	0.397	0.394
ETHYLBENZENE	0.000	0.000	0.127	0.178	0.131	0.137
3,3-DIMETHYLHEPTANE +1,1,3-TRIMECYHEXANE	0.000	0.000	0.183	0.212	0.188	0.163
2,3,3-TRIMETHYLHEXANE	0.000	0.000	0.041	0.047	0.042	0.036
2-METHYL-3-ETHYLHEXANE	0.000	0.000	0.021	0.025	0.022	0.019
P-XYLENE	0.001	0.000	0.131	0.184	0.135	0.142
M-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.000	0.000	0.674	0.944	0.693	0.726
2,3- + 3,4-DIMETHYLHEPTANE	0.000	0.000	0.086	0.100	0.088	0.077
4-METHYLOCTANE	0.001	0.000	0.296	0.343	0.304	0.264
2-METHYLOCTANE	0.000	0.000	0.214	0.248	0.220	0.191
3-ETHYLHEPTANE	0.000	0.000	0.043	0.050	0.045	0.039
3-METHYLOCTANE	0.000	0.000	0.237	0.275	0.244	0.212
O-XYLENE (+ A C-10 ALKANE)	0.000	0.000	0.276	0.387	0.284	0.297
2,2,4-TRIMETHYLHEPTANE	0.000	0.000	0.014	0.014	0.014	0.011
2,2,5-TRIMETHYLHEPTANE	0.000	0.000	0.030	0.032	0.031	0.024
2,2,6-TRIMETHYLHEPTANE	0.000	0.000	0.000	0.000	0.000	0.000
*** UNKNOWN ***	0.000	0.000	0.063	0.066	0.065	0.050
2,5,5-TRIMETHYLHEPTANE	0.000	0.000	0.010	0.010	0.010	0.008
2,4,4-TRIMETHYLHEPTANE	0.000	0.000	0.053	0.056	0.055	0.043
*** A C-9 NAPHTHENE ***	0.000	0.000	0.220	0.259	0.227	0.200
ISOPROPYLBENZENE	0.002	0.000	0.087	0.108	0.090	0.083
N-NONANE	0.000	0.000	1.106	1.282	1.138	0.987
C-9 NAPHTHENES + C-10 ALKANES	0.000	0.000	2.357	2.776	2.425	2.136
N-PROPYLBENZENE	0.000	0.000	0.025	0.031	0.026	0.024
1-METHYL-3-ETHYLBENZENE	0.000	0.000	0.198	0.245	0.204	0.188
1-METHYL-4-ETHYLBENZENE	0.000	0.000	0.115	0.142	0.118	0.109
1-METHYL-2-ETHYLBENZENE	0.000	0.000	0.072	0.090	0.074	0.069
1,3,5-TRIMETHYLBENZENE	0.000	0.000	0.305	0.378	0.314	0.291
1,2,4-TRIMETHYLBENZENE	0.000	0.000	0.423	0.523	0.435	0.402
1,2,3-TRIMETHYLBENZENE	0.000	0.000	0.161	0.199	0.165	0.153
N-DECANE	0.000	0.000	1.083	1.131	1.114	0.870
UNDECANES AND HEAVIER	0.000	0.000	65.317	29.861	59.801	22.975

COMPONENT COMPOSITIONS OF THE COMPANION GAS AND LIQUID STREAMS (1)
 Well 2/5-11, NET Rev. 3, 1970

 SAMPLE CODE LETTERS = AJFX G
 AJFF L

TIME = 13:55:30

DATE = 5/25/1972

COMPONENT	Gas Sample		Liquid Sample	
	Wt. Per Cent	Mol. Per Cent	Wt. Per Cent	Mol. Per Cent
HELIUM	0.0000	0.0000	0.000	0.000
HYDROGEN SULFIDE	0.0000	0.0000	0.000	0.000
OXYGEN + ARGON	0.0000	0.0000	0.000	0.000
NITROGEN	1.0403	0.8407	0.022	0.126
CARBON DIOXIDE	7.5540	3.8859	0.137	0.499
METHANE	51.6993	72.9617	0.437	4.359
ETHANE	15.9311	11.9953	0.693	3.686
PROPANE	12.1389	6.2326	1.645	5.962
ISOBUTANE	1.9570	0.7623	0.567	1.559
N-BUTANE	5.2171	2.0322	2.136	5.873
ISOPENTANE	1.1916	0.3739	1.036	2.295
N-PENTANE	1.4024	0.4400	1.628	3.607
NEOHEXANE	0.0150	0.0039	0.027	0.051
CYCLOPENTANE	0.0777	0.0250	0.167	0.380
2,3-DIMETHYL BUTANE	0.0394	0.0103	0.093	0.172
2-METHYL PENTANE	0.2900	0.0761	0.725	1.346
3-METHYL PENTANE	0.1483	0.0389	0.427	0.792
N-HEXANE	0.4037	0.1060	1.416	2.626
METHYLCYCLOPENTANE + 2,2-DIMETHYL PENTANE	0.1516	0.0408	0.666	1.264
2,4-DIMETHYL PENTANE	0.0153	0.0034	0.077	0.124
BENZENE + 2,2,3-TRIMETHYL BUTANE	0.0577	0.0167	0.297	0.608
CYCLOHEXANE + 3,3-DIMETHYL PENTANE	0.1191	0.0320	0.753	1.430
2-METHYL HEXANE	0.0523	0.0118	0.428	0.683
2,3-DIMETHYL PENTANE + 1,1-DIMETHYLCYCLOPENTANE	0.0271	0.0061	0.221	0.352
3-METHYL HEXANE	0.0507	0.0114	0.463	0.739
1-CIS-3-DIMETHYLCYCLOPENTANE	0.0150	0.0034	0.140	0.229
1-TRANS-3-DIMETHYLCYCLOPENTANE + 3-ETHYL PENTANE	0.0160	0.0036	0.155	0.252
1-TRANS-2-DIMETHYLCYCLOPENTANE	0.0233	0.0053	0.229	0.374
N-HEPTANE	0.1046	0.0236	1.368	2.182
1-CIS-2-DIMETHYLCYCLOPENTANE	0.0055	0.0012	0.080	0.131
MECYHEX + 2,2-DIMEHEX + 1,1,3-TRIMECYPENT	0.1013	0.0233	1.601	2.606
2,5-DIMETHYLHEXANE	0.0101	0.0020	0.153	0.214
2,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.0000	0.0000	0.007	0.010
2,2,3-TRIMETHYL PENTANE	0.0034	0.0006	0.075	0.105
1-TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.0000	0.0000	0.000	0.000
3,3-DIMETHYL HEXANE	0.0000	0.0000	0.018	0.025
TOLUENE	0.0307	0.0075	0.730	1.267
1-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.0011	0.0002	0.000	0.000
2,3,4-TRIMETHYL PENTANE	0.0008	0.0001	0.045	0.063
2,3-DIMEHEX+2,3,3-TRIMEHEX+2-ME3-ETPENT	0.0027	0.0005	0.111	0.155
2-METHYLHEPTANE + 4-METHYLHEPTANE	0.0146	0.0029	0.502	0.702
3,4-DIMEHEX + 1-CIS-2-TRAN-4-TRIMECYPENT	0.0042	0.0008	0.153	0.215
3-ETHYLHEXANE	0.0005	0.0001	0.029	0.041
3-METHYLHEPTANE + 3-ME-3-ETHYL PENTANE	0.0097	0.0019	0.381	0.533
2,2,5-TRIMEHEX+1,1,3-TR-4-TETRAMECYPENT.	0.0000	0.0000	0.020	0.025
1-CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.0000	0.0000	0.019	0.027
1-TRANS-4 + 1-CIS-3 + 1,1-DIMECYHEXANE	0.0157	0.0031	0.530	0.755
1-ME-3-ETHCYPENT + 2,2,4-TRIMETHYLHEXANE	0.0000	0.0000	0.065	0.093
1-ME-TRANS-2 + 1-ME-CIS-3-ETHYLCYCLOPENTANE	0.0013	0.0002	0.069	0.099
CYCLOHEPTANE	0.0000	0.0000	0.017	0.029
N-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	0.0220	0.0043	1.194	1.670
1-CIS-4-DIMETHYLCYCLOHEXANE	0.0053	0.0010	0.221	0.315
1-TRANS-3-DIMETHYLCYCLOHEXANE	0.0021	0.0004	0.114	0.163
2,2,4-TRIMEHEXANE + ISOPROPYLCYCLOPENTANE	0.0000	0.0000	0.026	0.033
2,3,5-TRIMEHEXANE + 2,2-DIMETHYLHEPTANE	0.0008	0.0001	0.034	0.042
1-METHYL-CIS-2-ETHYLCYCLOPENTANE	0.0017	0.0003	0.082	0.118
2,4-DIMEHEPTANE + 2,2,3-TRIMETHYLHEXANE	0.0023	0.0004	0.163	0.203
2,6-DIMEHEPTANE + 1-CIS-2-DIMECYHEXANE	0.0057	0.0010	0.059	0.074
N-PROPYLCYPENT + 2,5- + 3,5-DIMEHEPTANE	0.0009	0.0001	0.135	0.192
ETHYLCYCLOHEXANE	0.0000	0.0000	0.400	0.569
ETHYL BENZENE	0.0008	0.0001	0.131	0.198
3,3-DIMETHYLHEPTANE + 1,1,3-TRIMECYHEXANE	0.0000	0.0000	0.188	0.235
2,3,3-TRIMETHYLHEXANE	0.0007	0.0001	0.044	0.055
2-METHYL-3-ETHYLHEXANE	0.0054	0.0009	0.021	0.026
P-XYLENE	0.0000	0.0000	0.138	0.208
M-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.0023	0.0005	0.703	1.058
2,3- + 3,4-DIMETHYLHEPTANE	0.0012	0.0002	0.088	0.110
4-METHYLOCTANE	0.0011	0.0002	0.308	0.384
2-METHYLOCTANE	0.0000	0.0000	0.221	0.276
3-ETHYLHEPTANE	0.0010	0.0001	0.044	0.055
3-METHYLOCTANE	0.0000	0.0000	0.247	0.307
O-XYLENE (+ A C-10 ALKANE)	0.0000	0.0000	0.285	0.429
2,2,4-TRIMETHYLHEPTANE	0.0000	0.0000	0.014	0.016
2,2,5-TRIMETHYLHEPTANE	0.0000	0.0000	0.029	0.032
2,2,6-TRIMETHYLHEPTANE	0.0000	0.0000	0.000	0.000
*** UNKNOWN ***	0.0005	0.0000	0.062	0.070
2,5,5-TRIMETHYLHEPTANE	0.0000	0.0000	0.010	0.011
2,4,4-TRIMETHYLHEPTANE	0.0000	0.0000	0.053	0.060
*** A C-9 NAPHTHENE ***	0.0030	0.0005	0.225	0.285
ISOPROPYLBENZENE	0.0000	0.0000	0.091	0.121
N-NONANE	0.0000	0.0000	1.159	1.444
C-9 NAPHTHENES + C-10 ALKANES	0.0006	0.0001	2.201	2.787
N-PROPYLBENZENE	0.0000	0.0000	0.025	0.034
1-METHYL-3-ETHYLBENZENE	0.0000	0.0000	0.208	0.276
1-METHYL-4-ETHYLBENZENE	0.0000	0.0000	0.116	0.155
1-METHYL-2-ETHYLBENZENE	0.0000	0.0000	0.312	0.415
1,3,5-TRIMETHYLBENZENE	0.0000	0.0000	0.322	0.429
1,2,4-TRIMETHYLBENZENE	0.0000	0.0000	0.442	0.597
1,2,3-TRIMETHYLBENZENE	0.0000	0.0000	0.170	0.227
N-DECANE	0.0000	0.0000	1.157	1.289
UNDECANES AND HEAVIER	0.0000	0.0000	67.950	36.313

(1) The combined stream could not be calculated because a gas-oil ratio and/or flow rates were not provided.

COMPONENT COMPOSITIONS OF THE COMPANION GAS AND LIQUID STREAMS (1)
 Well 2/5-11, DST, Nov. A, 1970

 CODE LETTERS OF LIQUID SAMPLE = AJGA L
 CODE LETTERS OF GAS SAMPLE = AJEZ G

TIME = 15:24:44 DATE = 5/26/1972

COMPONENT	GAS SAMPLE		LIQUID SAMPLE	
	WT. PCT.	MOI. PCT.	WT. PCT.	MOI. PCT.
HELIUM	0.000	0.000	0.000	0.000
HYDROGEN SULFIDE	0.000	0.000	0.000	0.000
OXYGEN + ARGON	0.000	0.000	0.000	0.000
NITROGEN	1.024	0.847	0.002	0.013
CARBON DIOXIDE	5.457	2.873	0.073	0.270
METHANE	49.907	72.104	0.283	2.870
ETHANE	15.988	12.324	0.568	3.069
PROPANE	12.530	6.586	1.488	5.483
ISOBUTANE	2.036	0.811	0.550	1.538
N-BUTANE	5.446	2.172	2.081	5.816
ISOPENTANE	1.237	0.397	1.106	2.492
N-PENTANE	2.565	1.139	1.762	2.269
NEOHEXANE	0.030	0.008	0.028	0.053
CYCLOPENTANE	0.134	0.046	0.180	0.418
2,3-DIMETHYLBUTANE	0.067	0.018	0.100	0.189
2-METHYLPENTANE	0.477	0.128	0.779	1.469
3-METHYLPENTANE	0.240	0.064	0.458	0.864
N-HEXANE	0.624	0.168	1.515	2.657
METHYLCYCLOPENTANE + 2,2-DIMETHYLPENTANE	0.233	0.064	0.710	1.370
2,4-DIMETHYLPENTANE	0.022	0.005	0.082	0.125
BENZENE + 2,2,3-TRIMETHYLBUTANE	0.085	0.025	0.304	0.634
CYCLOHEXANE + 3,3-DIMETHYLPENTANE	0.175	0.048	0.792	1.521
2-METHYLHEXANE	0.074	0.017	0.446	0.724
2,3-DIMETHYLPENTANE + 1,1-DIMETHYLCYCLOPENTANE	0.039	0.009	0.233	0.377
3-METHYLHEXANE	0.072	0.016	0.483	0.783
1-CIS-3-DIMETHYLCYCLOPENTANE	0.021	0.005	0.145	0.241
1-TRANS-3-DIMETHYLCYCLOPENTANE + 3-ETHYLPENTANE	0.022	0.005	0.161	0.266
1-TRANS-2-DIMETHYLCYCLOPENTANE	0.032	0.007	0.237	0.393
N-HEPTANE	0.148	0.034	1.426	2.312
1-CIS-2-DIMETHYLCYCLOPENTANE	0.008	0.002	0.096	0.158
METHYLHEXANE + 2,2-DIMETHYLHEXANE + 1,1,3-TRIMETHYLPENTANE	0.145	0.034	1.576	2.608
2,5-DIMETHYLHEXANE	0.014	0.002	0.071	0.101
2,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.000	0.000	0.166	0.236
2,2,3-TRIMETHYLPENTANE	0.004	0.000	0.000	0.000
1-TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.076	0.110
3,3-DIMETHYLHEXANE	0.000	0.000	0.017	0.024
TOLUENE	0.038	0.009	0.714	1.260
1-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.000	0.000
2,3,4-TRIMETHYLPENTANE	0.000	0.000	0.041	0.059
2,3-DIMETHYLHEXANE + 2,3,3-TRIMETHYLHEPTANE + 2-METHYLHEPTANE	0.002	0.000	0.101	0.144
2-METHYLHEPTANE + 4-METHYLHEPTANE	0.019	0.003	0.510	0.726
3,4-DIMETHYLHEXANE + 1-CIS-2-TRAN-4-TRIMETHYLPENTANE	0.005	0.001	0.155	0.221
3-ETHYLHEXANE	0.000	0.000	0.028	0.040
3-METHYLHEPTANE + 3-METHYLHEPTANE	0.012	0.002	0.388	0.553
2,2,5-TRIMETHYLHEXANE + 1,1,3-TRIMETHYLPENTANE	0.000	0.000	0.020	0.026
1-CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.019	0.028
1-TRANS-4 + 1-CIS-3 + 1,1-DIMETHYLHEXANE	0.021	0.004	0.542	0.785
1-ME-3-ETHYLHEPTANE + 2,2,4-TRIMETHYLHEXANE	0.000	0.000	0.068	0.098
1-ME-TRANS-2 + 1-ME-CIS-3-ETHYLHEPTANE	0.001	0.000	0.071	0.103
CYCLOHEPTANE	0.000	0.000	0.017	0.029
N-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	0.025	0.005	1.208	1.718
1-CIS-4-DIMETHYLCYCLOHEXANE	0.006	0.001	0.246	0.356
1-TRANS-3-DIMETHYLCYCLOHEXANE	0.002	0.000	0.113	0.164
2,2,4-TRIMETHYLHEXANE + ISOPROPYLCYCLOPENTANE	0.000	0.000	0.021	0.026
2,3,5-TRIMETHYLHEXANE + 2,2-DIMETHYLHEPTANE	0.000	0.000	0.030	0.038
1-METHYL-CIS-2-ETHYLCYCLOPENTANE	0.001	0.000	0.084	0.122
2,4-DIMETHYLHEPTANE + 2,2,3-TRIMETHYLHEXANE	0.000	0.000	0.168	0.212
2,6-DIMETHYLHEPTANE + 1-CIS-2-DIMETHYLHEXANE	0.000	0.000	0.053	0.068
N-PROPYLCYCLOPENTANE + 2,5- + 3,5-DIMETHYLHEPTANE	0.000	0.000	0.145	0.211
ETHYLCYCLOHEXANE	0.006	0.001	0.411	0.595
ETHYLBENZENE	0.000	0.000	0.129	0.197
3,3-DIMETHYLHEPTANE + 1,1,3-TRIMETHYLHEXANE	0.000	0.000	0.196	0.249
2,3,3-TRIMETHYLHEXANE	0.000	0.000	0.042	0.053
2-METHYL-3-ETHYLHEXANE	0.000	0.000	0.019	0.024
P-XYLENE	0.003	0.000	0.124	0.150
M-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.000	0.000	0.710	1.086
2,3- + 3,4-DIMETHYLHEPTANE	0.000	0.000	0.112	0.142
4-METHYLOCTANE	0.001	0.000	0.309	0.391
2-METHYLOCTANE	0.000	0.000	0.236	0.300
3-ETHYLHEPTANE	0.000	0.000	0.066	0.058
3-METHYLOCTANE	0.000	0.000	0.254	0.322
O-XYLENE (+ A C-10 ALKANE)	0.000	0.000	0.285	0.436
2,2,4-TRIMETHYLHEPTANE	0.000	0.000	0.015	0.017
2,2,5-TRIMETHYLHEPTANE	0.000	0.000	0.030	0.034
2,2,6-TRIMETHYLHEPTANE	0.000	0.000	0.000	0.000
*** UNKNOWN ***	0.000	0.000	0.063	0.072
2,5,5-TRIMETHYLHEPTANE	0.000	0.000	0.010	0.012
2,4,4-TRIMETHYLHEPTANE	0.000	0.000	0.052	0.060
*** A C-9 NAPHTHENE ***	0.000	0.000	0.231	0.297
ISOPROPYLBENZENE	0.000	0.000	0.089	0.120
N-NONANE	0.001	0.000	1.205	1.527
C-9 NAPHTHENES + C-10 ALKANES	0.000	0.000	2.423	3.118
N-PROPYLBENZENE	0.000	0.000	0.025	0.034
1-METHYL-3-ETHYLBENZENE	0.000	0.000	0.200	0.271
1-METHYL-4-ETHYLBENZENE	0.000	0.000	0.120	0.162
1-METHYL-2-ETHYLBENZENE	0.000	0.000	0.073	0.092
1,3,5-TRIMETHYLBENZENE	0.000	0.000	0.326	0.441
1,2,4-TRIMETHYLBENZENE	0.000	0.000	0.442	0.598
1,2,3-TRIMETHYLBENZENE	0.000	0.000	0.156	0.211
N-DECANE	0.000	0.000	1.174	1.340
UNDECANES AND HEAVIER	0.000	0.000	67.711	37.143

(1) The combined stream could not be calculated because the gas-oil ratio and flow rate data were inconsistent.

COMPONENT COMPOSITIONS OF THE COMPANION GAS AND LIQUID STREAMS (1)
Well 2/5-11, DST, Nov. 10, 1970SAMPLE CODE LETTERS = AJGB G TIME - 16:29:53 DATE - 5/31/1972
AJCC L

COMPONENT	Gas Sample		Liquid Sample	
	Wt. Per Cent	Mol Per Cent	Wt Per Cent	Mol Per Cent
HELIUM	0.0000	0.0000	0.000	0.000
HYDROGEN SULFIDE	0.0000	0.0000	0.000	0.000
OXYGEN + ARGON	0.0000	0.0000	0.000	0.000
NITROGEN	1.1031	0.8881	0.016	0.100
CARBON DIOXIDE	4.1500	2.1269	0.056	0.211
METHANE	52.0254	73.1519	0.291	3.028
ETHANE	16.7271	12.5483	0.570	3.159
PROPANE	13.2316	6.8198	1.479	5.587
ISOBUTANE	2.1772	0.8449	0.537	1.540
N-BUTANE	5.8412	2.2670	2.043	5.854
ISOPENTANE	1.3464	0.4209	1.019	2.352
N-PENTANE	1.5612	0.4881	1.599	3.691
NEOHXANE	0.0157	0.0041	0.025	0.048
CYCLOPENTANE	0.0828	0.0266	0.166	0.396
2,3-DIMETHYL BUTANE	0.0404	0.0105	0.090	0.174
2-METHYL PENTANE	0.2916	0.0763	0.695	1.343
3-METHYL PENTANE	0.1464	0.0383	0.410	0.793
N-HEXANE	0.3829	0.1001	1.357	2.623
METHYLCYCLOPENTANE + 2,2-DIMETHYLPENTANE	0.1433	0.0384	0.643	1.273
2,4-DIMETHYL PENTANE	0.0140	0.0031	0.071	0.118
BENZENE + 2,2,3-TRIMETHYLBUTANE	0.0506	0.0146	0.299	0.638
CYCLOHEXANE + 3,3-DIMETHYLPENTANE	0.1113	0.0298	0.711	1.407
2-METHYLHEXANE	0.0453	0.0102	0.400	0.665
2,3-DIMETHYL PENTANE + 1,1-DIMECYCLOPENT.	0.0239	0.0053	0.202	0.337
3-METHYLHEXANE	0.0440	0.0099	0.430	0.715
1-CIS-3-DIMETHYLCYCLOPENTANE	0.0131	0.0030	0.128	0.218
1-TRANS-3-DIMECYPENTANE + 3-ETHYLPENTANE	0.0135	0.0031	0.150	0.255
1-TRANS-2-DIMETHYLCYCLOPENTANE	0.0201	0.0046	0.207	0.352
N-HEPTANE	0.0901	0.0202	1.236	2.055
1-CIS-2-DIMETHYLCYCLOPENTANE	0.0046	0.0010	0.083	0.141
MECYHEX + 2,2-DIMEHEX + 1,1,3-TRIMECYPENT	0.0863	0.0198	1.449	2.457
2,5-DIMETHYLHEXANE	0.0081	0.0016	0.137	0.200
2,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.0000	0.0000	0.005	0.008
2,2,3-TRIMETHYLPENTANE	0.0027	0.0005	0.068	0.100
1-TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.0000	0.0000	0.015	0.022
3,3-DIMETHYLHEXANE	0.0006	0.0001	0.000	0.000
TOLUENE	0.0226	0.0055	0.687	1.241
1-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.0000	0.0000	0.000	0.000
2,3,4-TRIMETHYLPENTANE	0.0000	0.0000	0.022	0.032
2,3-DIMEHEX+2,3,3-TRIMEPENT+2-ME3-ETPENT	0.0025	0.0004	0.091	0.134
2-METHYLHEPTANE + 4-METHYLHEPTANE	0.0117	0.0023	0.452	0.660
3,4-DIMEHEX + 1-CIS-2-TRAN-4-TRIMECYPENT	0.0033	0.0006	0.129	0.189
3-ETHYLHEXANE	0.0077	0.0015	0.024	0.036
3-METHYLHEPTANE + 3-ME-3-ETHYLPENTANE	0.0000	0.0000	0.336	0.490
2,2,5-TRIMEHEX+1,1,3-TR-4-TETRAMECYPENT.	0.0000	0.0000	0.016	0.020
1-CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.0000	0.0000	0.016	0.024
1-TRANS-4 + 1-CIS-3 + 1,1-DIMECYHEXANE	0.0128	0.0025	0.465	0.691
1-ME-3-ETHCYPENT + 2,2,4-TRIMETHYLHEXANE	0.0000	0.0000	0.068	0.102
1-ME-TRANS-2 + 1-ME-CIS-3-ETHYLCYPENTANE	0.0013	0.0002	0.060	0.089
CYCLOHEPTANE	0.0166	0.0038	0.014	0.024
N-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	0.0000	0.0000	1.071	1.562
1-CIS-4-DIMETHYLCYCLOHEXANE	0.0039	0.0007	0.191	0.284
1-TRANS-3-DIMETHYLCYCLOHEXANE	0.0015	0.0003	0.096	0.143
2,2,4-TRIMEHEXANE + ISOPROPYLCYCLOPENT.	0.0000	0.0000	0.023	0.030
2,3,5-TRIMEHEXANE + 2,2-DIMETHYLHEPTANE	0.0000	0.0000	0.031	0.041
1-METHYL-CIS-2-ETHYLCYCLOPENTANE	0.0014	0.0002	0.080	0.119
2,4-DIMEHEPTANE + 2,2,3-TRIMETHYLHEXANE	0.0006	0.0001	0.151	0.196
2,6-DIMEHEPTANE + 1-CIS-2-DIMECYHEXANE	0.0005	0.0001	0.063	0.082
N-PROPYLCYPENT + 2,5- + 3,5-DIMEHEPTANE	0.0040	0.0008	0.119	0.176
ETHYLCYCLOHEXANE	0.0000	0.0000	0.365	0.542
ETHYLBENZENE	0.0000	0.0000	0.124	0.195
3,3-DIMETHYLHEPTANE + 1,1,3-TRIMECYHEXANE	0.0007	0.0001	0.178	0.231
2,3,3-TRIMETHYLHEXANE	0.0000	0.0000	0.046	0.060
2-METHYL-3-ETHYLHEXANE	0.0000	0.0000	0.026	0.034
P-XYLENE	0.0032	0.0006	0.146	0.229
M-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.0000	0.0000	0.653	1.024
2,3- + 3,4-DIMETHYLHEPTANE	0.0000	0.0000	0.073	0.096
4-METHYLOCTANE	0.0028	0.0005	0.289	0.375
2-METHYLOCTANE	0.0000	0.0000	0.197	0.256
3-ETHYLHEPTANE	0.0000	0.0000	0.045	0.059
3-METHYLOCTANE	0.0016	0.0002	0.235	0.306
O-XYLENE (+ A C-10 ALKANE)	0.0000	0.0000	0.277	0.435
2,2,4-TRIMETHYLHEPTANE	0.0000	0.0000	0.017	0.020
2,2,5-TRIMETHYLHEPTANE	0.0000	0.0000	0.038	0.045
2,2,6-TRIMETHYLHEPTANE	0.0000	0.0000	0.000	0.000
*** UNKNOWN ***	0.0000	0.0000	0.067	0.078
2,5,5-TRIMETHYLHEPTANE	0.0000	0.0000	0.018	0.021
2,4,4-TRIMETHYLHEPTANE	0.0000	0.0000	0.064	0.075
*** A C-9 NAPHTHENE ***	0.0000	0.0000	0.236	0.312
ISOPROPYLBENZENE	0.0032	0.0006	0.097	0.134
N-NONANE	0.0000	0.0000	1.060	1.377
C-9 NAPHTHENES + C-10 ALKANES	0.0020	0.0003	2.835	3.740
N-PROPYLBENZENE	0.0000	0.0000	0.069	0.095
1-METHYL-3-ETHYLBENZENE	0.0000	0.0000	0.191	0.264
1-METHYL-4-ETHYLBENZENE	0.0000	0.0000	0.152	0.210
1-METHYL-2-ETHYLBENZENE	0.0000	0.0000	0.246	0.341
1,3,5-TRIMETHYLBENZENE	0.0000	0.0000	0.346	0.479
1,2,4-TRIMETHYLBENZENE	0.0000	0.0000	0.180	0.249
1,2,3-TRIMETHYLBENZENE	0.0000	0.0000	0.059	0.082
N-DECANE	0.0000	0.0000	1.155	1.351
UNDECANES AND HEAVIER	0.0000	0.0000	69.680	39.018

(1) The combined stream could not be calculated because a gas-oil ratio and/or flow rates were not provided.

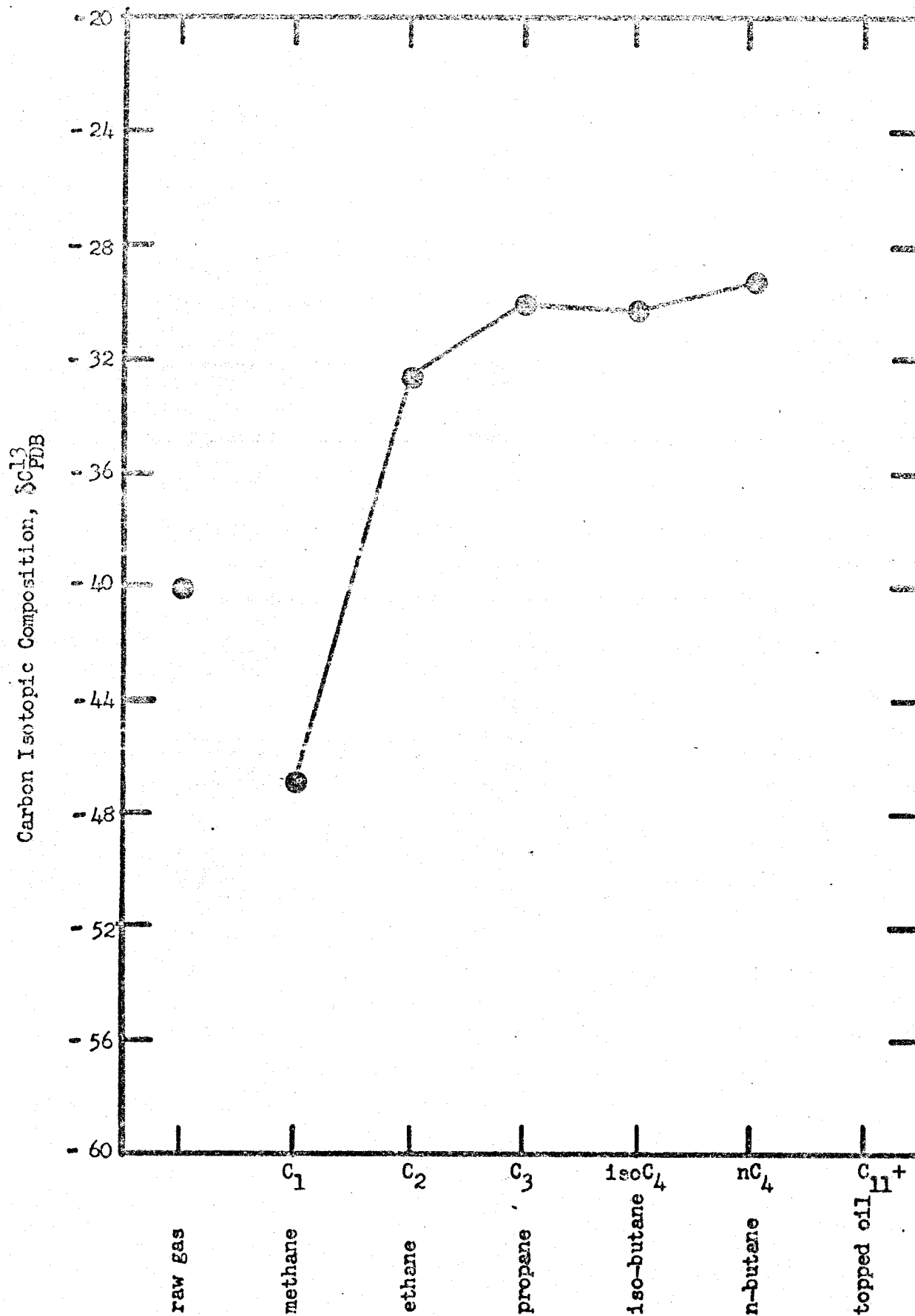


Figure 1-A. Carbon Isotopic Composition of Individual Hydrocarbons, Methane Through n-Butane, Torfelt Well 2/4-8AX, DST 2, Geochemistry Branch Code JBT.

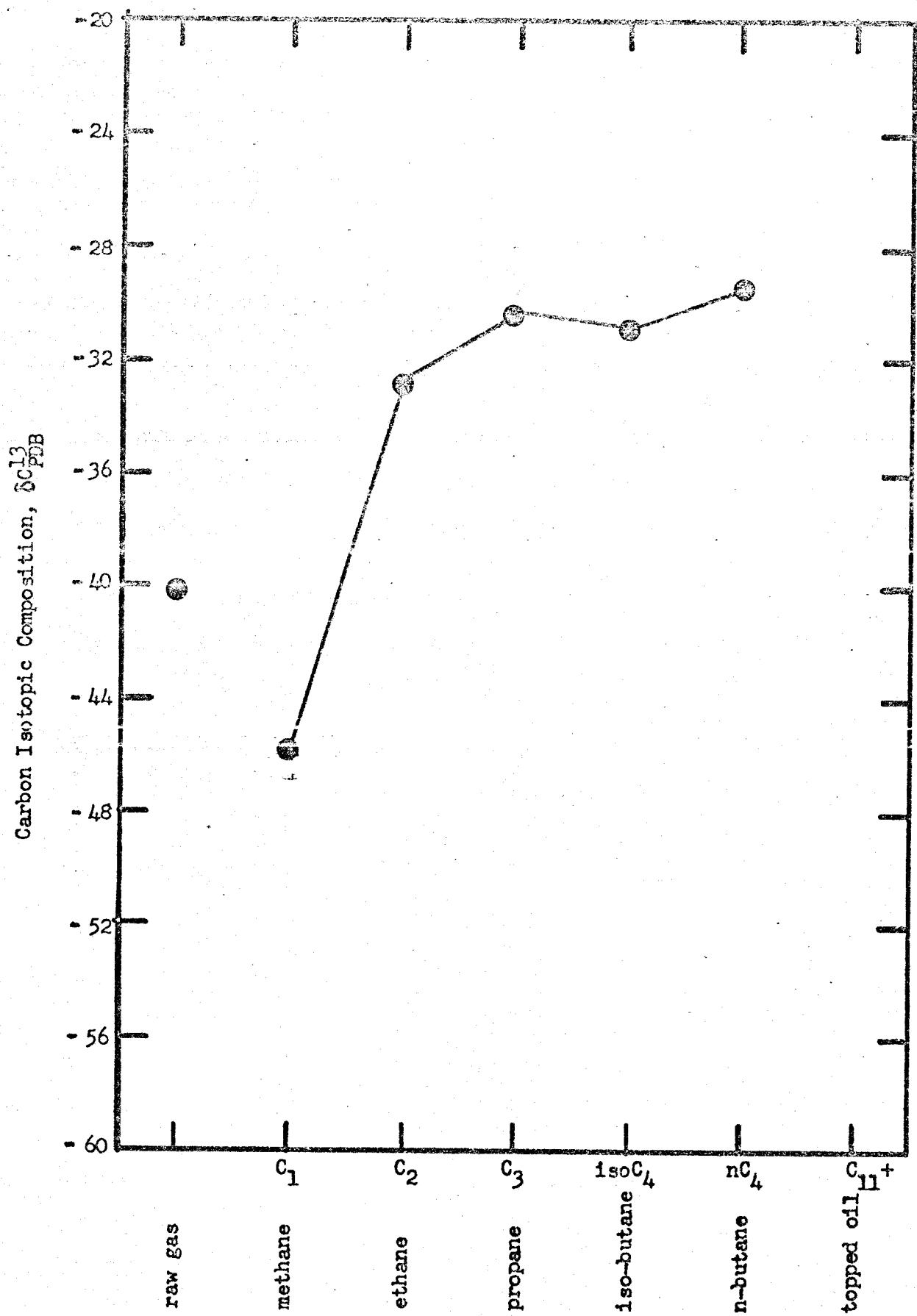


Figure 1-B. Carbon Isotopic Composition of Individual Hydrocarbons, Methane Through n-Butane, Torfelt Well 2/4-8AX, DST #3 (Rerun DST #1), Geochemistry Branch Code JBV.

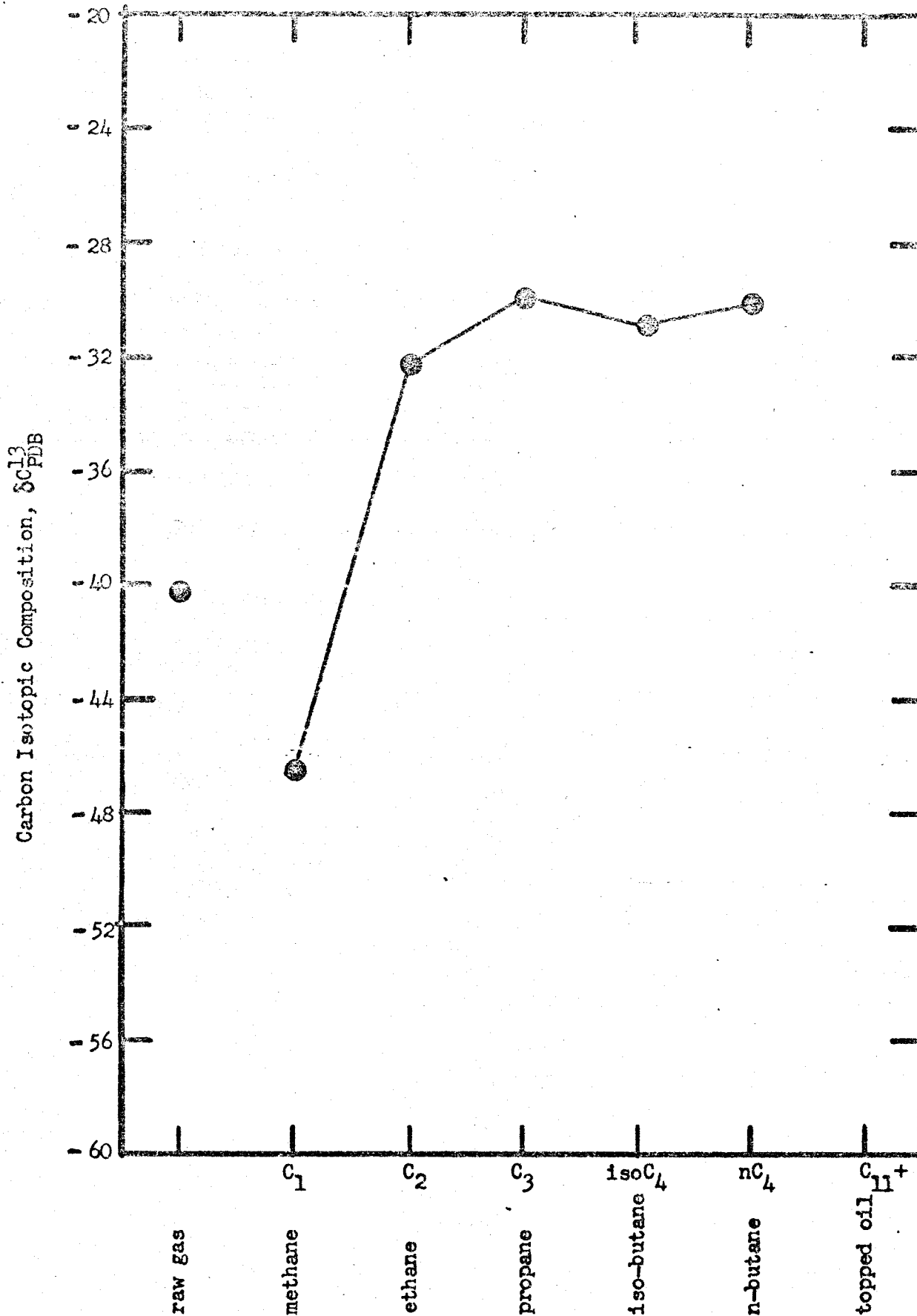


Figure 1-C. Carbon Isotopic Composition of Individual Hydrocarbons, Methane Through n-Butane, Torfelt Well 2/4-8AX, DST #4, Geochemistry Branch Code JBX.

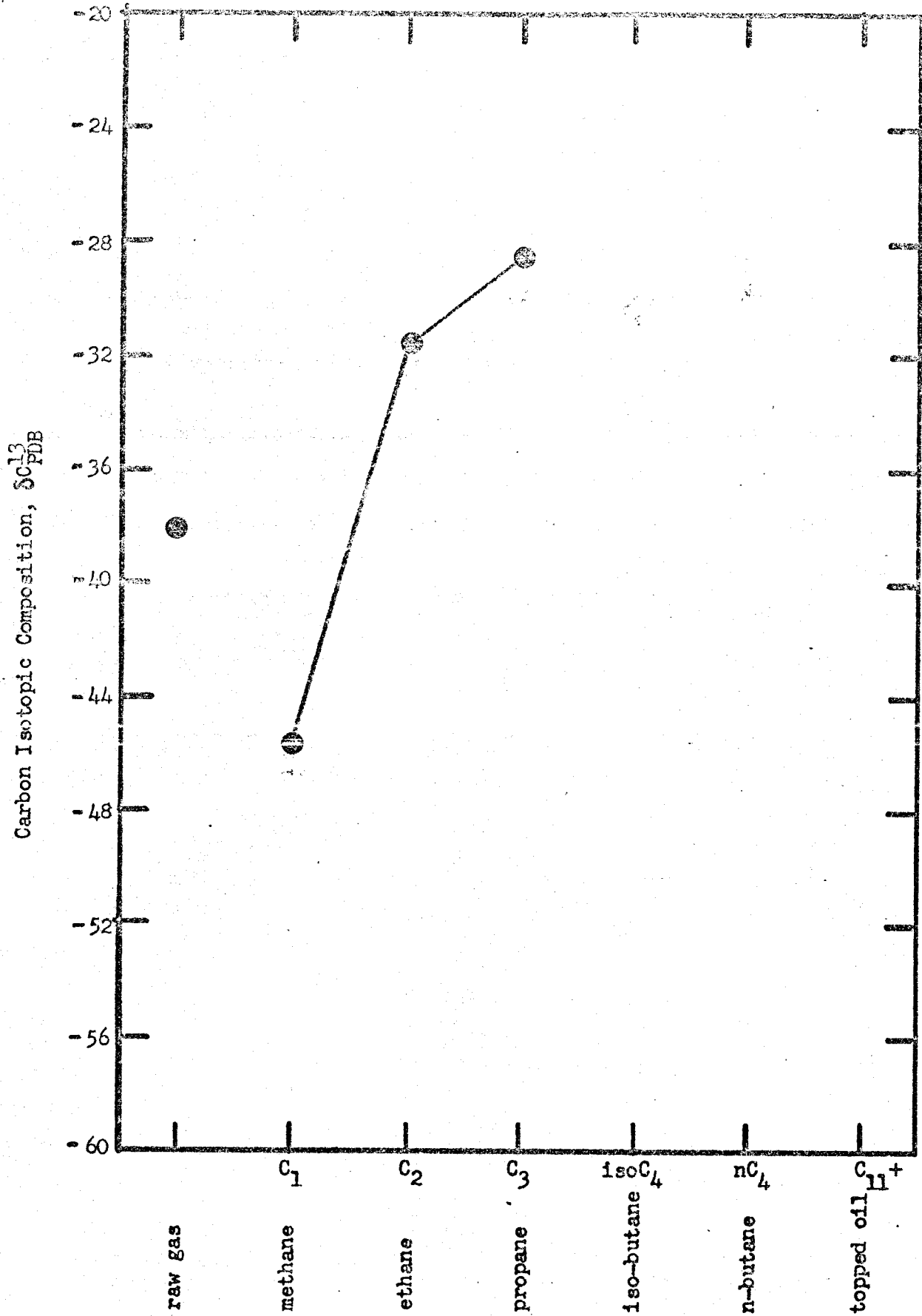


Figure 1-D. Carbon Isotopic Composition of Individual Hydrocarbons, Methane Through n-Butane, Torfelt Well 2/4-8AX, DST #4 Post Acid, Geochemistry Branch Code JBZ.

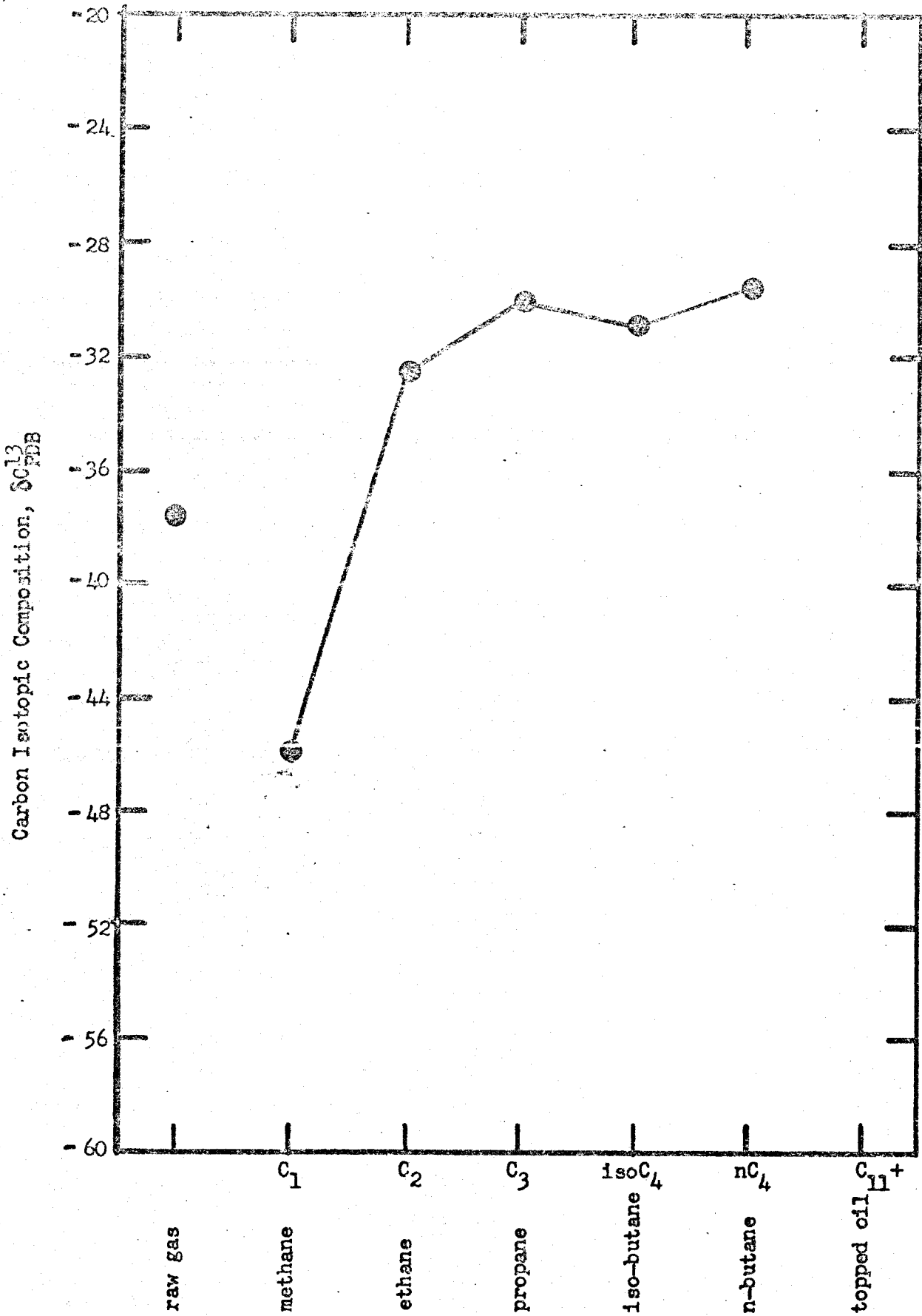


Figure 1-E. Carbon Isotopic Composition of Individual Hydrocarbons, Methane Through n-Butane, Torfelt Well 2/4-8AX, DST #5 Pre-Acid, Geochemistry Branch Code JCB.

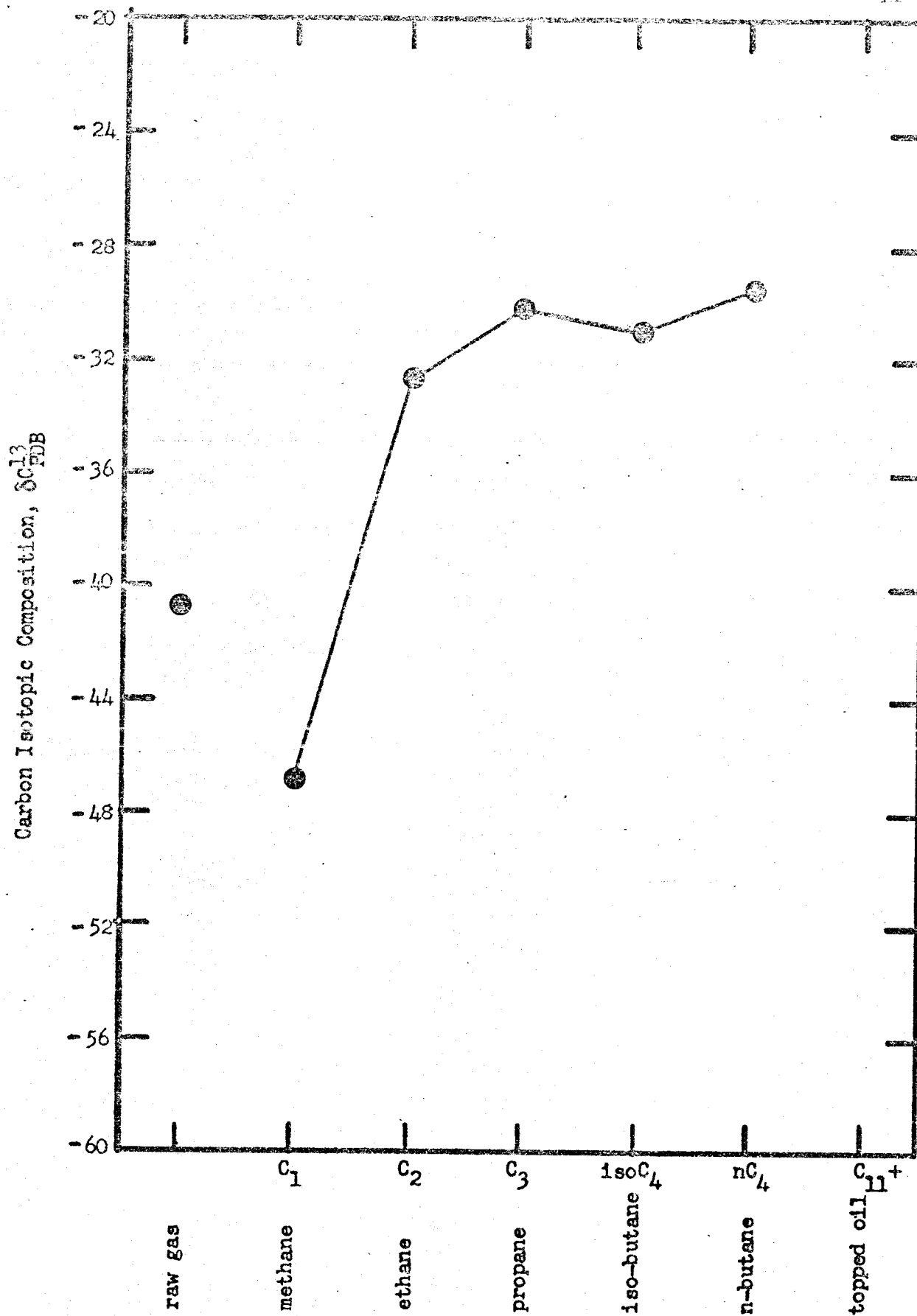


Figure 1-F. Carbon Isotopic Composition of Individual Hydrocarbons, Methane Through n-Butane, Torfelt Well 2/4-8AX, DST #5 Post Acid, Geochemistry Branch Code JCD.

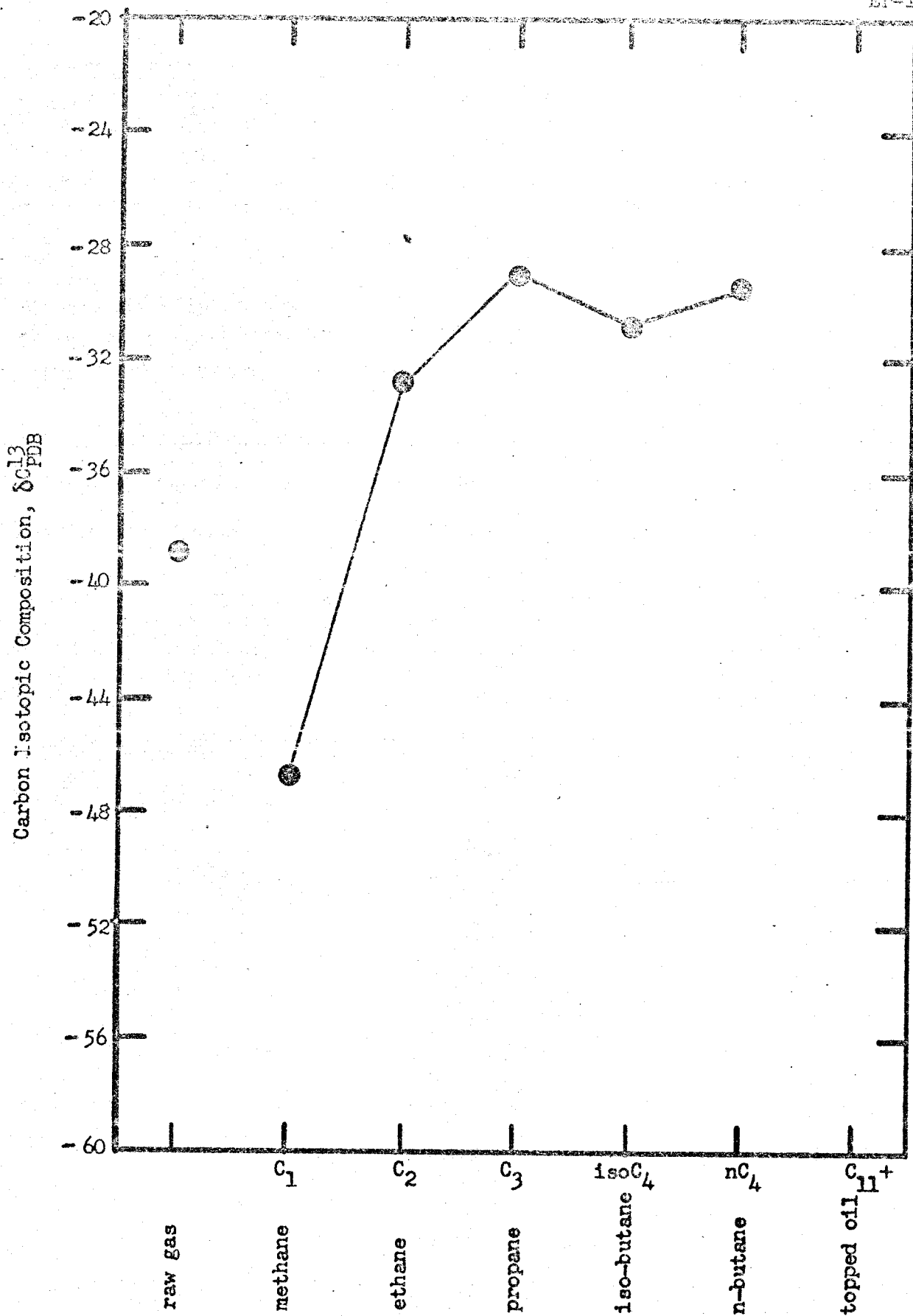


Figure 1-C. Carbon Isotopic Composition of Individual Hydrocarbons, Methane Through n-Butane, Torfelt Well 2/4-8AX, DST #6, Geochemistry Branch Code JCF.

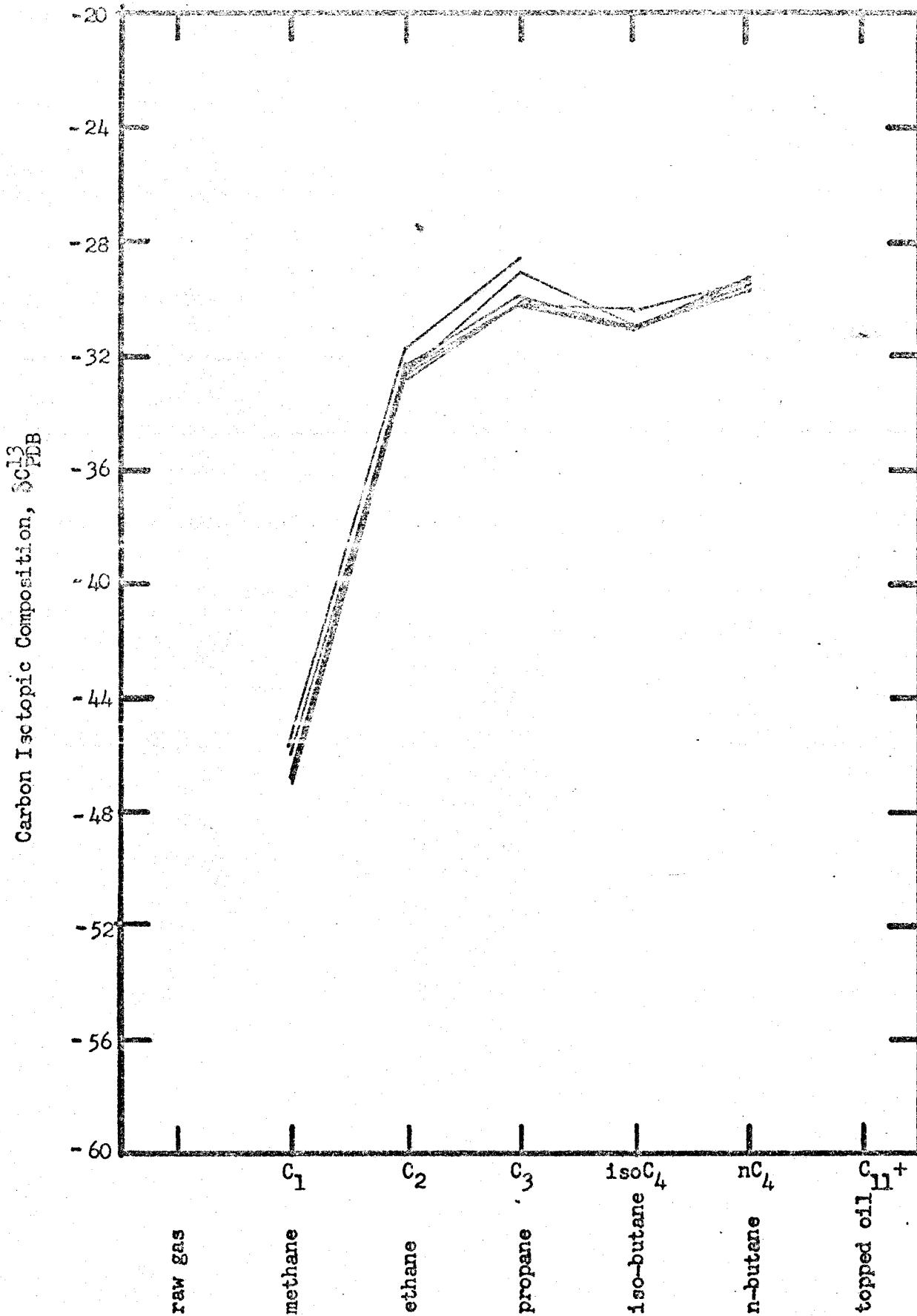


Figure 1-H. Carbon Isotopic Composition of Individual Hydrocarbons, Methane Through n-Butane, Torfelt Well 2/4-8AX. Composite of Data for DST's between February 22 and March 22, 1972.

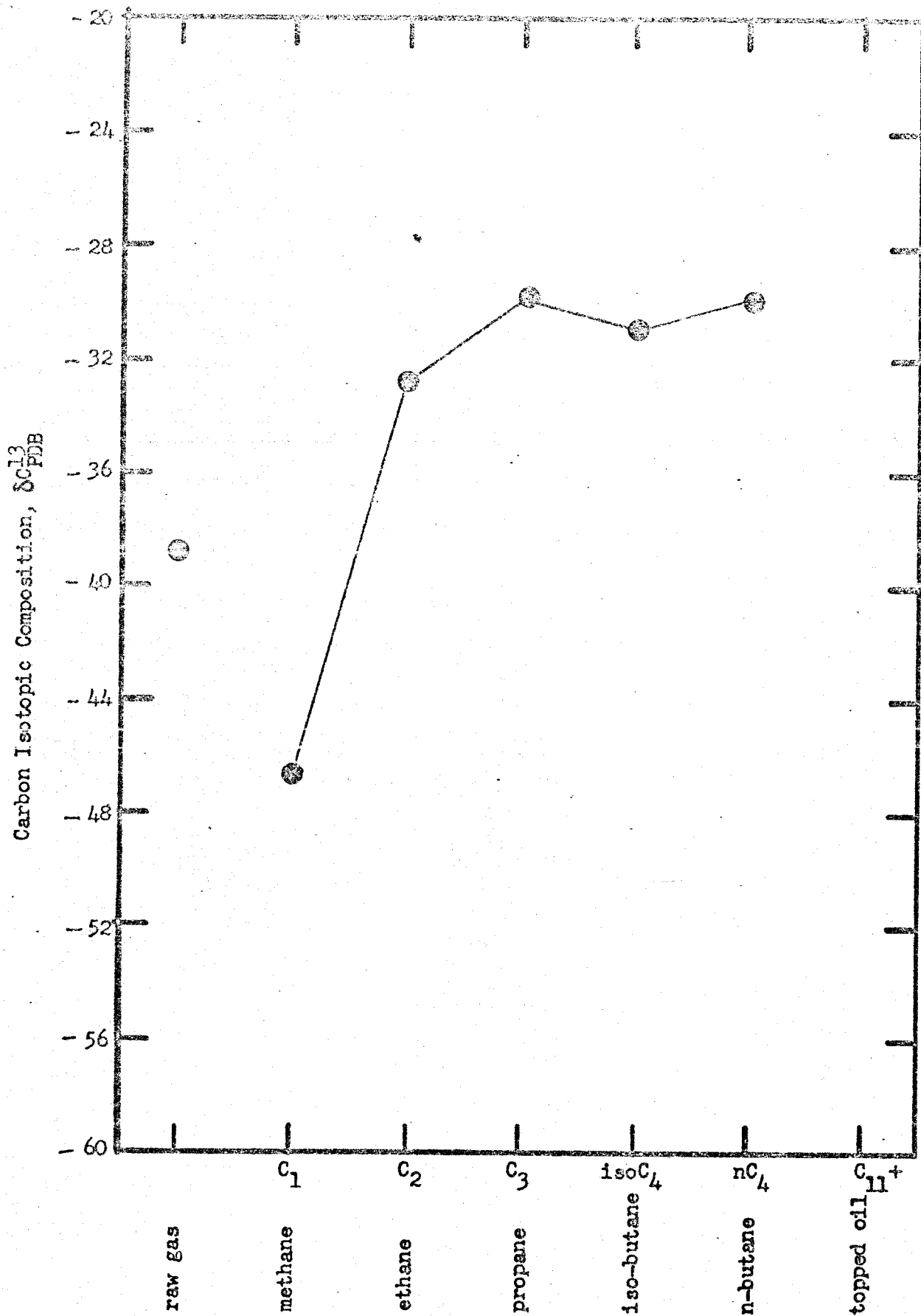


Figure 2-A. Carbon Isotopic Composition of Individual Hydrocarbons, Methane Through n-Butane, Amoco Torfelt Well 2/5-1X, DST 4, Sampled Oct. 23, 1970, Geochemistry Branch Code JFV.

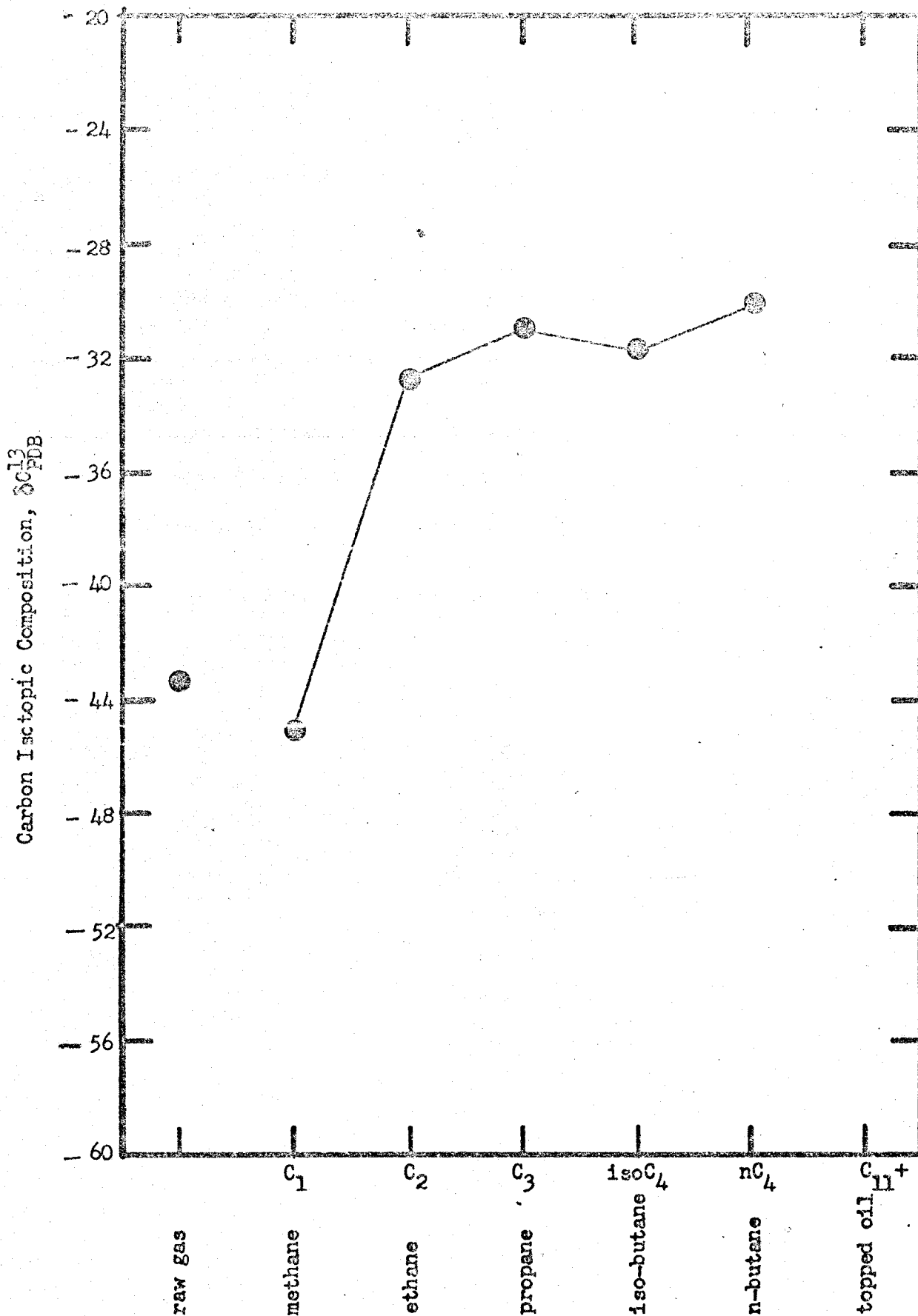


Figure 2-B. Carbon Isotopic Composition of Individual Hydrocarbons, Methane Through n-Butane, Amoco Torfelt Well 2/5-1X, DST —, Sampled Nov. 3, 1970, Geochemistry Branch Code JFX.

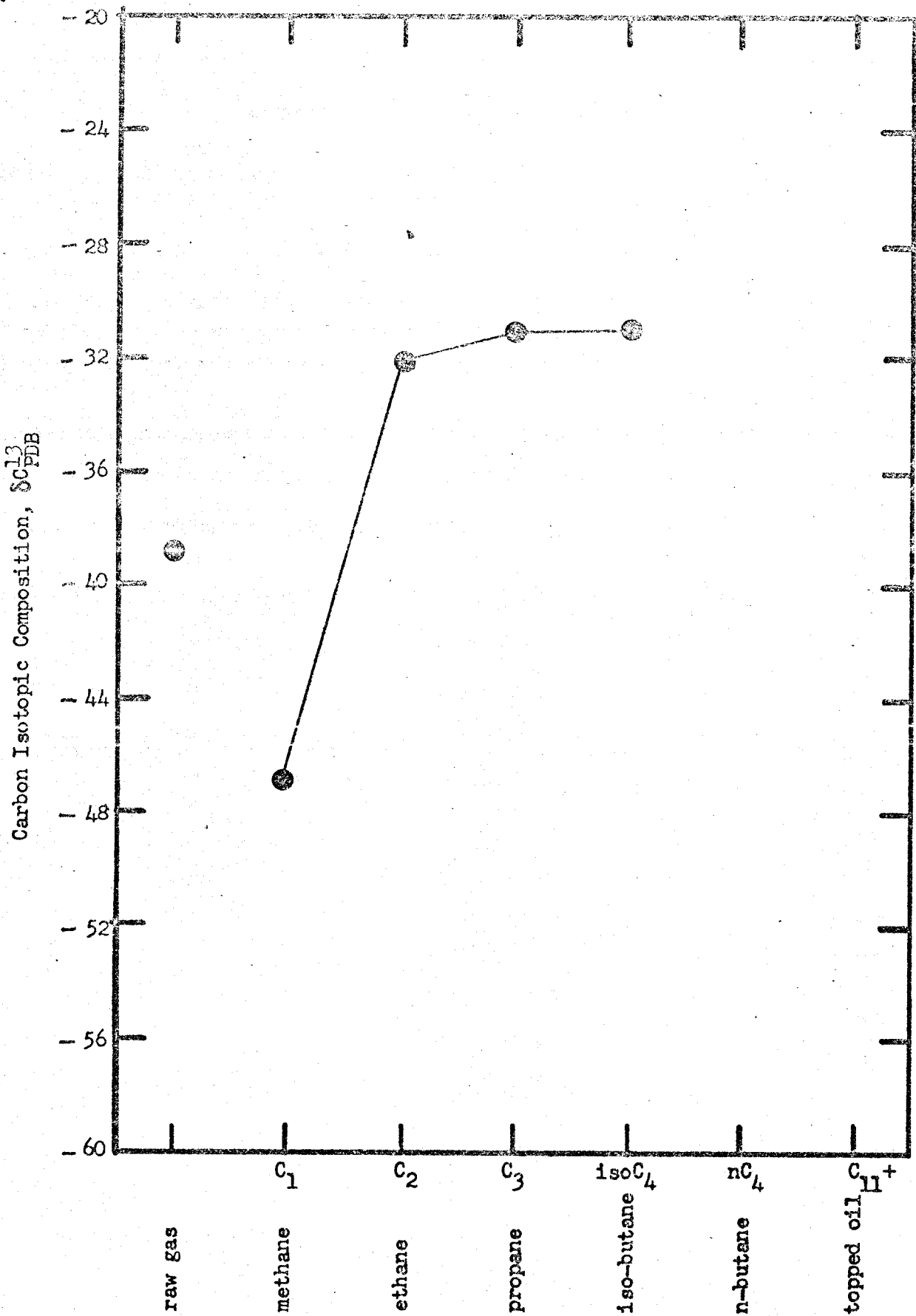


Figure 2-C. Carbon Isotopic Composition of Individual Hydrocarbons, Methane Through n-Butane, Amoco Torfelt Well 2/5-1X, DST ---, Sampled Nov. 4, 1970, Geochemistry Branch Code JFZ.

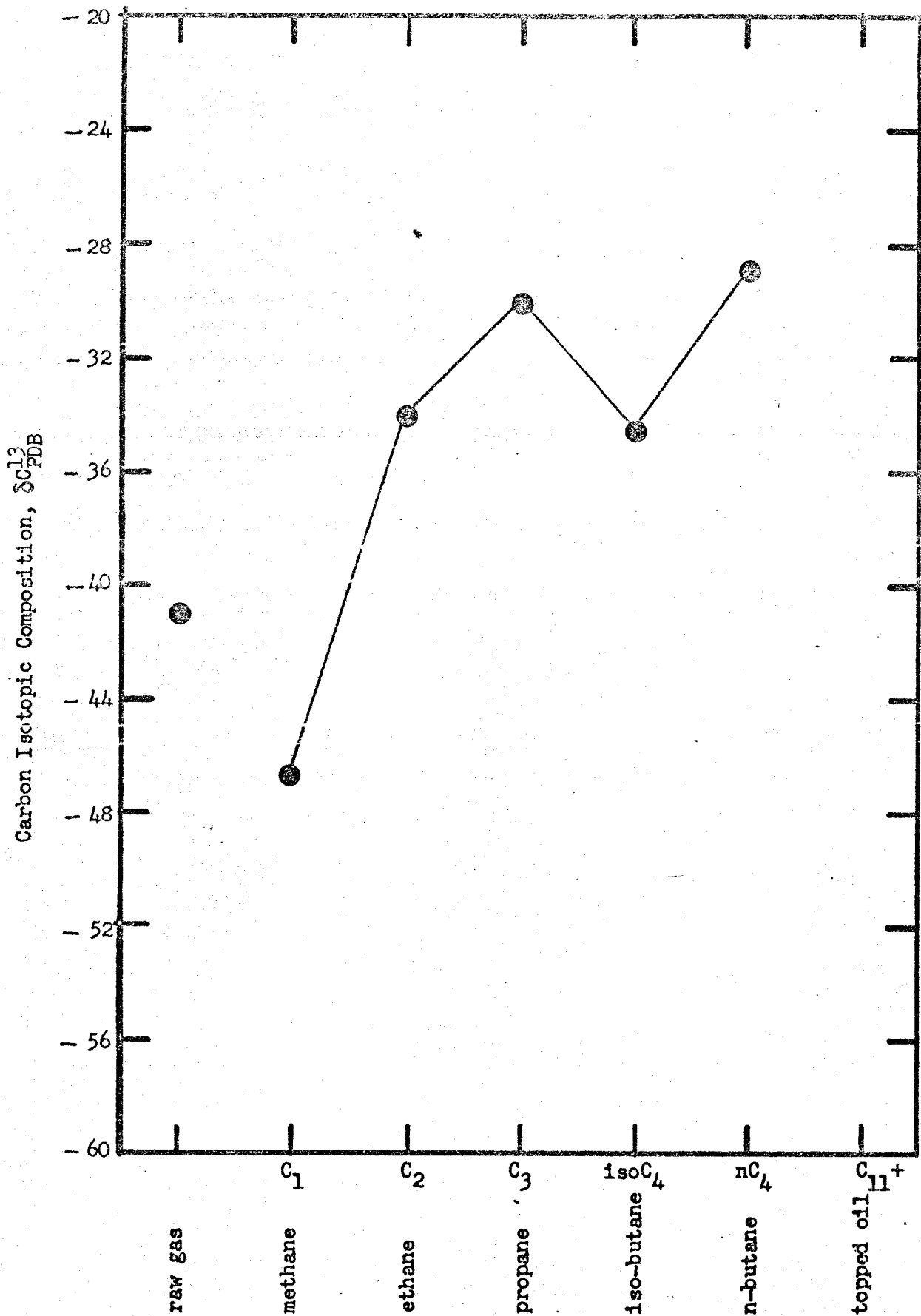


Figure 2-D. Carbon Isotopic Composition of Individual Hydrocarbons, Methane Through n-Butane, Amoco Torfelt Well 2/5-1X, DST ---, Sampled Nov. 10, 1970, Geochemistry Branch Code JGB.

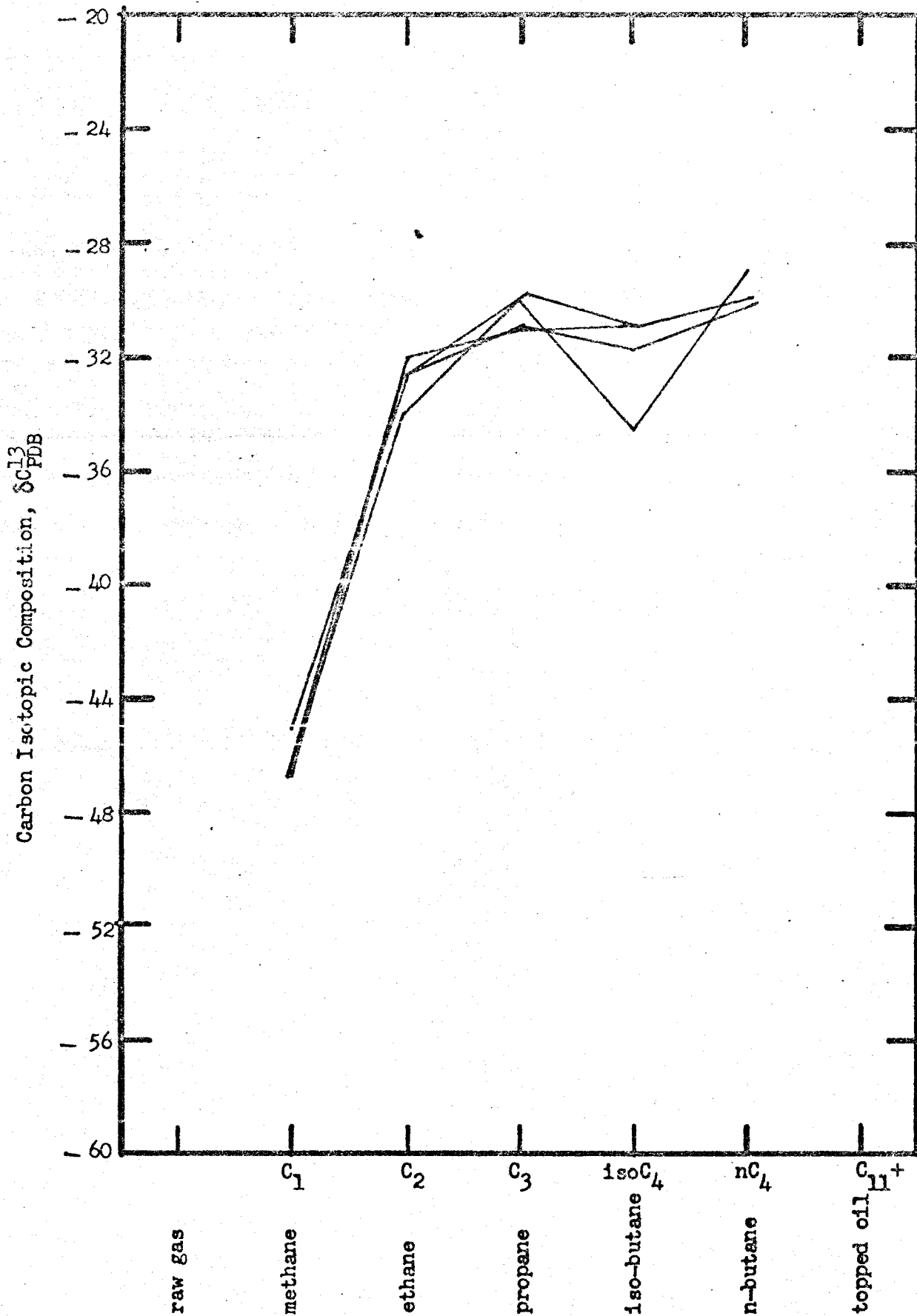


Figure 2-E. Carbon Isotopic Composition of Individual Hydrocarbons, Methane Through n-Butane, Amoco Torfelt Well 2/5-1X. Composite of Data for DST's Between October 23 and November 10, 1970.