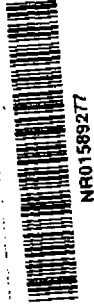


WA.2/7-03.5(8)

Geochemical Analysis of DST Fluid  
Analysis

PPCo

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 PetroData

cc: R & D Files

~~S. Eha~~ W. E. RYKER

O. D. Thomas

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COMPANY  
CONFIDENTIAL

NORWAY/WELL - 2/7-3

North Sea/Norwegian Sector/Eldfisk 2/7-3X Well  
Crude Oil-Source Rock Characterization

Er-222-73

August 10, 1973

E. Thrall  
Phillips Petroleum Co.  
P. O. Box 69  
4001 Stavanger, Norway

Attention: J. H. Schriber

Petroleum samples recovered from DST 2, flow 2; DST 3, flow 4; DST 4, flow 4; and DST 5, flow 5, all of which tested the Danian-Cretaceous carbonate, and from DST 18 in the Jurassic, and sidewall cores taken over the 1920-2792 m (6300-9160 foot) interval in the Tertiary, in the Eldfisk 2/7-3X well, Norwegian Sector, North Sea, have been characterized. Conclusions and interpretations resulting from this study are as follows:

1. In regard to parameters indicative of conditions of genesis, crude oils produced from the Jurassic in the 2/7-3X well are almost identical to the oil produced from the Danian-Cretaceous carbonate in this well and in other fields of the Greater Ekofisk Complex. A possible interpretation of this remarkable finding is that source rocks were developed in the North Sea Basin under almost identical conditions during several intervals of geologic time.
2. In contrast to the Tertiary shale section characterized in other wells from the Greater Ekofisk area, petroleum genesis is not far advanced in the Tertiary claystones penetrated by the 2/7-3X well. Conditions were more favorable for the generation of gas in these particular claystones but conditions for oil genesis improve with increasing depth.
3. More oil is contained in these claystones than could have been generated in situ, indicating that some of the oil originated in lateral stratigraphic equivalents of these units where more prolific source rocks are present. Oil originating in the Tertiary shales probably migrated laterally along siltstone and sandstone laminae and stringers present in the Tertiary shales in response to the hydrodynamic pressure gradient.
4. Crude oil produced from the Danian-Cretaceous carbonate reservoir shows a definite product-source relationship with the oil extracted from the Tertiary claystones. This strengthens the interpretation advanced in previous reports that crude oil in the Danian-Cretaceous reservoir in the Greater Ekofisk area originated in overlying Tertiary shales and migrated downward to accumulate in the carbonate reservoir.
5. The Tertiary claystones which are rich in organic content were deposited in an open marine environment. Evidence indicates uniform ecological and environmental conditions prevailed in the area during the time of accumulation of these claystones.

E. Thrall  
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Page 2

6. The fact that prolific source rock facies of Tertiary age are present elsewhere in the Greater Ekofisk area and the presence of migrated oil in the more permeable units in the Tertiary suggests that Tertiary sandstones also would be good exploration targets in the basin.

Data on which these conclusions and interpretations are based are presented in Tables I-X and Figures 1-10. The basic concepts on which these interpretations were made are presented in the Geochemistry Manual.

Original Signed By  
J. GORDON ERDMAN

J. Gordon Erdman

JGE/DAM:gm1

Attachments: Tables I-X  
Figures 1-10

TABLE I

COMPONENT COMPOSITION OF THE GAS, LIQUID AND COMBINED STREAM  
FROM THE ELDFISK 2/7-3X WELL, DST 2, FLOW 2

Geochem. Br. Code - gas, KFO; liquid, KFP

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	0.337	0.256	0.013	0.082	0.102	0.201
CARBON DIOXIDE	5.800	2.803	0.128	0.482	1.625	2.069
ETHANE	58.644	77.755	0.442	4.562	15.921	54.616
ETHANE	15.391	10.887	0.803	4.410	4.831	8.842
PROPANE	11.469	5.532	1.959	7.345	4.892	5.105
SUBUTANE	1.501	0.549	0.632	1.799	0.997	0.944
ISOBUTANE	3.793	1.388	2.456	6.986	3.355	3.157
PENTANE	0.796	0.234	1.036	2.373	1.194	0.910
ISOPENTANE	0.967	0.285	1.467	3.362	1.649	1.256
HEXANE	0.013	0.003	0.014	0.026	0.016	0.010
CYCLOPENTANE	0.069	0.021	0.169	0.400	0.179	0.140
2,3-DIMETHYLBUTANE	0.011	0.002	0.055	0.103	0.054	0.034
2-METHYLPENTANE	0.179	0.044	0.556	1.066	0.575	0.367
3-METHYLPENTANE	0.089	0.022	0.332	0.637	0.359	0.216
3-HEXANE	0.268	0.066	1.248	2.394	1.255	0.802
ETHYLCYCLOPENTANE + 2,2-DIMETHYLPENTANE	0.105	0.026	0.626	1.230	0.622	0.407
2,4-DIMETHYLPENTANE	0.009	0.002	0.052	0.087	0.052	0.036
BENZENE + 2,2,3-TRIMETHYLBUTANE	0.022	0.006	0.191	0.404	0.187	0.132
CYCLOHEXANE + 3,3-DIMETHYLPENTANE	0.075	0.019	0.625	1.228	0.613	0.401
3-METHYLHEXANE	0.031	0.006	0.333	0.550	0.325	0.176
2,3-DIMETHYLPENTANE + 1,1-DIMETHYLCYCLOPENT.	0.018	0.003	0.178	0.295	0.174	0.095
3-METHYLHEXANE	0.034	0.007	0.380	0.628	0.370	0.203
CIS-3-DIMETHYLCYCLOPENTANE	0.013	0.002	0.144	0.243	0.140	0.076
TRANS-3-DIMETHYLCYCLOPENTANE + 3-ETHYLPENTANE	0.012	0.002	0.161	0.272	0.156	0.087
TRANS-2-DIMETHYLCYCLOPENTANE	0.024	0.005	0.273	0.459	0.265	0.148
HEPTANE	0.085	0.018	1.221	2.015	1.182	0.649
CIS-2-DIMETHYLCYCLOPENTANE	0.000	0.000	0.052	0.088	0.049	0.027
CYCLOHEX + 2,2-DIMETHYLHEX + 1,1,3-TRIMETHYLPENT	0.079	0.017	1.286	2.165	1.242	0.696
2,5-DIMETHYLHEXANE	0.000	0.000	0.039	0.056	0.037	0.017
2,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.008	0.001	0.178	0.257	0.171	0.082
2,3-TRIMETHYLPENTANE	0.000	0.000	0.004	0.006	0.004	0.002
TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.076	0.113	0.072	0.035

Table I (continued - 2)

3,3-DIMETHYLHEXANE	0.000	0.000	0.011	0.016	0.010	0.005
TOLUENE	0.021	0.004	0.631	1.132	0.605	0.361
1-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.048	0.072	0.046	0.022
2,3,4-TRIMETHYLPENTANE	0.000	0.000	0.000	0.000	0.000	0.000
2,3-DIMEHEX+2,3,3-TRIMEPENT+2-ME3-ETPENT	0.000	0.000	0.069	0.100	0.065	0.031
2-METHYLHEPTANE + 4-METHYLHEPTANE	0.000	0.000	0.022	0.032	0.021	0.010
3,4-DIMEHEX + 1-CIS-2-TRAN-4-TRIMECYPENT	0.014	0.002	0.419	0.606	0.401	0.193
3-ETHYLHEXANE	0.004	0.000	0.124	0.180	0.119	0.057
3-METHYLHEPTANE + 3-ME-3-ETHYLPENTANE	0.000	0.000	0.302	0.437	0.287	0.138
2,2,5-TRIMEHEX+1,1,3-TR-4-TETRAMECYPENT.	0.008	0.001	0.010	0.013	0.012	0.005
1-CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.022	0.033	0.021	0.010
1-TRANS-4 + 1-CIS-3 + 1,1-DIMECYHEXANE	0.000	0.000	0.444	0.654	0.421	0.206
1-ME-3-ETHCYPENT + 2,2,4-TRIMETHYLHEXANE	0.000	0.000	0.031	0.046	0.029	0.014
1-ME-TRANS-2 + 1-ME-CIS-3-ETHYLCYPENTANE	0.016	0.003	0.050	0.074	0.052	0.025
1-CYCLOHEPTANE	0.004	0.000	0.143	0.241	0.137	0.077
1-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	0.027	0.005	1.116	1.614	1.066	0.514
1-CIS-4-DIMETHYLCYCLOHEXANE	0.000	0.000	0.212	0.312	0.201	0.098
1-TRANS-3-DIMETHYLCYCLOHEXANE	0.000	0.000	0.090	0.133	0.086	0.042
2,2,4-TRIMEHEXANE + ISOPROPYLCYCLOPENT.	0.007	0.001	0.021	0.027	0.022	0.009
2,3,5-TRIMEHEXANE + 2,2-DIMETHYLHEPTANE	0.000	0.000	0.016	0.021	0.015	0.006
1-METHYL-CIS-2-ETHYLCYCLOPENTANE	0.000	0.000	0.073	0.108	0.069	0.034
1,4-DIMEHEPTANE + 2,2,3-TRIMETHYLHEXANE	0.000	0.000	0.153	0.198	0.145	0.062
2,6-DIMEHEPTANE + 1-CIS-2-DIMECYHEXANE	0.000	0.000	0.000	0.000	0.000	0.000
1-PROPYLCYPENT + 2,5- + 3,5-DIMEHEPTANE	0.000	0.000	0.168	0.248	0.160	0.078
1-ETHYLCYCLOHEXANE	0.000	0.000	0.382	0.562	0.362	0.177
1-ETHYLBENZENE	0.000	0.000	0.126	0.196	0.119	0.062
3,5-DIMETHYLHEPTANE +1,1,3-TRIMECYHEXANE	0.000	0.000	0.189	0.244	0.180	0.077
1,3,3-TRIMETHYLHEXANE	0.007	0.001	0.058	0.075	0.057	0.024
1-METHYL-3-ETHYLHEXANE	0.000	0.000	0.043	0.056	0.041	0.017
1-M-XYLENE	0.003	0.000	0.202	0.315	0.193	0.100
1-M-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.000	0.000	0.469	0.730	0.445	0.231
2,3- + 3,4-DIMETHYLHEPTANE	0.000	0.000	0.057	0.074	0.054	0.023
4-METHYLOCTANE	0.000	0.000	0.284	0.366	0.270	0.115
1-METHYLOCTANE	0.000	0.000	0.178	0.229	0.169	0.072
3-ETHYLHEPTANE	0.003	0.000	0.044	0.057	0.043	0.018
1-METHYLOCTANE	0.006	0.000	0.207	0.267	0.198	0.085
1-M-XYLENE ( + A C-10 ALKANE)	0.004	0.000	0.265	0.413	0.253	0.131
2,2,4-TRIMETHYLHEPTANE	0.000	0.000	0.000	0.000	0.000	0.000
2,2,5-TRIMETHYLHEPTANE	0.000	0.000	0.038	0.044	0.036	0.014
1,2,6-TRIMETHYLHEPTANE	0.000	0.000	0.015	0.018	0.015	0.005
*** UNKNOWN ***	0.000	0.000	0.094	0.109	0.089	0.034
1,5,5-TRIMETHYLHEPTANE	0.000	0.000	0.000	0.000	0.000	0.000
1,4,4-TRIMETHYLHEPTANE	0.000	0.000	0.057	0.067	0.054	0.021

Table I (concluded)

** A C-9 NAPHTHENE **	0.000	0.000	0.295	0.386	0.280	0.122
ISOPROPYLBENZENE	0.000	0.000	0.000	0.000	0.000	0.000
-NONANE	0.010	0.001	1.034	1.333	0.985	0.422
-9 NAPHTHENES + C-10 ALKANES	0.000	0.000	2.416	3.163	2.294	1.000
-PROPYLBENZENE	0.000	0.000	0.084	0.116	0.080	0.036
-METHYL-3-ETHYLBENZENE	0.000	0.000	0.101	0.139	0.090	0.043
-METHYL-4-ETHYLBENZENE	0.003	0.000	0.052	0.072	0.050	0.023
-METHYL-2-ETHYLBENZENE	0.000	0.000	0.241	0.331	0.229	0.104
1,3,5-TRIMETHYLBENZENE	0.000	0.000	0.240	0.330	0.228	0.104
1,2,4-TRIMETHYLBENZENE	0.000	0.000	0.365	0.502	0.347	0.158
1,2,3-TRIMETHYLBENZENE	0.000	0.000	0.189	0.260	0.180	0.082
-DECANE	0.000	0.000	1.019	1.184	0.968	0.374
DECANES AND HEAVIER	0.000	0.000	69.909	35.894	44.999	11.340

OL PERCENT C6'S = 2.513

OL PERCENT C7+ = 19.378

TABLE II

COMPONENT COMPOSITION OF THE GAS, LIQUID AND COMBINED STREAM  
FROM THE ELDFISK 2/7-3X WELL, DST 3, FLOW 4. 9460-9500 FEET

Geochem. Br. Code - gas, KFV; liquid, KFV

COMPONENT	GAS SAMPLE		LIQUID SAMPLE		COMBINED STREAM		
	WT PCT.	MOL PCT	WT PCT.	MOL PCT	WT PCT.	MOL PCT	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	0.332	0.242	0.031	0.193	0.113		0.226
CARBON DIOXIDE	5.972	2.771	0.121	0.469	1.594		2.034
METHANE	63.262	80.553	0.518	5.474	16.142		56.524
ETHANE	14.807	10.059	0.781	4.403	4.415		8.249
PROPANE	9.533	4.416	1.670	6.415	3.969		5.056
ISOBUTANE	1.136	0.399	0.488	1.423	0.752		0.727
N-BUTANE	2.862	1.006	1.835	5.349	2.479		2.396
ISOPENTANE	0.596	0.168	0.851	1.998	0.968		0.754
N-PENTANE	0.702	0.199	1.281	3.008	1.410		1.098
NEOHXANE	0.004	0.001	0.012	0.023	0.012		0.008
CYCLOPENTANE	0.048	0.014	0.152	0.368	0.159		0.127
2,3-DIMETHYLBUTANE	0.007	0.001	0.045	0.089	0.045		0.029
2-METHYLPENTANE	0.125	0.029	0.486	0.956	0.500		0.326
3-METHYLPENTANE	0.061	0.014	0.291	0.572	0.296		0.193
N-HEXANE	0.183	0.043	1.091	2.145	1.098		0.16
METHYLCYCLOPENTANE + 2,2-DIMETHYLPENTANE	0.071	0.017	0.547	1.102	0.546		0.364
2,4-DIMETHYLPENTANE	0.006	0.001	0.043	0.073	0.043		0.024
BENZENE + 2,2,3-TRIMETHYLBUTANE	0.008	0.002	0.180	0.391	0.176		0.127
CYCLOHEXANE + 3,3-DIMETHYLPENTANE	0.048	0.011	0.543	1.094	0.536		0.358
2-METHYLHEXANE	0.020	0.004	0.287	0.485	0.282		0.158
2,3-DIMETHYLPENTANE + 1,1-DIMECYCLOPENT.	0.011	0.002	0.155	0.262	0.152		0.085
3-METHYLHEXANE	0.021	0.004	0.329	0.557	0.323		0.181
1-CIS-3-DIMETHYLCYCLOPENTANE	0.008	0.001	0.125	0.216	0.123		0.070
1-TRANS-3-DIMECYPENTANE + 3-ETHYLPENTANE	0.008	0.001	0.138	0.239	0.136		0.077
1-TRANS-2-DIMETHYLCYCLOPENTANE	0.015	0.003	0.234	0.404	0.229		0.131
N-HEPTANE	0.052	0.010	1.056	1.784	1.031		0.578
1-CIS-2-DIMETHYLCYCLOPENTANE	0.000	0.000	0.073	0.126	0.070		0.040
MECYHEX + 2,2-DIMEHEX + 1,1,3-TRIMECYPENT	0.045	0.009	1.091	1.883	1.065		0.609
2,5-DIMETHYLHEXANE	0.000	0.000	0.035	0.052	0.034		0.016
2,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.004	0.000	0.153	0.227	0.149		0.073
2,2,3-TRIMETHYLPENTANE	0.000	0.000	0.004	0.006	0.003		0.001
-TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.065	0.098	0.063		0.031

TABLE II (Continued - 2)

3,3-DIMETHYLHEXANE	0.000	0.000	0.008	0.012	0.008	0.004
TOLUENE	0.005	0.001	0.564	1.037	0.545	0.332
1-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.034	0.051	0.032	0.016
2,3,4-TRIMETHYLPENTANE	0.000	0.000	0.003	0.005	0.003	0.001
2,3-DIMEHEX+2,3,3-TRIMEPENT+2-ME3-ETPENT	0.000	0.000	0.074	0.111	0.072	0.035
2-METHYLHEPTANE + 4-METHYLHEPTANE	0.000	0.000	0.365	0.542	0.353	0.173
3,4-DIMEHEX + 1-CIS-2-TRAN-4-TRIMECYPENT	0.006	0.001	0.104	0.155	0.103	0.050
5-ETHYLHEXANE	0.000	0.000	0.018	0.026	0.017	0.008
3-METHYLHEPTANE + 3-ME-3-ETHYLPENTANE	0.000	0.000	0.240	0.357	0.232	0.114
2,2,5-TRIMEHEX+1,1,3-TR-4-TETRAMECYPENT.	0.004	0.000	0.007	0.009	0.007	0.003
1-CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.018	0.028	0.017	0.008
1-TRANS-4 + 1-CIS-3 + 1,1-DIMECYHEXANE	0.000	0.000	0.397	0.599	0.383	0.191
1-ME-3-ETHCYPENT + 2,2,4-TRIMETHYLHEXANE	0.000	0.000	0.074	0.112	0.071	0.035
1-ME-TRANS-2 + 1-ME-CIS-3-ETHYLCYPENTANE	0.007	0.001	0.129	0.194	0.126	0.063
CYCLOHEPTANE	0.000	0.000	0.038	0.066	0.037	0.021
N-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	0.012	0.002	0.964	1.429	0.933	0.459
1-CIS-4-DIMETHYLCYCLOHEXANE	0.000	0.000	0.159	0.240	0.153	0.077
1-TRANS-3-DIMETHYLCYCLOHEXANE	0.000	0.000	0.072	0.109	0.070	0.035
2,2,4-TRIMEHEXANE + ISOPROPYLCYCLOPENT.	0.000	0.000	0.000	0.000	0.000	0.000
2,3,5-TRIMEHEXANE + 2,2-DIMETHYLHEPTANE	0.000	0.000	0.003	0.004	0.003	0.001
1-METHYL-CIS-2-ETHYLCYCLOPENTANE	0.000	0.000	0.020	0.030	0.019	0.009
2,4-DIMEHEPTANE + 2,2,3-TRIMETHYLHEXANE	0.000	0.000	0.017	0.023	0.016	0.007
2,6-DIMEHEPTANE + 1-CIS-2-DIMECYHEXANE	0.000	0.000	0.058	0.076	0.056	0.024
N-PROPYLCYPENT + 2,5- + 3,5-DIMEHEPTANE	0.000	0.000	0.143	0.216	0.138	0.069
ETHYLCYCLOHEXANE	0.000	0.000	0.158	0.239	0.152	0.076
ETHYLBENZENE	0.000	0.000	0.449	0.717	0.433	0.229
3,3-DIMETHYLHEPTANE + 1,1,3-TRIMECYHEXANE	0.000	0.000	0.133	0.176	0.128	0.056
2,3,3-TRIMETHYLHEXANE	0.000	0.000	0.113	0.150	0.109	0.048
2-METHYL-3-ETHYLHEXANE	0.000	0.000	0.079	0.105	0.077	0.033
P-XYLENE	0.000	0.000	0.118	0.189	0.114	0.060
M-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.000	0.000	0.523	0.834	0.504	0.267
2,3- + 3,4-DIMETHYLHEPTANE	0.000	0.000	0.081	0.107	0.078	0.034
4-METHYLOCTANE	0.000	0.000	0.247	0.326	0.238	0.104
2-METHYLOCTANE	0.000	0.000	0.170	0.225	0.164	0.072
3-ETHYLHEPTANE	0.000	0.000	0.056	0.074	0.054	0.023
3-METHYLOCTANE	0.000	0.000	0.216	0.285	0.208	0.091
O-XYLENE ( + A C-10 ALKANE)	0.000	0.000	0.259	0.414	0.250	0.132
2,2,4-TRIMETHYLHEPTANE	0.000	0.000	0.049	0.059	0.047	0.018
2,2,5-TRIMETHYLHEPTANE	0.000	0.000	0.127	0.151	0.122	0.048
2,2,6-TRIMETHYLHEPTANE	0.000	0.000	0.065	0.078	0.063	0.024
*** UNKNOWN ***	0.000	0.000	0.000	0.000	0.000	0.000
2,5,5-TRIMETHYLHEPTANE	0.000	0.000	0.064	0.077	0.062	0.024
2,4,4-TRIMETHYLHEPTANE	0.000	0.000	0.000	0.000	0.000	0.000



TABLE II (Concluded)

*** A C-9 NAPHTHENE ***	0.000	0.000	0.157	0.211	0.151	0.067
ISOPROPYLBENZENE	0.000	0.000	0.089	0.126	0.086	0.040
N-NONANE	0.000	0.000	0.979	1.293	0.945	0.414
C-9 NAPHTHENES + C-10 ALKANES	0.000	0.000	2.814	3.775	2.715	1.208
N-PROPYLBENZENE	0.000	0.000	0.122	0.171	0.117	0.055
1-METHYL-3-ETHYLBENZENE	0.000	0.000	0.211	0.297	0.203	0.095
1-METHYL-4-ETHYLBENZENE	0.000	0.000	0.106	0.149	0.102	0.047
1-METHYL-2-ETHYLBENZENE	0.000	0.000	0.119	0.167	0.114	0.053
1,3,5-TRIMETHYLBENZENE	0.000	0.000	0.274	0.386	0.264	0.113
1,2,4-TRIMETHYLBENZENE	0.000	0.000	0.348	0.490	0.336	0.157
1,2,3-TRIMETHYLBENZENE	0.000	0.000	0.301	0.424	0.290	0.135
N-DECANE	0.000	0.000	1.113	1.325	1.074	0.424
UNDECANES AND HEAVIER	0.000	0.000	72.200	39.625	48.448	12.681

MOL PERCENT C6'S = 2.251

MOL PERCENT C7+ = 20.681

TABLE III

COMPONENT COMPOSITION OF THE GAS, LIQUID AND COMBINED STREAM  
FROM THE ELDFISK 2/7-3X WELL, DST 4, FLOW 4

Geochem. Br. Code - gas, KGA; liquid, KGB

COMPONENT	GAS SAMPLE		LIQUID SAMPLE		COMBINED STREAM	
	WT PCT.	MOL PCT	WT PCT.	MOL PCT	WT PCT.	MOL PCT.
ELIUM	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
HYDROGEN + ARGON	0.000	0.000	0.000	0.000	0.000	0.000
NITROGEN	0.364	0.265	0.004	0.023	0.091	0.183
CARBON DIOXIDE	6.996	3.244	0.142	0.496	1.820	2.315
ETHANE	33.004	80.923	0.848	8.131	16.136	56.304
PROPANE	14.016	9.514	0.854	4.367	4.175	7.773
ISOBUTANE	8.924	4.130	1.668	5.617	3.703	4.701
NORBUTANE	1.684	0.380	0.424	1.121	0.655	0.631
ISOPENTANE	2.077	0.940	1.580	4.180	2.114	2.036
NOPENTANE	0.586	0.165	0.842	1.795	0.924	0.717
ISOPENTANE	0.695	0.196	1.388	2.959	1.457	1.131
HEXANE	0.000	0.000	0.013	0.023	0.012	0.007
CYCLOPENTANE	0.051	0.015	0.170	0.373	0.170	0.136
2,3-DIMETHYLBUTANE	0.010	0.002	0.054	0.096	0.052	0.034
2-METHYLPENTANE	0.140	0.033	0.601	1.073	0.593	0.385
3-METHYLPENTANE	0.069	0.016	0.356	0.655	0.347	0.225
HEXANE	0.222	0.052	1.380	2.462	1.355	0.867
ETHYLCYCLOPENTANE + 2,2-DIMETHYLPENTANE	0.085	0.020	0.681	1.244	0.653	0.434
2,4-DIMETHYLPENTANE	0.008	0.001	0.079	0.122	0.076	0.049
HEPTANE + 2,2,3-TRIMETHYLBUTANE	0.018	0.004	0.215	0.424	0.204	0.146
CYCLOHEXANE + 3,3-DIMETHYLPENTANE	0.061	0.014	0.734	1.341	0.696	0.463
2-METHYLHEXANE	0.027	0.005	0.376	0.576	0.355	0.196
2,3-DIMETHYLPENTANE + 1,1-DIMETHYLCYCLOPENT.	0.015	0.003	0.226	0.347	0.214	0.119
2-METHYLHEXANE	0.030	0.006	0.442	0.678	0.418	0.235
CIS-3-DIMETHYLCYCLOPENTANE	0.011	0.002	0.180	0.282	0.170	0.097
TRANS-3-DIMETHYLPENTANE + 3-ETHYLPENTANE	0.011	0.002	0.173	0.272	0.164	0.093
TRANS-2-DIMETHYLCYCLOPENTANE	0.021	0.004	0.356	0.558	0.356	0.191
HEPTANE	0.080	0.016	1.485	2.278	1.398	0.781
CIS-2-DIMETHYLCYCLOPENTANE	0.000	0.000	0.087	0.136	0.081	0.046
CYCLOHEX + 2,2-DIMEHEX + 1,1,3-TRIMECYPENT	0.070	0.014	1.532	2.399	1.440	0.821
2,5-DIMETHYLHEXANE	0.000	0.000	0.072	0.097	0.067	0.035
2,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.007	0.001	0.229	0.309	0.215	0.105
2,3-TRIMETHYLPENTANE	0.000	0.000	0.000	0.000	0.000	0.000
TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.088	0.120	0.081	0.040

TABLE III(continued - 2)

,3-DIMETHYLHEXANE	0.000	0.000	0.016	0.022	0.015	0.007
LUENE	0.024	0.005	0.765	1.277	0.717	0.435
-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.000	0.000	0.000	0.000
,3,4-TRIMETHYLPENTANE	0.000	0.000	0.086	0.116	0.080	0.039
,3-DIMHEX+2,3,3-TRIMEPENT+2-ME3-ETPENT	0.000	0.000	0.113	0.152	0.105	0.051
-METHYLHEPTANE + 4-METHYLHEPTANE	0.000	0.000	0.475	0.639	0.441	0.216
,4-DIMEHEX + 1-CIS-2-TRAN-4-TRIMECPENT	0.011	0.002	0.189	0.255	0.178	0.087
-ETHYLHEXANE	0.000	0.000	0.026	0.036	0.025	0.012
-METHYLHEPTANE + 3-ME-3-ETHYLPENTANE	0.006	0.001	0.350	0.471	0.326	0.160
,2,5-TRIMEHEX+1,1,3-TR-4-TETRAHECPENT.	0.000	0.000	0.016	0.019	0.015	0.006
CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.028	0.039	0.026	0.015
-TRANS-4 + 1-CIS-3 + 1,1-DIMECYHEXANE	0.009	0.001	0.556	0.762	0.518	0.258
-ME-3-ETHCPENT + 2,2,4-TRIMETHYLHEXANE	0.000	0.000	0.076	0.104	0.071	0.035
-ME-TRANS-2 + 1-ME-CIS-3-ETHYLCYPENTANE	0.000	0.000	0.179	0.246	0.166	0.083
CYCLOHEPTANE	0.000	0.000	0.059	0.093	0.055	0.031
-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	0.022	0.004	1.214	1.634	1.133	0.555
-CIS-4-DIMETHYLCYCLOHEXANE	0.000	0.000	0.321	0.441	0.299	0.149
-TRANS-3-DIMETHYLCYCLOHEXANE	0.000	0.000	0.126	0.172	0.117	0.058
,2,4-TRIMEHEXANE + ISOPROPYLCYCLOPENT.	0.000	0.000	0.026	0.031	0.024	0.010
,3,5-TRIMEHEXANE + 2,2-DIMETHYLHEPTANE	0.000	0.000	0.021	0.025	0.019	0.006
-METHYL-CIS-2-ETHYLCYCLOPENTANE	0.000	0.000	0.078	0.107	0.073	0.036
,4-DIMEHEPTANE + 2,2,3-TRIMETHYLHEXANE	0.000	0.000	0.174	0.209	0.162	0.070
,6-DIMEHEPTANE + 1-CIS-2-DIMECYHEXANE	0.000	0.000	0.000	0.000	0.000	0.000
-PROPYLCYPENT + 2,5- + 3,5-DIMEHEPTANE	0.000	0.000	0.200	0.275	0.186	0.093
THYLCYCLOHEXANE	0.000	0.000	0.412	0.565	0.383	0.191
THYLBENZENE	0.000	0.000	0.175	0.254	0.163	0.086
,3-DI-ETHYLHEPTANE +1,1,3-TRIMECYHEXANE	0.000	0.000	0.217	0.261	0.202	0.088
,3,3-TRI-ETHYLHEXANE	0.000	0.000	0.071	0.086	0.066	0.029
-ETHYL-3-ETHYLHEXANE	0.000	0.000	0.047	0.057	0.044	0.019
-XYLENE	0.000	0.000	0.088	0.127	0.061	0.043
-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.000	0.000	0.662	0.967	0.633	0.334
,3- + 3,4-DIMEETHYLHEPTANE	0.000	0.000	0.070	0.085	0.065	0.028
-ETHYLOCTANE	0.000	0.000	0.279	0.335	0.259	0.113
-ETHYLOCTANE	0.000	0.000	0.247	0.296	0.229	0.100
-ETHYLHEPTANE	0.000	0.000	0.056	0.067	0.052	0.022
-ETHYLOCTANE	0.000	0.000	0.238	0.286	0.221	0.096
-XYLENE ( + A C-10 ALKANE)	0.000	0.000	0.310	0.449	0.288	0.152
,2,4-TRIMETHYLHEPTANE	0.000	0.000	0.000	0.000	0.000	0.000
,2,5-TRIMETHYLHEPTANE	0.000	0.000	0.036	0.039	0.033	0.015
,2,6-TRIMETHYLHEPTANE	0.000	0.000	0.000	0.000	0.000	0.000
** UNKNOWN ***	0.000	0.000	0.000	0.000	0.000	0.000
,3,5-TRIMETHYLHEPTANE	0.000	0.000	0.113	0.122	0.105	0.041
,4,4-TRIMETHYLHEPTANE	0.000	0.000	0.071	0.076	0.065	0.025

TABLE II (concluded)

** A C-9 NAPHTHENE ***	0.000	0.000	0.230	0.280	0.214	0.094
SOPROPYLBENZENE	0.000	0.000	0.000	0.000	0.000	0.000
-TOLUENE	0.009	0.001	1.309	1.509	1.218	0.551
-9 NAPHTHENES + C-10 ALKANES	0.018	0.002	2.285	2.782	2.126	0.945
-PROPYLBENZENE	0.000	0.000	0.056	0.072	0.052	0.024
-1,3-DIETHYL-3-ETHYLBENZENE	0.000	0.000	0.182	0.233	0.169	0.078
-1,4-DIETHYL-4-ETHYLBENZENE	0.000	0.000	0.127	0.163	0.110	0.055
-1,2-DIETHYL-2-ETHYLBENZENE	0.000	0.000	0.234	0.299	0.217	0.101
,3,5-TRIETHYLBENZENE	0.000	0.000	0.265	0.339	0.240	0.110
,2,4-TRIETHYLBENZENE	0.000	0.000	0.130	0.166	0.120	0.050
,2,3-TRIETHYLBENZENE	0.000	0.000	0.018	0.023	0.017	0.007
-DECANE	0.000	0.000	1.200	1.290	1.114	0.438
DECANES AND HEAVIER	0.000	0.000	68.439	36.787	46.555	12.441

OL PERCENT C6'S = 2.702

OL PERCENT C7+ = 21.503

TABLE IV

COMPONENT COMPOSITION OF THE GAS, LIQUID AND COMBINED STREAM  
FROM THE ELDFISK 2/7-3X WELL, DST 5, FLOW 5

Geochem. Br. Code - gas, KGK; liquid, KGL

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	0.324	0.244	0.024	0.166	0.117	0.225
CARBON DIOXIDE	6.783	3.252	0.079	0.340	2.036	2.466
ETHANE	59.818	78.683	0.282	3.313	17.562	58.351
PROPANE	14.523	10.192	0.490	3.068	4.605	6.269
ISOBUTANE	10.327	4.942	1.301	5.548	4.224	3.155
NORBUTANE	1.400	0.508	0.444	1.435	0.827	0.758
ISOPENTANE	3.615	1.312	1.754	5.673	2.714	2.489
NORPENTANE	0.837	0.244	0.755	1.968	0.960	0.709
ISOPENTANE	1.035	0.302	1.090	2.640	1.356	0.987
HEXANE	0.011	0.002	0.011	0.024	0.015	0.006
CYCLOPENTANE	0.076	0.022	0.126	0.337	0.141	0.107
2,3-DIMETHYLBUTANE	0.011	0.002	0.038	0.084	0.040	0.024
2-METHYLPENTANE	0.199	0.046	0.414	0.903	0.451	0.279
3-METHYLPENTANE	0.098	0.024	0.249	0.543	0.265	0.164
HEXANE	0.296	0.072	0.950	2.073	0.990	0.612
ETHYLCYCLOPENTANE + 2,2-DIMETHYLPENTANE	0.113	0.028	0.475	1.062	0.485	0.307
2,4-DIMETHYLPENTANE	0.012	0.002	0.038	0.073	0.040	0.024
HEPTANE + 2,2,3-TRIMETHYLBUTANE	0.025	0.006	0.157	0.379	0.157	0.107
CYCLOHEXANE + 3,3-DIMETHYLPENTANE	0.079	0.019	0.479	1.071	0.479	0.305
3-METHYLHEXANE	0.033	0.007	0.255	0.479	0.253	0.134
2,3-DIMETHYLPENTANE + 1,1-DIMETHYLCYCLOPENT.	0.019	0.004	0.155	0.255	0.134	0.071
3-METHYLHEXANE	0.035	0.007	0.292	0.547	0.268	0.155
CIS-3-DIMETHYLCYCLOPENTANE	0.013	0.002	0.111	0.213	0.109	0.059
TRANS-3-DIMETHYLCYCLOPENTANE + 3-ETHYLPENTANE	0.012	0.002	0.123	0.235	0.120	0.065
TRANS-2-DIMETHYLCYCLOPENTANE	0.024	0.005	0.206	0.395	0.203	0.110
HEPTANE	0.065	0.018	0.944	1.771	0.923	0.491
CIS-2-DIMETHYLCYCLOPENTANE	0.000	0.000	0.039	0.076	0.037	0.020
CYCLOHEX + 2,2-DIMETHYLHEX + 1,1,3-TRIMETHYLPENT	0.076	0.016	0.989	1.893	0.963	0.522
2,3-DIMETHYLHEXANE	0.000	0.000	0.029	0.047	0.027	0.012
2,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.008	0.001	0.134	0.220	0.130	0.060
2,3-TRIMETHYLPENTANE	0.000	0.000	0.000	0.000	0.000	0.000
TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.003	0.000	0.058	0.098	0.057	0.027

TABLE IV (continued - 2)

,3-DIMETHYLHEXANE	0.000	0.000	0.008	0.013	0.007	0.003
FLUENE	0.020	0.004	0.500	1.021	0.481	0.276
-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.031	0.052	0.029	0.014
,3,4-TRIMETHYLPENTANE	0.000	0.000	0.000	0.000	0.000	0.000
,3-DIMHEX+2,3,3-TRIMEPENT+2-HE3-ETPENT	0.000	0.000	0.052	0.086	0.050	0.023
-ETHYLHEPTANE + 4-METHYLHEPTANE	0.000	0.000	0.015	0.025	0.014	0.006
,4-DIMEHEX + 1-CIS-2-TRAN-4-TRIMECYPENT	0.012	0.002	0.323	0.531	0.310	0.145
-ETHYLHEXANE	0.003	0.000	0.094	0.155	0.091	0.042
-METHYLHEPTANE + 3-HE-3-ETHYLPENTANE	0.000	0.000	0.229	0.376	0.218	0.102
,2,5-TRIMEHEX+1,1,3-TR-4-TETRAHECYPENT.	0.006	0.001	0.007	0.011	0.009	0.003
-CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.017	0.028	0.016	0.007
-TRANS-4 + 1-CIS-3 + 1,1-DIMECYHEXANE	0.000	0.000	0.342	0.574	0.326	0.144
-HE-3-ETHCYPENT + 2,2,4-TRIMETHYLHEXANE	0.000	0.000	0.024	0.040	0.023	0.011
-HE-TRANS-2 + 1-HE-CIS-3-ETHYLCYPENTANE	0.012	0.002	0.037	0.062	0.039	0.018
YCLOHEPTANE	0.003	0.000	0.109	0.209	0.105	0.057
-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	0.027	0.005	0.865	1.424	0.831	0.367
-CIS-4-DIMETHYLCYCLOHEXANE	0.000	0.000	0.157	0.264	0.150	0.071
-TRANS-3-DIMETHYLCYCLOHEXANE	0.000	0.000	0.068	0.114	0.064	0.030
,2,4-TRIMEHEXANE + 1SUPROPYLCYCLOPENT.	0.000	0.000	0.015	0.022	0.014	0.005
,3,5-TRIMEHEXANE + 2,2-DIMETHYLHEPTANE	0.000	0.000	0.010	0.015	0.010	0.004
-METHYL-CIS-2-ETHYLCYCLOPENTANE	0.000	0.000	0.056	0.094	0.053	0.025
,4-DIMEHEPTANE + 2,2,3-TRIMETHYLHEXANE	0.000	0.000	0.118	0.173	0.112	0.046
,5-DIMEHEPTANE + 1-CIS-2-DIMECYHEXANE	0.000	0.000	0.000	0.000	0.000	0.000
-PROPYLCYPENT + 2,5- + 3,5-DIMEHEPTANE	0.000	0.000	0.127	0.213	0.121	0.057
THYLCYCLOHEXANE	0.000	0.000	0.292	0.489	0.277	0.131
THYLBENZENE	0.000	0.000	0.097	0.171	0.092	0.046
,3-DIMETHYLHEPTANE + 1,1,3-TRIMECYHEXANE	0.000	0.000	0.139	0.203	0.132	0.054
,3,3-TRIMETHYLHEXANE	0.005	0.000	0.041	0.060	0.040	0.016
-METHYL-3-ETHYLHEXANE	0.000	0.000	0.029	0.043	0.027	0.011
-XYLENE	0.000	0.000	0.086	0.153	0.082	0.041
-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.000	0.000	0.432	0.766	0.411	0.206
,3- + 3,4-DIMETHYLHEPTANE	0.000	0.000	0.040	0.059	0.038	0.016
-METHYLOCTANE	0.000	0.000	0.211	0.310	0.201	0.083
-METHYLOCTANE	0.000	0.000	0.132	0.194	0.126	0.052
-ETHYLHEPTANE	0.000	0.000	0.030	0.044	0.028	0.011
-METHYLOCTANE	0.000	0.000	0.151	0.222	0.144	0.059
-XYLENE ( + A C-10 ALKANE)	0.000	0.000	0.194	0.344	0.185	0.092
,2,4-TRIMETHYLHEPTANE	0.000	0.000	0.000	0.000	0.000	0.000
,2,5-TRIMETHYLHEPTANE	0.000	0.000	0.020	0.026	0.019	0.007
,2,6-TRIMETHYLHEPTANE	0.000	0.000	0.009	0.012	0.008	0.003
** UNKNOWN ***	0.000	0.000	0.065	0.086	0.062	0.023
,5,5-TRIMETHYLHEPTANE	0.000	0.000	0.000	0.000	0.000	0.000
,4,4-TRIMETHYLHEPTANE	0.000	0.000	0.037	0.049	0.035	0.013

TABLE IV (concluded)

*** A C-9 NAPHTHENE ***	0.000	0.000	0.202	0.301	0.192	0.081
ISOPROPYLBENZENE	0.000	0.000	0.000	0.000	0.000	0.000
HEPTANE	0.005	0.000	0.789	1.157	0.752	0.312
C-9 NAPHTHENES + C-10 ALKANES	0.000	0.000	1.563	2.327	1.487	0.627
ISOPROPYLBENZENE	0.000	0.000	0.054	0.085	0.052	0.023
1-ETHYL-3-ETHYLBENZENE	0.000	0.000	0.070	0.110	0.067	0.029
1-ETHYL-4-ETHYLBENZENE	0.000	0.000	0.029	0.046	0.028	0.012
1-ETHYL-2-ETHYLBENZENE	0.000	0.000	0.165	0.259	0.157	0.063
1,3,5-TRIMETHYLBENZENE	0.000	0.000	0.150	0.235	0.143	0.058
1,2,4-TRIMETHYLBENZENE	0.000	0.000	0.184	0.288	0.175	0.077
1,2,5-TRIMETHYLBENZENE	0.000	0.000	0.126	0.198	0.120	0.053
DECANE	0.000	0.000	0.756	0.998	0.719	0.269
DECANES AND HEAVIER	0.000	0.000	78.190	48.095	50.344	12.974

DL PERCENT C6'S = 1.915

DL PERCENT C7+ = 18.722

TABLE V

COMPONENT COMPOSITION OF THE GAS, LIQUID AND COMBINED STREAM  
FROM THE ELDFISK 2/7-3X WELL, DST 18, FLOW 2

Geochem. Br. Code - gas, KQM; Liquid, KQN

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
NOXYGEN + ARGON	0.000	0.000	0.000	0.000	0.000	0.000
NITROGEN	0.584	0.467	0.019	0.145	0.065	0.269
CARBON DIOXIDE	24.322	12.391	0.545	2.617	2.416	6.362
ETHANE	53.020	74.103	0.557	7.335	4.556	32.915
PROPANE	10.576	7.886	0.660	4.640	1.526	5.884
ISOBUTANE	7.124	3.622	1.429	6.841	2.133	5.608
NORBUTANE	0.668	0.257	0.275	1.001	0.359	0.716
ISOPENTANE	2.091	0.806	1.314	4.774	1.632	3.254
NORPENTANE	0.484	0.150	0.573	1.676	0.679	1.092
ISOPENTANE	0.486	0.151	0.716	2.097	0.841	1.351
HEXANE	0.001	0.000	0.002	0.006	0.003	0.004
CYCLOPENTANE	0.047	0.015	0.161	0.485	0.184	0.305
2,3-DIMETHYLBUTANE	0.003	0.000	0.026	0.065	0.030	0.040
2-METHYLPENTANE	0.092	0.024	0.345	0.846	0.395	0.531
3-METHYLPENTANE	0.058	0.015	0.261	0.639	0.297	0.400
3-HEXANE	0.119	0.030	0.622	1.524	0.708	0.952
1-METHYLCYCLOPENTANE + 2,2-DIMETHYLPENTANE	0.073	0.019	0.543	1.362	0.615	0.847
2,4-DIMETHYLPENTANE	0.004	0.000	0.026	0.056	0.030	0.040
MEKZENE + 2,2,3-TRIMETHYLBUTANE	0.007	0.002	0.080	0.217	0.091	0.135
CYCLOHEXANE + 3,3-DIMETHYLPENTANE	0.030	0.008	0.335	0.841	0.379	0.521
2-METHYLHEXANE	0.013	0.003	0.172	0.362	0.194	0.224
2,3-DIMETHYLPENTANE + 1,1-DIMECYCLOPENT.	0.009	0.002	0.115	0.243	0.130	0.150
3-METHYLHEXANE	0.018	0.004	0.250	0.528	0.263	0.327
1-CIS-3-DIMETHYLCYCLOPENTANE	0.009	0.002	0.131	0.281	0.148	0.174
1-TRANS-3-DIMECYPENTANE + 3-ETHYLPENTANE	0.009	0.002	0.145	0.311	0.163	0.193
1-TRANS-2-DIMETHYLCYCLOPENTANE	0.017	0.003	0.268	0.576	0.302	0.357
4-HEPTANE	0.031	0.007	0.570	1.201	0.643	0.744
1-CIS-2-DIMETHYLCYCLOPENTANE	0.002	0.000	0.047	0.103	0.054	0.063
HECYHEX + 2,2-DIMEHEX + 1,1,3-TRIMECYPENT	0.031	0.007	0.739	1.589	0.832	0.983
2,5-DIMETHYLHEXANE	0.005	0.001	0.021	0.040	0.024	0.025
2,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.000	0.000	0.156	0.288	0.175	0.178
2,2,3-TRIMETHYLPENTANE	0.002	0.000	0.002	0.003	0.002	0.002



TABLE V (conitnued - 2)

-TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.070	0.133	0.079	0.082
,3-DIMETHYLHEXANE	0.000	0.000	0.003	0.006	0.004	0.004
OLUENE	0.008	0.001	0.321	0.735	0.361	0.454
-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.001	0.000	0.038	0.072	0.043	0.044
,3,4-TRIMETHYLPENTANE	0.000	0.000	0.000	0.000	0.000	0.000
,3-DIMEHEX+2,3,3-TRIMEPENT+2-ME3-ETPENT	0.000	0.000	0.067	0.125	0.076	0.077
-METHYLHEPTANE + 4-METHYLHEPTANE	0.007	0.001	0.234	0.433	0.264	0.267
,4-DIMEHEX + 1-CIS-2-TRAN-4-TRIMECYPENT	0.000	0.000	0.071	0.132	0.080	0.081
-ETHYLHEXANE	0.003	0.000	0.015	0.028	0.017	0.017
-METHYLHEPTANE + 3-ME-3-ETHYLPENTANE	0.000	0.000	0.155	0.287	0.174	0.177
,2,5-TRIMEHEX+1,1,3-TR-4-TETRAMECYPENT.	0.000	0.000	0.008	0.014	0.009	0.008
-CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.027	0.051	0.031	0.032
-TRANS-4 + 1-CIS-3 + 1,1-DIMECYHEXANE	0.007	0.001	0.288	0.542	0.324	0.325
-ME-3-ETHCYPENT + 2,2,4-TRIMETHYLHEXANE	0.000	0.000	0.067	0.127	0.076	0.078
-ME-TRANS-2 + 1-ME-CIS-3-ETHYLCYPENTANE	0.003	0.000	0.175	0.331	0.197	0.204
YCLOHEPTANE	0.001	0.000	0.060	0.129	0.067	0.080
-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	0.007	0.001	0.513	0.949	0.577	0.586
-CIS-4-DIMETHYLCYCLOHEXANE	0.003	0.000	0.130	0.244	0.146	0.151
-TRANS-3-DIMETHYLCYCLOHEXANE	0.001	0.000	0.062	0.118	0.070	0.073
,2,4-TRIMEHEXANE + ISOPROPYLCYCLOPENT.	0.000	0.000	0.021	0.034	0.023	0.021
,3,5-TRIMEHEXANE + 2,2-DIMETHYLHEPTANE	0.000	0.000	0.009	0.014	0.010	0.009
-METHYL-CIS-2-ETHYLCYCLOPENTANE	0.000	0.000	0.050	0.094	0.056	0.058
,4-DIMEHEPTANE + 2,2,3-TRIMETHYLHEXANE	0.001	0.000	0.097	0.160	0.109	0.099
,6-DIMEHEPTANE + 1-CIS-2-DIMECYHEXANE	0.001	0.000	0.104	0.171	0.117	0.105
-PROPYLCYPENT + 2,5- + 3,5-DIMEHEPTANE	0.000	0.000	0.031	0.060	0.035	0.037
ETHYLCYCLOHEXANE	0.002	0.000	0.259	0.487	0.291	0.300
ETHYLBENZENE	0.000	0.000	0.083	0.165	0.093	0.102
,3-DIMETHYLHEPTANE +1,1,3-TRIMECYHEXANE	0.001	0.000	0.173	0.284	0.194	0.175
,3,3-TRIMETHYLHEXANE	0.000	0.000	0.056	0.093	0.063	0.057
-METHYL-3-ETHYLHEXANE	0.000	0.000	0.051	0.084	0.057	0.052
-XYLENE	0.000	0.000	0.039	0.079	0.044	0.048
-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.000	0.000	0.254	0.505	0.285	0.291
,3- + 3,4-DIMETHYLHEPTANE	0.000	0.000	0.046	0.077	0.052	0.047
-METHYLOCTANE	0.001	0.000	0.165	0.271	0.185	0.167
-METHYLOCTANE	0.000	0.000	0.081	0.134	0.091	0.082
-ETHYLHEPTANE	0.000	0.000	0.031	0.052	0.035	0.032
-METHYLOCTANE	0.000	0.000	0.123	0.203	0.138	0.125
-XYLENE ( + A C-10 ALKANE)	0.000	0.000	0.133	0.265	0.150	0.163
,2,4-TRIMETHYLHEPTANE	0.000	0.000	0.027	0.040	0.030	0.024
,2,5-TRIMETHYLHEPTANE	0.000	0.000	0.068	0.102	0.077	0.062
,2,6-TRIMETHYLHEPTANE	0.000	0.000	0.022	0.033	0.025	0.020
** UNKNOWN **	0.000	0.000	0.043	0.064	0.048	0.039
,5,5-TRIMETHYLHEPTANE	0.000	0.000	0.007	0.011	0.008	0.007

TABLE V (concluded)

2,4,4-TRIMETHYLHEPTANE	0.000	0.000	0.026	0.039	0.029	0.024
*** A C-9 NAPHTHENE ***	0.000	0.000	0.111	0.186	0.125	0.115
ISOPROPYLBENZENE	0.000	0.000	0.060	0.106	0.068	0.065
-NONANE	0.001	0.000	0.472	0.777	0.530	0.479
C-9 NAPHTHENES + C-10 ALKANES	0.000	0.000	1.697	2.837	1.907	1.750
-PROPYLBENZENE	0.000	0.000	0.055	0.097	0.062	0.060
1-METHYL-3-ETHYLBENZENE	0.000	0.000	0.099	0.175	0.112	0.108
1-METHYL-4-ETHYLBENZENE	0.000	0.000	0.064	0.112	0.071	0.069
1-METHYL-2-ETHYLBENZENE	0.000	0.000	0.046	0.082	0.052	0.050
1,3,5-TRIMETHYLBENZENE	0.000	0.000	0.106	0.186	0.119	0.114
1,2,4-TRIMETHYLBENZENE	0.000	0.000	0.163	0.287	0.184	0.177
1,2,3-TRIMETHYLBENZENE	0.000	0.000	0.116	0.204	0.131	0.126
-DECANE	0.000	0.000	0.463	0.687	0.520	0.423
UNDECANES AND HEAVIER	0.000	0.000	81.097	43.551	71.346	26.866

OL PERCENT C6'S = 3.739

OL PERCENT C7+ = 38.807

TABLE VI

COMPONENT COMPOSITION OF GAS, LIQUID AND COMBINED STREAM  
FROM ELDFISK 2/7-3X WELL, DST 18, FLOW 3

Geochem. Br. Code - gas, KQO; Liquid, KQP

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	0.344	0.284	0.026	0.211	0.068	0.247
CARBON DIOXIDE	24.588	12.920	0.308	1.591	3.096	7.125
ETHANE	49.526	71.398	0.268	3.790	5.830	36.812
ETHANE	11.654	8.964	0.444	3.354	1.809	6.094
PROPANE	8.687	4.556	1.152	5.926	2.288	5.257
ISOBUTANE	0.801	0.318	0.236	0.920	0.359	0.626
n-BUTANE	2.527	1.005	1.133	4.422	1.580	2.753
ISOPENTANE	0.563	0.180	0.526	1.653	0.665	0.934
n-PENTANE	0.543	0.174	0.676	2.126	0.835	1.172
HEXANE	0.003	0.000	0.002	0.007	0.003	0.004
CYCLOPENTANE	0.055	0.018	0.165	0.534	0.195	0.282
2,3-DIMETHYLBUTANE	0.004	0.001	0.012	0.033	0.015	0.017
2-METHYLPENTANE	0.102	0.027	0.338	0.890	0.399	0.469
3-METHYLPENTANE	0.064	0.017	0.259	0.681	0.303	0.357
n-HEXANE	0.132	0.035	0.622	1.636	0.727	0.854
ETHYLCYCLOPENTANE + 2,2-DIMETHYLPENTANE	0.084	0.023	0.543	1.464	0.631	0.760
2,4-DIMETHYLPENTANE	0.005	0.001	0.027	0.063	0.032	0.042
BENZENE + 2,2,3-TRIMETHYLBUTANE	0.008	0.002	0.083	0.241	0.096	0.124
CYCLOHEXANE + 3,3-DIMETHYLPENTANE	0.035	0.009	0.341	0.919	0.394	0.475
2-METHYLHEXANE	0.015	0.003	0.176	0.398	0.203	0.205
2,3-DIMETHYLPENTANE + 1,1-DIMECYCLOPENT.	0.010	0.002	0.118	0.268	0.136	0.138
3-METHYLHEXANE	0.020	0.004	0.257	0.581	0.296	0.299
1-CIS-3-DIMETHYLCYCLOPENTANE	0.010	0.002	0.134	0.310	0.155	0.160
1-TRANS-3-DIMECPENTANE + 3-ETHYLPENTANE	0.010	0.002	0.148	0.343	0.171	0.177
1-TRANS-2-DIMETHYLCYCLOPENTANE	0.020	0.004	0.275	0.635	0.317	0.327
n-HEPTANE	0.036	0.008	0.584	1.323	0.673	0.681
1-CIS-2-DIMETHYLCYCLOPENTANE	0.003	0.000	0.049	0.113	0.056	0.058
HECYHEX + 2,2-DIMEHEX + 1,1,3-TRIMECPENT	0.040	0.009	0.757	1.748	0.871	0.898
2,5-DIMETHYLHEXANE	0.006	0.001	0.022	0.043	0.026	0.023
2,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.000	0.000	0.160	0.318	0.183	0.163
2,2,3-TRIMETHYLPENTANE	0.003	0.000	0.001	0.003	0.002	0.002

TABLE VI (continued - 2)

-TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.072	0.147	0.083	0.075
,3-DIMETHYLHEXANE	0.000	0.000	0.003	0.006	0.003	0.003
TOLUENE	0.011	0.002	0.328	0.808	0.377	0.414
-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.001	0.000	0.040	0.081	0.046	0.041
,3,4-TRIMETHYLPENTANE	0.000	0.000	0.000	0.000	0.000	0.000
,3-DIMHEX+2,3,3-TRIMEPENT+2-ME3-ETPENT	0.001	0.000	0.069	0.138	0.080	0.070
-METHYLHEPTANE + 4-METHYLHEPTANE	0.007	0.001	0.242	0.481	0.278	0.247
,4-DIMEHEX + 1-CIS-2-TRAN-4-TRIMECYPENT	0.002	0.000	0.073	0.145	0.084	0.074
-ETHYLHEXANE	0.000	0.000	0.015	0.031	0.017	0.015
-METHYLHEPTANE + 3-ME-3-ETHYLPENTANE	0.004	0.000	0.160	0.318	0.184	0.163
,2,5-TRIMEHEX+1,1,3-TR-4-TETRAMECYPENT.	0.000	0.000	0.008	0.015	0.009	0.007
-CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.028	0.058	0.032	0.029
-TRANS-4 + 1-CIS-3 + 1,1-DIMECYHEXANE	0.010	0.002	0.299	0.605	0.344	0.300
-ME-3-ETHCYPENT + 2,2,4-TRIMETHYLHEXANE	0.000	0.000	0.068	0.138	0.078	0.070
-ME-TRANS-2 + 1-ME-CIS-3-ETHYLCYPENTANE	0.004	0.000	0.181	0.367	0.208	0.188
YCLOHEPTANE	0.001	0.000	0.062	0.143	0.071	0.073
-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	0.010	0.002	0.588	1.168	0.675	0.598
-CIS-4-DIMETHYLCYCLOHEXANE	0.004	0.001	0.075	0.153	0.087	0.078
-TRANS-3-DIMETHYLCYCLOHEXANE	0.001	0.000	0.065	0.131	0.074	0.067
,2,4-TRIMEHEXANE + ISOPROPYLCYCLOPENT.	0.000	0.000	0.022	0.039	0.025	0.020
,3,5-TRIMEHEXANE + 2,2-DIMETHYLHEPTANE	0.000	0.000	0.008	0.015	0.010	0.007
-METHYL-CIS-2-ETHYLCYCLOPENTANE	0.000	0.000	0.051	0.104	0.059	0.053
,4-DIMEHEPTANE + 2,2,3-TRIMETHYLHEXANE	0.001	0.000	0.101	0.178	0.115	0.091
,6-DIMEHEPTANE + 1-CIS-2-DIMECYHEXANE	0.001	0.000	0.108	0.192	0.124	0.098
-PROPYLCYPENT + 2,5- + 3,5-DIMEHEPTANE	0.000	0.000	0.031	0.064	0.036	0.032
THYLCYCLOHEXANE	0.004	0.000	0.268	0.541	0.307	0.277
THYLBENZENE	0.000	0.000	0.084	0.181	0.097	0.092
,3-DIMETHYLHEPTANE + 1,1,3-TRIMECYHEXANE	0.002	0.000	0.179	0.317	0.205	0.162
,3,3-TRIMETHYLHEXANE	0.000	0.000	0.058	0.104	0.067	0.053
-METHYL-3-ETHYLHEXANE	0.000	0.000	0.053	0.093	0.060	0.048
-XYLENE	0.000	0.000	0.039	0.085	0.045	0.043
-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.003	0.000	0.262	0.561	0.301	0.267
,3- + 3,4-DIMETHYLHEPTANE	0.000	0.000	0.047	0.084	0.054	0.043
-METHYLOCTANE	0.001	0.000	0.171	0.303	0.196	0.155
-METHYLOCTANE	0.000	0.000	0.083	0.147	0.095	0.075
-ETHYLHEPTANE	0.000	0.000	0.033	0.059	0.038	0.030
-METHYLOCTANE	0.001	0.000	0.128	0.227	0.147	0.116
-XYLENE ( + A C-10 ALKANE)	0.001	0.000	0.138	0.296	0.158	0.151
,2,4-TRIMETHYLHEPTANE	0.000	0.000	0.028	0.045	0.032	0.023
,2,5-TRIMETHYLHEPTANE	0.000	0.000	0.095	0.152	0.109	0.077
,2,6-TRIMETHYLHEPTANE	0.000	0.000	0.000	0.000	0.000	0.000
** UNKNOWN **	0.000	0.000	0.044	0.071	0.051	0.036
,2,5,5-TRIMETHYLHEPTANE	0.000	0.000	0.007	0.012	0.009	0.006

TABLE VI (concluded)

2,4,4-TRIMETHYLHEPTANE	0.000	0.000	0.027	0.043	0.031	0.022
*** A C-9 NAPHTHENE ***	0.001	0.000	0.114	0.206	0.131	0.105
ISOPROPYLBENZENE	0.000	0.000	0.061	0.115	0.070	0.059
NONANE	0.004	0.000	0.483	0.855	0.554	0.437
C-9 NAPHTHENES + C-10 ALKANES	0.002	0.000	1.751	3.144	2.005	1.608
ISOPROPYLBENZENE	0.000	0.000	0.038	0.072	0.044	0.037
1-METHYL-3-ETHYLBENZENE	0.000	0.000	0.101	0.190	0.115	0.097
1-METHYL-4-ETHYLBENZENE	0.000	0.000	0.062	0.118	0.072	0.060
1-METHYL-2-ETHYLBENZENE	0.000	0.000	0.047	0.089	0.054	0.045
1,3,5-TRIMETHYLBENZENE	0.000	0.000	0.108	0.204	0.124	0.104
1,2,4-TRIMETHYLBENZENE	0.000	0.000	0.168	0.317	0.192	0.162
1,2,3-TRIMETHYLBENZENE	0.000	0.000	0.118	0.223	0.135	0.114
DECANE	0.001	0.000	0.473	0.755	0.542	0.386
UNDECANES AND HEAVIER	0.000	0.000	82.146	48.283	68.405	24.699

TOTAL PERCENT C6'S = 3.345

TOTAL PERCENT C7+ = 35.630

TABLE VII

COMPONENT COMPOSITION OF THE GAS, LIQUID, AND COMBINED STREAM  
FROM THE ELDFISK 2/7-3X WELL, DST 18, FLOW 4

Geochem. Br. Code - gas, KQQ; Liquid, KQR

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
HYDROGEN + ARGON	0.000	0.000	0.000	0.000	0.000	0.000
NITROGEN	0.061	0.052	0.000	0.000	0.006	0.025
CARBON DIOXIDE	25.441	13.785	0.252	1.287	3.128	7.333
ETHANE	46.457	69.060	0.208	2.918	5.429	34.917
PROPANE	11.914	9.449	0.359	2.664	1.756	5.957
BUTANE	9.764	5.291	1.053	5.563	2.277	3.326
ISOBUTANE	0.915	0.375	0.234	0.907	0.366	0.650
N-PENTANE	3.105	1.274	1.172	4.530	1.664	2.954
ISOPENTANE	0.718	0.237	0.444	1.382	0.579	0.826
N-PENTANE	0.702	0.232	0.588	1.832	0.759	1.058
HEXANE	0.001	0.000	0.001	0.004	0.002	0.002
CYCLOPENTANE	0.072	0.024	0.125	0.400	0.148	0.216
2,3-DIMETHYLBUTANE	0.005	0.001	0.022	0.059	0.026	0.031
2-METHYLPENTANE	0.135	0.037	0.301	0.784	0.353	0.423
3-METHYLPENTANE	0.084	0.023	0.230	0.599	0.267	0.520
2-HEXANE	0.167	0.046	0.604	1.575	0.697	0.835
ETHYLCYCLOPENTANE + 2,2-DIMETHYLPENTANE	0.103	0.029	0.519	1.386	0.595	0.789
2,4-DIMETHYLPENTANE	0.005	0.001	0.024	0.055	0.028	0.032
HEPTANE + 2,2,3-TRIMETHYLBUTANE	0.009	0.002	0.067	0.195	0.077	0.102
CYCLOHEXANE + 3,3-DIMETHYLPENTANE	0.041	0.011	0.321	0.856	0.365	0.447
1-ETHYLHEXANE	0.018	0.004	0.169	0.379	0.192	0.196
2,3-DIMETHYLPENTANE + 1,1-DIMETHYLCYCLOPENT.	0.012	0.002	0.113	0.253	0.128	0.132
2-ETHYLHEXANE	0.023	0.005	0.248	0.557	0.282	0.290
CIS-3-DIETHYLCYCLOPENTANE	0.011	0.002	0.129	0.295	0.146	0.153
TRANS-3-DIETHYLCYCLOPENTANE + 3-ETHYLPENTANE	0.012	0.002	0.144	0.329	0.163	0.171
TRANS-2-DIETHYLCYCLOPENTANE	0.022	0.005	0.264	0.604	0.299	0.314
HEPTANE	0.038	0.009	0.582	1.305	0.658	0.678
CIS-2-DIETHYLCYCLOPENTANE	0.003	0.000	0.048	0.110	0.054	0.057
CYCLOHEXANE + 2,2-DIHEXANE + 1,1,3-TRIMETHYLPENT	0.040	0.009	0.765	1.751	0.864	0.906
2,5-DIMETHYLHEXANE	0.006	0.001	0.021	0.041	0.024	0.022
2,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.000	0.000	0.157	0.309	0.176	0.159
2,3-TRIMETHYLPENTANE	0.002	0.000	0.000	0.000	0.000	0.000

TABLE VII (continued - 2)

-TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANOL	0.000	0.000	0.071	0.143	0.080	0.074
-3-DIMETHYLHEXANE	0.000	0.000	0.003	0.006	0.003	0.003
CLUENE	0.010	0.002	0.315	0.768	0.325	0.397
-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.001	0.000	0.038	0.076	0.043	0.039
-3,4-TRIMETHYLPENTANE	0.000	0.000	0.000	0.000	0.000	0.000
-3-DIMETHEX+2,3,3-TRIMEPENT+2-ME3-ETPENT	0.000	0.000	0.063	0.124	0.071	0.064
-2-ETHYLHEPTANE + 4-METHYLHEPTANE	0.006	0.001	0.239	0.469	0.269	0.245
-4-DIMETHEX + 1-CIS-2-TRAN-4-TRIMECYPENT	0.002	0.000	0.072	0.142	0.061	0.073
-ETHYLHEXANE	0.000	0.000	0.014	0.028	0.016	0.014
-1-ETHYLHEPTANE + 3-ME-3-ETHYLPENTANE	0.004	0.000	0.158	0.311	0.178	0.161
-2,5-TAIMEHEX+1,1,3-TR-4-TETRAMECYPENT	0.000	0.000	0.008	0.014	0.009	0.007
-CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.027	0.054	0.030	0.026
-TRANS-4 + 1-CIS-3 + 1,1-DIMECYHEXANE	0.008	0.001	0.298	0.590	0.326	0.289
-1-E-3-ETHCYPENT + 2,2,4-TRIMETHYLHEXANE	0.000	0.000	0.068	0.137	0.077	0.071
-ME-TRANS-2 + 1-ME-CIS-3-ETHYLCYCPENTANE	0.003	0.000	0.180	0.361	0.203	0.187
YCLDHEPTANE	0.001	0.000	0.059	0.136	0.067	0.070
-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	0.008	0.001	0.497	0.976	0.529	0.502
-CIS-4-DIMETHYLCYCLOHEXANE	0.003	0.000	0.171	0.343	0.193	0.177
-TRANS-3-DIMETHYLCYCLOHEXANE	0.001	0.000	0.064	0.129	0.072	0.060
-2,4-TRIMEHEXANE + ISOPROPYLCYCLOPENT	0.000	0.000	0.022	0.038	0.024	0.019
-3,5-TRIMEHEXANE + 2,2-DIMETHYLHEPTANE	0.000	0.000	0.008	0.015	0.009	0.007
-1-ETHYL-CIS-2-ETHYLCYCLOPENTANE	0.000	0.000	0.052	0.105	0.059	0.054
-4-DIMHEPENTANE + 2,2,3-TRIMETHYLHEXANE	0.001	0.000	0.101	0.178	0.114	0.092
-6-DIMHEPENTANE + 1-CIS-2-DIMECYHEXANE	0.001	0.000	0.108	0.189	0.121	0.098
-PROPYLCYCPENT + 2,5- + 3,5-DIMHEPENTANE	0.000	0.000	0.032	0.065	0.036	0.035
TYLCCYCLOHEXANE	0.003	0.000	0.268	0.538	0.302	0.276
THYLBENZENE	0.000	0.000	0.083	0.175	0.093	0.090
-5-DIMETHYLHEPTANE +1,1,2,3-TRIMECYHEXANE	0.001	0.000	0.180	0.315	0.202	0.162
-3,3-TRIMETHYLHEXANE	0.000	0.000	0.056	0.102	0.065	0.052
-1-ETMYL-3-ETHYLHEXANE	0.000	0.000	0.052	0.092	0.059	0.047
-XYLENE	0.000	0.000	0.034	0.073	0.039	0.037
-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.001	0.000	0.262	0.555	0.295	0.266
-3- + 3,4-DIMETHYLHEPTANE	0.001	0.000	0.050	0.087	0.050	0.045
-1-ETHYLOCTANE	0.000	0.000	0.170	0.298	0.191	0.154
-1-ETHYLOCTANE	0.001	0.000	0.085	0.149	0.050	0.077
-ETHYLHEPTANE	0.000	0.000	0.033	0.057	0.037	0.029
-1-ETHYLOCTANE	0.000	0.000	0.127	0.223	0.143	0.115
-XYLENE ( + A C-10 ALKANE)	0.000	0.000	0.138	0.293	0.156	0.151
-2,4-TRIMETHYLHEPTANE	0.000	0.000	0.032	0.050	0.036	0.020
-2,5-TRIMETHYLHEPTANE	0.000	0.000	0.074	0.118	0.084	0.060
-2,6-TRIMETHYLHEPTANE	0.000	0.000	0.024	0.038	0.027	0.019
* UNKMDL	0.000	0.000	0.048	0.076	0.054	0.039
-5,5-TRIMETHYLHEPTANE	0.000	0.000	0.009	0.015	0.010	0.007

TABLE VII (concluded)

2,4,4-TRIMETHYLHEPTANE	0.000	0.000	0.030	0.048	0.034	0.024
*** A C-9 NAPHTHENE ***	0.000	0.000	0.119	0.213	0.134	0.110
ISOPROPYLBENZENE	0.000	0.000	0.065	0.122	0.073	0.063
-TOLUENE	0.004	0.000	0.496	0.868	0.558	0.448
-9 NAPHTHENES + C-10 ALKANES	0.003	0.000	1.948	3.465	2.189	1.789
-PROPYLBENZENE	0.000	0.000	0.022	0.042	0.025	0.022
-METHYL-3-ETHYLBENZENE	0.000	0.000	0.105	0.196	0.118	0.101
-METHYL-4-ETHYLBENZENE	0.000	0.000	0.070	0.132	0.079	0.068
-METHYL-2-ETHYLBENZENE	0.000	0.000	0.052	0.098	0.059	0.050
1,3,5-TRIMETHYLBENZENE	0.000	0.000	0.115	0.215	0.129	0.115
1,2,4-TRIMETHYLBENZENE	0.000	0.000	0.170	0.318	0.191	0.164
1,2,3-TRIMETHYLBENZENE	0.000	0.000	0.119	0.223	0.134	0.115
-DECALE	0.002	0.000	0.477	0.752	0.536	0.386
DECANES AND HEAVIER	0.000	0.000	82.610	51.856	69.283	26.769

TOL PERCENT C6'S = 3.111

TOL PERCENT C7+ = 37.833



TABLE VIII

COMPONENT COMPOSITION OF THE GAS, LIQUID AND COMBINED STREAM  
FROM THE ELDFISK 2/7-3X WELL, DST 18, FLOW 5

Geochem. Br. Code - gas, KQS; Liquid, KQT

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	0.000	0.000	0.000	0.000	0.000	0.000
CARBON DIOXIDE	24.298	13.477	0.145	0.778	3.248	7.369
ETHANE	44.365	67.510	0.108	1.599	5.752	35.809
ETHANE	11.925	9.681	0.238	1.870	1.783	5.924
PROPANE	11.229	6.216	0.825	4.422	2.364	5.353
ISOBUTANE	1.180	0.495	0.207	0.844	0.386	0.663
N-BUTANE	3.968	1.666	1.087	4.418	1.740	2.990
ISOPENTANE	0.953	0.322	0.558	1.828	0.756	1.046
N-PENTANE	0.918	0.310	0.715	2.340	0.929	1.287
HEXANE	0.006	0.001	0.002	0.006	0.003	0.003
CYCLOPENTANE	0.088	0.030	0.156	0.525	0.188	0.268
2,3-DIMETHYLBUTANE	0.008	0.002	0.026	0.073	0.031	0.036
2-METHYLPENTANE	0.163	0.046	0.344	0.942	0.412	0.477
3-METHYLPENTANE	0.102	0.029	0.260	0.712	0.308	0.357
HEXANE	0.206	0.058	0.640	1.755	0.754	0.874
ETHYLCYCLOPENTANE + 2,2-DIMETHYLPENTANE	0.132	0.038	0.554	1.556	0.647	0.768
2,4-DIMETHYLPENTANE	0.007	0.001	0.026	0.063	0.031	0.041
HEPTANE + 2,2,3-TRIMETHYLBUTANE	0.012	0.004	0.079	0.241	0.092	0.118
CYCLOHEXANE + 3,3-DIMETHYLPENTANE	0.054	0.015	0.339	0.953	0.393	0.467
2-METHYLHEXANE	0.023	0.005	0.174	0.411	0.201	0.201
2,3-DIMETHYLPENTANE + 1,1-DIMECYCLOPENT.	0.015	0.003	0.117	0.276	0.135	0.134
2-METHYLHEXANE	0.031	0.007	0.255	0.602	0.294	0.293
1-CIS-3-DIMETHYLCYCLOPENTANE	0.015	0.003	0.133	0.319	0.153	0.153
1-TRANS-3-DIMECPENTANE + 3-ETHYLPENTANE	0.016	0.004	0.148	0.357	0.170	0.173
1-TRANS-2-DIMETHYLCYCLOPENTANE	0.030	0.007	0.270	0.651	0.312	0.317
HEPTANE	0.054	0.013	0.586	1.382	0.674	0.671
1-CIS-2-DIMETHYLCYCLOPENTANE	0.003	0.000	0.048	0.117	0.056	0.056
1-CYCHEX + 2,2-DIMEHEX + 1,1,3-TRIMECPENT	0.059	0.014	0.763	1.836	0.875	0.890
1,5-DIMETHYLHEXANE	0.010	0.002	0.022	0.045	0.026	0.023
1,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.000	0.000	0.158	0.328	0.180	0.157
1,2,3-TRIMETHYLPENTANE	0.004	0.000	0.001	0.003	0.002	0.002

TABLE VIII (continued -2)

1-TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.072	0.151	0.062	0.073
2,3-DIMETHYLHEXANE	0.000	0.000	0.003	0.007	0.003	0.003
TOLUENE	0.016	0.004	0.324	0.832	0.371	0.402
1-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.002	0.000	0.038	0.080	0.043	0.038
2,3,4-TRIMETHYLPENTANE	0.000	0.000	0.001	0.003	0.002	0.001
2,3-DIMHEX+2,3,3-TRIMEPENT+2-ME3-ETPENT	0.000	0.000	0.069	0.144	0.079	0.069
2-METHYLHEPTANE + 4-METHYLHEPTANE	0.010	0.002	0.239	0.495	0.274	0.239
2,4-DIMEHEX + 1-CIS-2-TRAN-4-TRIMECYPENT	0.003	0.000	0.073	0.151	0.083	0.073
2-ETHYLHEXANE	0.005	0.001	0.015	0.032	0.018	0.016
2-METHYLHEPTANE + 3-ME-3-ETHYLPENTANE	0.000	0.000	0.159	0.328	0.180	0.158
2,2,5-TRIMEHEX+1,1,3-TR-4-TETRAMECYPENT.	0.000	0.000	0.008	0.016	0.009	0.007
1-CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000	0.000	0.028	0.059	0.031	0.028
1-TRANS-4 + 1-CIS-3 + 1,1-DIMECYHEXANE	0.015	0.003	0.295	0.621	0.337	0.300
1-ME-3-ETHCYPENT + 2,2,4-TRIMETHYLHEXANE	0.000	0.000	0.069	0.145	0.078	0.069
1-ME-TRANS-2 + 1-ME-CIS-3-ETHYLCYPENTANE	0.006	0.001	0.179	0.377	0.204	0.182
1-CYCLOHEPTANE	0.002	0.000	0.060	0.144	0.068	0.069
1-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	0.014	0.003	0.513	1.061	0.585	0.512
1-CIS-4-DIMETHYLCYCLOHEXANE	0.006	0.001	0.151	0.318	0.172	0.153
1-TRANS-3-DIMETHYLCYCLOHEXANE	0.000	0.000	0.063	0.134	0.072	0.064
1,2,4-TRIMEHEXANE + ISOPROPYLCYCLOPENT.	0.000	0.000	0.021	0.039	0.024	0.019
2,3,5-TRIMEHEXANE + 2,2-DIMETHYLHEPTANE	0.000	0.000	0.008	0.015	0.009	0.007
1-METHYL-CIS-2-ETHYLCYCLOPENTANE	0.000	0.000	0.051	0.108	0.058	0.051
2,4-DIMEHEPTANE + 2,2,3-TRIMETHYLHEXANE	0.002	0.000	0.099	0.183	0.113	0.088
2,6-DIMEHEPTANE + 1-CIS-2-DIMECYHEXANE	0.002	0.000	0.106	0.196	0.121	0.094
1-PROPYLCYPENT + 2,5- + 3,5-DIMEHEPTANE	0.000	0.000	0.032	0.067	0.036	0.032
1-TRIMETHYLCYCLOHEXANE	0.006	0.001	0.265	0.558	0.302	0.269
1-ETHYLBENZENE	0.000	0.000	0.083	0.185	0.095	0.089
2,3,3-DIMETHYLHEPTANE + 1,1,3-TRIMECYHEXANE	0.003	0.000	0.177	0.327	0.202	0.157
2,3,3-TRIMETHYLHEXANE	0.000	0.000	0.051	0.094	0.058	0.045
1-METHYL-3-ETHYLHEXANE	0.000	0.000	0.059	0.110	0.068	0.053
1-P-XYLENE	0.000	0.000	0.038	0.086	0.044	0.041
1-P-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.002	0.000	0.258	0.574	0.294	0.266
2,5- + 3,4-DIMETHYLHEPTANE	0.000	0.000	0.048	0.090	0.055	0.043
1-METHYLOCTANE	0.000	0.000	0.169	0.312	0.193	0.150
2-METHYLOCTANE	0.002	0.000	0.083	0.154	0.095	0.074
3-ETHYLHEPTANE	0.000	0.000	0.034	0.062	0.038	0.030
3-METHYLOCTANE	0.000	0.000	0.128	0.237	0.146	0.114
1-P-XYLENE ( + A C-10 ALKANE)	0.000	0.000	0.137	0.305	0.156	0.146
1,2,4-TRIMETHYLHEPTANE	0.000	0.000	0.029	0.049	0.034	0.023
1,2,5-TRIMETHYLHEPTANE	0.000	0.000	0.072	0.119	0.082	0.057
1,2,6-TRIMETHYLHEPTANE	0.000	0.000	0.022	0.037	0.026	0.018
1-UNKNOWN ***	0.000	0.000	0.045	0.076	0.052	0.036
1,5,5-TRIMETHYLHEPTANE	0.000	0.000	0.008	0.013	0.009	0.006

TABLE VIII (concluded)

1,4,4-TRIMETHYLHEPTANE	0.000	0.000	0.027	0.046	0.031	0.022
** A C-9 NAPHTHENE ***	0.000	0.000	0.114	0.213	0.130	0.102
ISOPROPYLBENZENE	0.000	0.000	0.061	0.121	0.070	0.058
-NONANE	0.005	0.001	0.482	0.888	0.549	0.427
C-9 NAPHTHENES + C-10 ALKANES	0.002	0.000	1.759	3.292	2.002	1.583
-PROPYLBENZENE	0.000	0.000	0.019	0.037	0.021	0.017
1-METHYL-3-ETHYLBENZENE	0.000	0.000	0.099	0.194	0.112	0.093
1-METHYL-4-ETHYLBENZENE	0.000	0.000	0.064	0.126	0.073	0.060
1-METHYL-2-ETHYLBENZENE	0.000	0.000	0.047	0.093	0.053	0.044
1,3,5-TRIMETHYLBENZENE	0.000	0.000	0.105	0.207	0.120	0.099
1,2,4-TRIMETHYLBENZENE	0.000	0.000	0.162	0.318	0.184	0.153
1,2,3-TRIMETHYLBENZENE	0.000	0.000	0.105	0.206	0.119	0.099
-DECANE	0.000	0.000	0.439	0.729	0.499	0.350
INDENES AND HEAVIER	0.000	0.000	83.109	53.143	68.100	25.560

TOL PERCENT C6'S = 3.373

TOL PERCENT C7+ = 36.182

CHARACTERIZATION OF DANIAN AND JURASSIC OILS  
ELDFISK 2/7-3X WELL, NORWEGIAN SECTOR, NORTH SEA

Formation Tested	Danian				Jurassic			
	2	3	4	5	18	18	18	18
Drill Stem Test	2	3	4	5	18	18	18	18
Flow No.	2	4	4	5	2	3	4	5
Depth: Meters	2910-40	2885-98	2870-9	2808-58	3504-3520			
Feet	9540-640	9460-500	9410-40	9205-370	11,490-11,540			
<b>GEOCHEMISTRY CODE</b>	KFP	KFV	KGB	KGL	KQN	KQP	KQR	KQT
SPECIFIC GRAVITY	0.850	0.848	0.847	0.837	0.888	0.894	0.890	0.885
API GRAVITY	35.0	35.4	35.5	37.6	27.9	26.8	27.4	28.3
POUR POINT, °C (°F)	-4(25)	-7(20)	-21(-5)	-12(10)	10(50)	4(40)	-7(20)	-7(20)
VISCOSITY, CS, 21°C (70°F)	12.0*	12.3	9.0	6.2	68.1	56.4	77.7	49.3
38°C(100°F)	5.8	5.8	5.9	3.6	32.2	27.3	33.0	24.4
54°C(130°F)	3.7							
<b>HETEROELEMENTS</b>								
SULFUR, WT %	0.25	0.23	0.23	0.19	0.40	0.40	0.41	0.38
NITROGEN, WT %	0.20	0.19	0.17	0.14	0.36	0.34	0.29	0.29
VANADIUM, PPM	0.95	1.02	1.17	0.72	3.97	3.74	2.95	3.55
NICKEL, PPM	3.56	3.10	3.07	2.67	13.20	13.30	9.33	11.00
<b>MAJOR FRACTIONS</b>								
SATURATES, WT %	57.2	61.5	60.5	69.4	39.0	35.7	26.6	33.8
AROMATICS, WT %	40.0	35.6	34.9	28.7	53.1	56.0	65.4	58.4
ASPHALTICS, WT %	2.8	2.9	4.3	1.9	7.9	8.3	7.9	7.8
<b>CARBON ISOTOPIC COMPOSITION <math>\delta^{13}C_{PDB}</math></b>								
WHOLE CRUDE	-26.5	-27.1	-26.7	-27.3	-26.1	-26.3	-27.0	-26.6
SATURATES	-27.5	-27.7	-26.9	-27.0	-26.6	-26.6	-26.3	-26.8
AROMATICS	-26.5	-26.4	-26.3	-26.5	-26.0	-26.5	-25.9	-26.4
ASPHALTICS	-25.8	-25.8	-25.9	-25.7	-25.6	-25.5	-25.8	-25.6
<b>AVERAGE ODD-EVEN PREDOMINANCE, OEP</b>								
	1.03	1.03	1.04	1.03	1.11	1.11	1.11	1.12

\* Determined from 38° C and 54° C Viscosities.

TABLE X  
SOURCE ROCK EVALUATION DATA  
TERTIARY SIDEWALL CORES FROM THE ELLISK 2/7-3X, NORWEGIAN SECTOR, NORTH SEA

GEOCHEMISTRY BRANCH CODE	DEPTH		LITHOLOGY	CARBONATE CARBON, WT %	ORGANIC CARBON, WT %	RATIO SOLUBLE / TOTAL CARBON	SOLUBLE ORGANIC MATTER								ODD-EVEN PREDOMINANCE OEP
	METERS	FEET					TOTAL		SATURATES		AROMATICS		ASPHALTICS		
							WT %	$\delta^{13}\text{C}_{\text{PDB}}$	WT %	$\delta^{13}\text{C}_{\text{PDB}}$	WT %	$\delta^{13}\text{C}_{\text{PDB}}$	WT %	$\delta^{13}\text{C}_{\text{PDB}}$	
JGX	1920	6300	Claystone*	0.15	2.63	0.111	0.363	-25.8	42.1	-26.2	39.0	-26.5	18.9	-26.9	-
JGY	1951	6400	"	0.07	2.70	0.040	0.136	-26.7	43.8	-29.2	34.5	-26.3	21.8	-26.4	1.84
JGZ	2012	6600	"	0.08	3.06	0.036	0.138	-26.0	25.9	-27.3	45.2	-26.3	29.0	-26.0	2.49
JHA	2057	6750	"	0.22	3.20	0.028	0.111	-25.9	21.7	-27.5	45.1	-25.5	33.2	-25.6	2.13
JHB	2103	6900	"	0.19	1.35	0.049	0.083	-26.1	21.4	-	48.0	-26.3	30.6	-26.9	1.48
JHC	2149	7050	"	0.63	1.57	0.434	0.852	-27.4	61.6	-27.0	27.0	-26.5	11.4	-26.4	1.02
JHD	2194	7200	"	0.58	1.51	0.193	0.364	-26.3	26.0	-26.7	47.9	-25.7	26.0	-26.2	1.81
JHE	2240	7350	"	0.18	1.26	0.052	0.082	-26.8	46.6	-26.9	35.2	-26.2	18.2	-26.3	1.68
JHF	2286	7500	"	0.22	1.66	0.039	0.081	-26.7	29.6	-	44.1	-26.7	26.3	-26.5	2.84
JHG	2332	7650	"	1.15	1.16	0.102	0.148	-26.8	34.4	-29.1	43.8	-26.2	21.8	-26.2	1.25
JHH	2377	7800	"	0.91	2.01	0.507	1.346	-27.0	64.4	-27.4	29.2	-26.3	6.4	-26.1	1.02
JHI	2423	7950	"	0.22	0.76	0.086	0.081	-27.0	6.6	-	65.6	-25.7	27.9	-25.9	1.94
JHJ	2469	8100	"	0.12	1.63	0.067	0.137	-28.6	33.2	-27.5	49.3	-25.8	17.5	-26.3	1.69
JHK	2530	8300	"	0.23	0.54	0.188	0.127	-25.9	35.4	-27.5	44.3	-25.4	20.3	-25.5	1.48
JHL	2560	8400	"	0.32	1.36	-	-	-	-	-	-	-	-	-	-
JHM	2627	8620	"	0.07	0.74	0.168	0.155	-26.5	36.2	-28.0	46.9	-26.1	16.9	-26.5	1.06
JHN	2667	8750	"	0.12	0.86	0.205	0.221	-26.7	58.4	-27.5	29.1	-26.1	12.5	-25.7	1.15
JHO	2728	8950	"	0.06	1.53	0.140	0.268	-28.7	24.9	-30.8	57.0	-27.4	18.1	-26.8	1.32
JHP	2758	9050	"	0.05	1.06	0.133	0.177	-25.8	20.8	-27.1	49.2	-25.6	29.9	-25.2	2.06
JHQ	2792	9160	Limestone	6.57	0.46	0.400	0.230	-26.4	26.1	-27.5	36.7	-25.5	37.2	-25.8	1.35

\* Claystone is olive black (5Y 2/1) soft, very argillaceous, slightly calcareous and massive bedded with a trace of muscovite; limestone is light olive gray (5Y 6/1), argillaceous, soft and massive bedded.

Figure 1

COMPONENT COMPOSITION OF COMBINED STREAM  
THROUGH N-DECANE, BP = 345.4F (= 174.1C)  
2/7-3X (ELDFISK) WELL, N.SEA. NORWEGIAN SECTOR

Er-222-73

COMPONENT	DST 4	DST 5	DST 2	DST 3	WT PERCENT OF SAMPLE
	Flow 4 9410-40' 2870-9 m	Flow 5 9205-9370' 2806-58 m Danian Crataegus Production	Flow 2 9540-9640' 2910-40 m	Flow 4 9460-9500' 2885-98 m	
HELIUM	0.000	0.000	0.000	0.000	0.0
HYDROGEN SULFIDE	0.000	0.000	0.000	0.000	0.0
OXYGEN + ARGON	0.000	0.000	0.000	0.000	0.0
NITROGEN	0.091	0.117	0.102	0.113	0.0
CARBON DIOXIDE	1.820	2.036	1.655	1.594	0.0
METHANE	16.136	17.562	15.921	16.142	0.0
ETHANE	4.175	4.665	4.831	4.413	0.0
PROPANE	3.703	4.224	4.892	3.969	0.0
ISOBUTANE	0.655	0.827	0.997	0.752	0.0
N-BUTANE	2.114	2.714	3.335	2.479	0.0
ISOPENTANE	0.924	0.960	1.194	0.968	0.0
N-PENTANE	1.457	1.336	1.649	1.410	0.0
NEOHXANE	0.012	0.013	0.016	0.012	0.0
CYCLOPENTANE	0.170	0.141	0.179	0.159	0.0
2,3-DIMETHYLBUTANE	0.052	0.040	0.054	0.045	0.0
2-METHYLPENTANE	0.593	0.451	0.575	0.500	0.0
3-METHYLPENTANE	0.347	0.265	0.339	0.296	0.0
N-HEXANE	1.335	0.990	1.255	1.098	0.0
METHYLCYCLOPENTANE + 2,2-DIMETHYLPENTANE	0.653	0.485	0.622	0.546	0.0
2,4-DIMETHYLPENTANE	0.076	0.040	0.052	0.043	0.0
BENZENE + 2,2,3-TRIMETHYLBUTANE	0.204	0.157	0.187	0.176	0.0
CYCLOHEXANE + 3,3-DIMETHYLPENTANE	0.696	0.479	0.613	0.536	0.0
2-METHYLHEXANE	0.355	0.253	0.325	0.282	0.0
2,3-DIMETHYLPENTANE + 1,1-DIMETHYLCYCLOPENTANE	0.214	0.134	0.174	0.152	0.0
3-METHYLHEXANE	0.418	0.288	0.370	0.323	0.0
1-CIS-2-DIMETHYLCYCLOPENTANE	0.170	0.109	0.140	0.123	0.0
1-TRANS-3-DIMETHYLPENTANE + 3-ETHYLPENTANE	0.164	0.120	0.156	0.136	0.0
1-TRANS-2-DIMETHYLCYCLOPENTANE	0.336	0.203	0.265	0.229	0.0
N-HEPTANE	1.398	0.923	1.182	1.031	0.0
1-CIS-2-DIMETHYLCYCLOPENTANE	0.081	0.037	0.049	0.070	0.0
METHYLHEXANE + 2,2-DIMETHYLHEXANE + 1,1,3-TRIMETHYLPENTANE	1.440	0.963	1.242	1.065	0.0
2,5-DIMETHYLHEXANE	0.067	0.027	0.037	0.034	0.0
2,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.215	0.130	0.171	0.149	0.0
2,2,3-TRIMETHYLPENTANE	0.000	0.000	0.004	0.003	0.0
1-TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.081	0.057	0.072	0.063	0.0
3,3-DIMETHYLHEXANE	0.015	0.007	0.010	0.008	0.0
TOLUENE	0.717	0.481	0.605	0.545	0.0
1-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.000	0.029	0.046	0.032	0.0
2,3,4-TRIMETHYLPENTANE	0.080	0.000	0.000	0.003	0.0
2,3-DIMETHYLHEXANE + 2,3,3-TRIMETHYLHEPTANE + 2-METHYLHEPTANE	0.105	0.050	0.065	0.072	0.0
2-METHYLHEPTANE + 4-METHYLHEPTANE	0.441	0.014	0.021	0.353	0.0
3,4-DIMETHYLHEXANE + 1-CIS-2-TRAN-4-TRIMETHYLPENTANE	0.178	0.110	0.101	0.103	0.0
3-ETHYLHEXANE	0.025	0.091	0.119	0.017	0.0
3-METHYLHEPTANE + 3-METHYL-3-ETHYLPENTANE	0.326	0.218	0.287	0.232	0.0
2,2,5-TRIMETHYLHEXANE + 1,1,3-TRIMETHYL-4-TETRAMETHYLPENTANE	0.015	0.009	0.012	0.007	0.0
1-CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.026	0.016	0.021	0.017	0.0
1-TRANS-4 + 1-CIS-3 + 1,1-DIMETHYLHEXANE	0.518	0.326	0.421	0.383	0.0
1-METHYL-3-ETHYLPENTANE + 2,2,4-TRIMETHYLHEXANE	0.071	0.023	0.029	0.071	0.0
1-METHYL-TRANS-2 + 1-METHYL-CIS-3-ETHYLCYCLOPENTANE	0.166	0.039	0.052	0.126	0.0
CYCLOHEPTANE	0.055	0.105	0.137	0.037	0.0
N-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	1.133	0.831	1.066	0.933	0.0
1-CIS-4-DIMETHYLCYCLOHEXANE	0.299	0.150	0.201	0.153	0.0
1-TRANS-3-DIMETHYLCYCLOHEXANE	0.117	0.064	0.086	0.070	0.0
2,2,4-TRIMETHYLHEXANE + ISOPROPYLCYCLOPENTANE	0.024	0.014	0.022	0.000	0.0
2,3,5-TRIMETHYLHEXANE + 2,2-DIMETHYLHEPTANE	0.019	0.010	0.015	0.003	0.0
1-METHYL-CIS-2-ETHYLCYCLOPENTANE	0.073	0.053	0.069	0.019	0.0
2,4-DIMETHYLHEPTANE + 2,2,3-TRIMETHYLHEXANE	0.162	0.112	0.145	0.016	0.0
2,4-DIMETHYLHEPTANE + 1-CIS-2-DIMETHYLHEXANE	0.000	0.000	0.000	0.056	0.0
N-PROPYLCYCLOPENTANE + 2,5- + 3,5-DIMETHYLHEPTANE	0.186	0.121	0.160	0.138	0.0
ETHYLCYCLOHEXANE	0.383	0.277	0.362	0.152	0.0
ETHYLBENZENE	0.163	0.092	0.119	0.433	0.0
3,3-DIMETHYLHEPTANE + 1,1,3-TRIMETHYLHEXANE	0.202	0.132	0.180	0.128	0.0
2,3,3-TRIMETHYLHEXANE	0.066	0.040	0.057	0.109	0.0
2-METHYL-3-ETHYLHEXANE	0.044	0.027	0.041	0.077	0.0
P-XYLENE	0.081	0.082	0.193	0.114	0.0
M-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.633	0.411	0.445	0.504	0.0
2,3- + 3,4-DIMETHYLHEPTANE	0.065	0.038	0.054	0.078	0.0
4-METHYLOCTANE	0.259	0.201	0.270	0.238	0.0
2-METHYLOCTANE	0.229	0.126	0.169	0.164	0.0
3-ETHYLHEPTANE	0.052	0.028	0.043	0.054	0.0
3-METHYLOCTANE	0.221	0.144	0.198	0.208	0.0
O-XYLENE (+ A C-10 ALKANE)	0.288	0.185	0.253	0.250	0.0
2,2,4-TRIMETHYLHEPTANE	0.000	0.000	0.000	0.047	0.0
2,2,5-TRIMETHYLHEPTANE	0.033	0.019	0.036	0.122	0.0
2,2,6-TRIMETHYLHEPTANE	0.000	0.008	0.015	0.063	0.0
***UNKNOWN***	0.000	0.062	0.089	0.000	0.0
2,5,5-TRIMETHYLHEPTANE	0.105	0.000	0.000	0.062	0.0
2,4,4-TRIMETHYLHEPTANE	0.065	0.035	0.054	0.000	0.0
**** C-9 NAPHTHENE****	0.214	0.192	0.280	0.151	0.0
ISOPROPYLBENZENE	0.000	0.000	0.000	0.086	0.0
N-NONANE	1.218	0.752	0.985	0.945	0.0
C-9 NAPHTHENES + C-10 ALKANES	2.126	1.487	2.294	2.715	0.0
N-PROPYLBENZENE	0.052	0.052	0.080	0.117	0.0
1-METHYL-3-ETHYLBENZENE	0.169	0.067	0.096	0.203	0.0
1-METHYL-4-ETHYLBENZENE	0.118	0.028	0.050	0.102	0.0
1-METHYL-2-ETHYLBENZENE	0.217	0.157	0.229	0.114	0.0
1,3,5-TRIMETHYLBENZENE	0.246	0.143	0.228	0.264	0.0
1,2,4-TRIMETHYLBENZENE	0.120	0.175	0.347	0.336	0.0
1,2,3-TRIMETHYLBENZENE	0.017	0.120	0.180	0.290	0.0
N-DECANE	1.114	0.719	0.968	1.074	0.0
UNDECANES AND HEAVIER	46.555	50.344	44.999	48.448	1.00

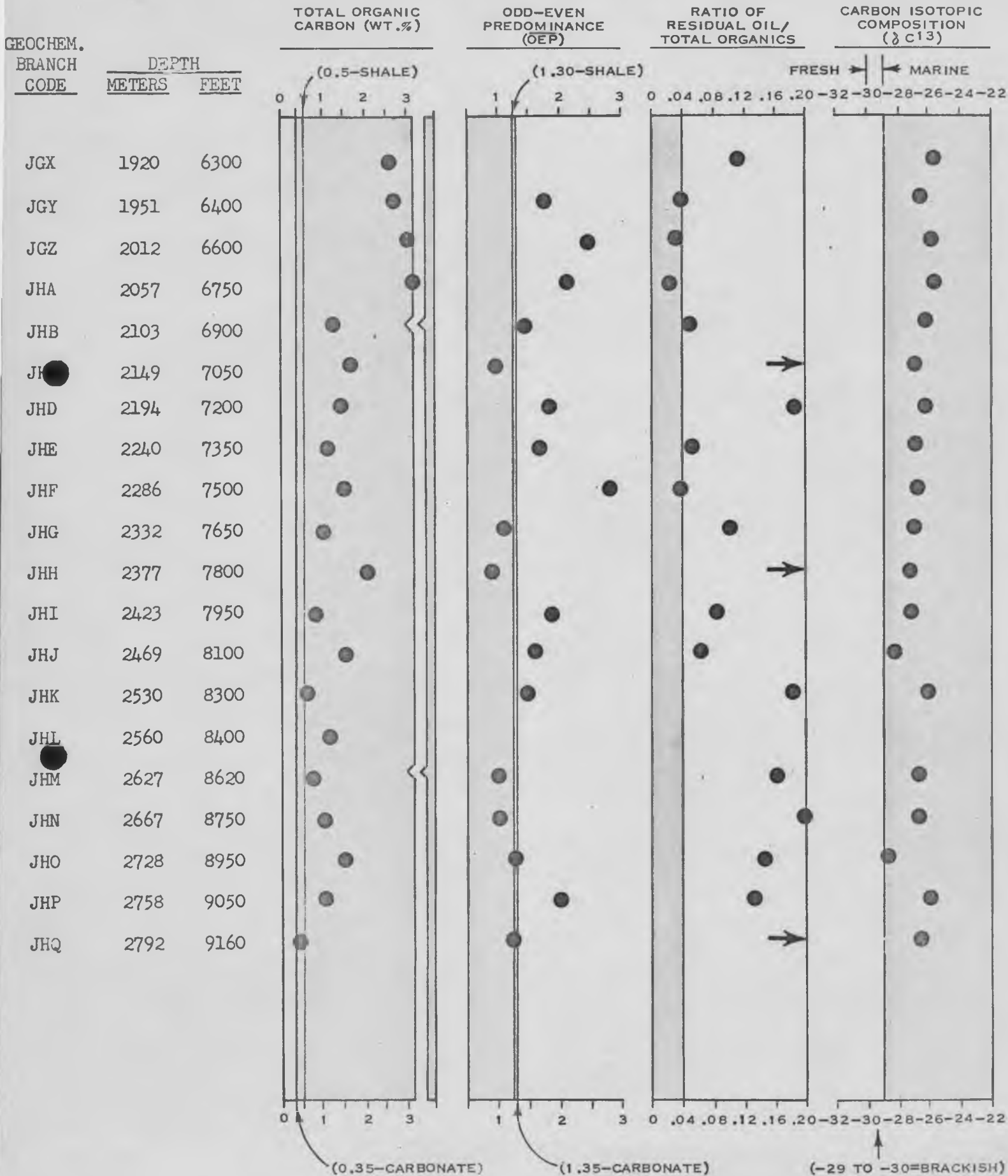
Figure 2

COMPONENT COMPOSITION OF COMBINED STREAM  
THROUGH N-DECANE, BP = 345.4F (= 174.1C)  
2/7-3X (ELDFISK) WELL, N.SEA, NORWEGIAN SECTOR

Er-222-73

COMPONENT	DST 18	DST 18	DST 18	DST 18	WT PERCENT OF SAMPLE		
	Flow 2	Flow 3 3504-3520 m (11,490-11,540 ft) Jurassic Production	Flow 4	Flow 5	0.0	0.5	1.0
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	0.065	0.068	0.006	0.000			
CARBON DIOXIDE	2.416	3.096	3.128	3.248			
METHANE	4.556	5.830	5.429	5.752			
ETHANE	1.526	1.809	1.736	1.783			
PROPANE	2.133	2.288	2.277	2.364			
ISOBUTANE	0.359	0.359	0.366	0.386			
N-BUTANE	1.632	1.580	1.664	1.740			
ISOPENTANE	0.679	0.665	0.579	0.756			
N-PENTANE	0.841	0.835	0.739	0.929			
NEOHXANE	0.003	0.003	0.002	0.003			
CYCLOPENTANE	0.184	0.195	0.148	0.188			
2,3-DIMETHYLBUTANE	0.030	0.015	0.026	0.031			
2-METHYLPENTANE	0.395	0.399	0.353	0.412			
3-METHYLPENTANE	0.297	0.303	0.267	0.308			
N-HEXANE	0.708	0.727	0.697	0.754			
METHYLCYCLOPENTANE + 2,2-DIMETHYLPENTANE	0.615	0.631	0.595	0.647			
2,4-DIMETHYLPENTANE	0.030	0.032	0.028	0.031			
BENZENE + 2,2,3-TRIMETHYLBUTANE	0.091	0.096	0.077	0.092			
CYCLOHEXANE + 3,3-DIMETHYLPENTANE	0.379	0.394	0.365	0.393			
2-METHYLHEXANE	0.194	0.203	0.192	0.201			
2,3-DIMETHYLPENTANE + 1,1-DIMECYCLOPENT.	0.130	0.136	0.128	0.135			
3-METHYLHEXANE	0.283	0.296	0.282	0.294			
1,2-DIMETHYLCYCLOPENTANE	0.148	0.155	0.146	0.153			
1-CIS-3-DIMECPENTANE + 3-ETHYLPENTANE	0.163	0.171	0.163	0.170			
1-TRANS-2-DIMETHYLCYCLOPENTANE	0.302	0.317	0.299	0.312			
N-HEPTANE	0.643	0.673	0.658	0.674			
1-CIS-2-DIMETHYLCYCLOPENTANE	0.054	0.056	0.054	0.056			
MECYHEX + 2,2-DIMEHEX + 1,1,3-TRIMECPENT	0.832	0.871	0.864	0.875			
2,5-DIMETHYLHEXANE	0.024	0.026	0.024	0.026			
2,4-DIMETHYLHEXANE + ETHYLCYCLOPENTANE	0.175	0.183	0.176	0.180			
2,2,3-TRIMETHYLPENTANE	0.002	0.002	0.000	0.002			
1-TRANS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.079	0.083	0.080	0.082			
3,3-DIMETHYLHEXANE	0.001	0.003	0.003	0.003			
TOLUENE	0.361	0.377	0.355	0.371			
1-TRANS-2-CIS-3-TRIMETHYLCYCLOPENTANE	0.043	0.046	0.043	0.043			
2,3,4-TRIMETHYLPENTANE	0.000	0.000	0.000	0.002			
2,3-DIMEHEX + 2,3,3-TRIMEPENT + 2-ME3-ETPENT	0.076	0.080	0.071	0.079			
2-METHYLHEPTANE + 4-METHYLHEPTANE	0.264	0.278	0.269	0.274			
3,4-DIMEHEX + 1-CIS-2-TRAN-4-TRIMECPENT	0.080	0.084	0.081	0.083			
3-ETHYLHEXANE	0.017	0.017	0.016	0.018			
3-METHYLHEPTANE + 3-ME-3-ETHYLPENTANE	0.174	0.184	0.178	0.180			
2,2,5-TRIMEHEX + 1,1,3-TR-4-TETRAMECYPENT.	0.009	0.009	0.009	0.009			
1-CIS-2-CIS-4-TRIMETHYLCYCLOPENTANE	0.031	0.032	0.030	0.031			
1-TRANS-4 + 1-CIS-3 + 1,1-DIMECYHEXANE	0.324	0.344	0.336	0.337			
1-ME-3-ETHCPENT + 2,2,4-TRIMETHYLHEXANE	0.076	0.078	0.077	0.078			
1-ME-TRANS-2 + 1-ME-CIS-3-ETHYLCYPENTANE	0.197	0.208	0.203	0.204			
CYCLOHEPTANE	0.067	0.071	0.067	0.068			
N-OCTANE + 1-TRANS-2-DIMETHYLCYCLOHEXANE	0.577	0.675	0.559	0.585			
1-CIS-4-DIMETHYLCYCLOHEXANE	0.146	0.087	0.193	0.172			
1-TRANS-3-DIMETHYLCYCLOHEXANE	0.070	0.074	0.072	0.072			
2,2,4-TRIMEHEXANE + ISOPROPYLCYCLOPENT.	0.023	0.025	0.024	0.024			
2,3,5-TRIMEHEXANE + 2,2-DIMETHYLHEPTANE	0.010	0.010	0.009	0.009			
1-METHYL-CIS-2-ETHYLCYCLOPENTANE	0.056	0.059	0.059	0.058			
2,3,4-MEHEPTANE + 2,2,3-TRIMETHYLHEXANE	0.109	0.115	0.114	0.113			
2,3,4-MEHEPTANE + 1-CIS-2-DIMECYHEXANE	0.117	0.124	0.121	0.121			
N-PROPYLCYPENT + 2,5- + 3,5-DIMEHEPTANE	0.035	0.036	0.036	0.036			
ETHYLCYCLOHEXANE	0.291	0.307	0.302	0.302			
ETHYLBENZENE	0.093	0.097	0.093	0.095			
3,3-DIMETHYLHEPTANE + 1,1,3-TRIMECYHEXANE	0.194	0.205	0.202	0.202			
2,3,3-TRIMETHYLHEXANE	0.063	0.067	0.065	0.058			
2-METHYL-3-ETHYLHEXANE	0.057	0.060	0.059	0.068			
P-XYLENE	0.044	0.045	0.039	0.044			
M-XYLENE + 2,3,4-TRIMETHYLHEXANE	0.285	0.301	0.295	0.294			
2,3- + 3,4-DIMETHYLHEPTANE	0.052	0.054	0.056	0.055			
4-METHYLOCTANE	0.185	0.196	0.191	0.193			
2-METHYLOCTANE	0.091	0.095	0.096	0.095			
3-ETHYLHEPTANE	0.035	0.038	0.037	0.038			
3-METHYLOCTANE	0.138	0.147	0.143	0.146			
O-XYLENE (+ A C-10 ALKANE)	0.150	0.158	0.156	0.156			
2,2,4-TRIMETHYLHEPTANE	0.030	0.032	0.036	0.034			
2,2,5-TRIMETHYLHEPTANE	0.077	0.109	0.084	0.082			
2,2,6-TRIMETHYLHEPTANE	0.025	0.000	0.027	0.026			
***UNKNOWN***	0.048	0.051	0.054	0.052			
2,5,5-TRIMETHYLHEPTANE	0.008	0.009	0.010	0.009			
2,4,4-TRIMETHYLHEPTANE	0.029	0.031	0.034	0.031			
***A C-9 NAPHTHENE***	0.125	0.131	0.134	0.130			
ISOPROPYLBENZENE	0.068	0.070	0.073	0.070			
N-NONANE	0.530	0.554	0.558	0.549			
C-9 NAPHTHENES + C-10 ALKANES	1.907	2.005	2.189	2.002			
N-PROPYLBENZENE	0.062	0.044	0.025	0.021			
1-METHYL-3-ETHYLBENZENE	0.112	0.115	0.118	0.112			
1-METHYL-4-ETHYLBENZENE	0.071	0.072	0.079	0.073			
1-METHYL-2-ETHYLBENZENE	0.052	0.054	0.059	0.053			
1,3,5-TRIMETHYLBENZENE	0.119	0.124	0.129	0.120			
1,2,4-TRIMETHYLBENZENE	0.184	0.192	0.191	0.184			
1,2,3-TRIMETHYLBENZENE	0.131	0.135	0.134	0.119			
N-DECANE	0.520	0.542	0.536	0.499			
UNDECANES AND HEAVIER	71.346	68.405	69.283	68.100			

SUMMARY OF SOURCE ROCK EVALUATION DATA  
 (OPTIMUM RANGE FOR EACH PARAMETER IS STIPPLED)  
 SIDEWALL CORES FROM EMDFISK 2/7-3X WELL, NORWEGIAN SECTOR, N. SEA





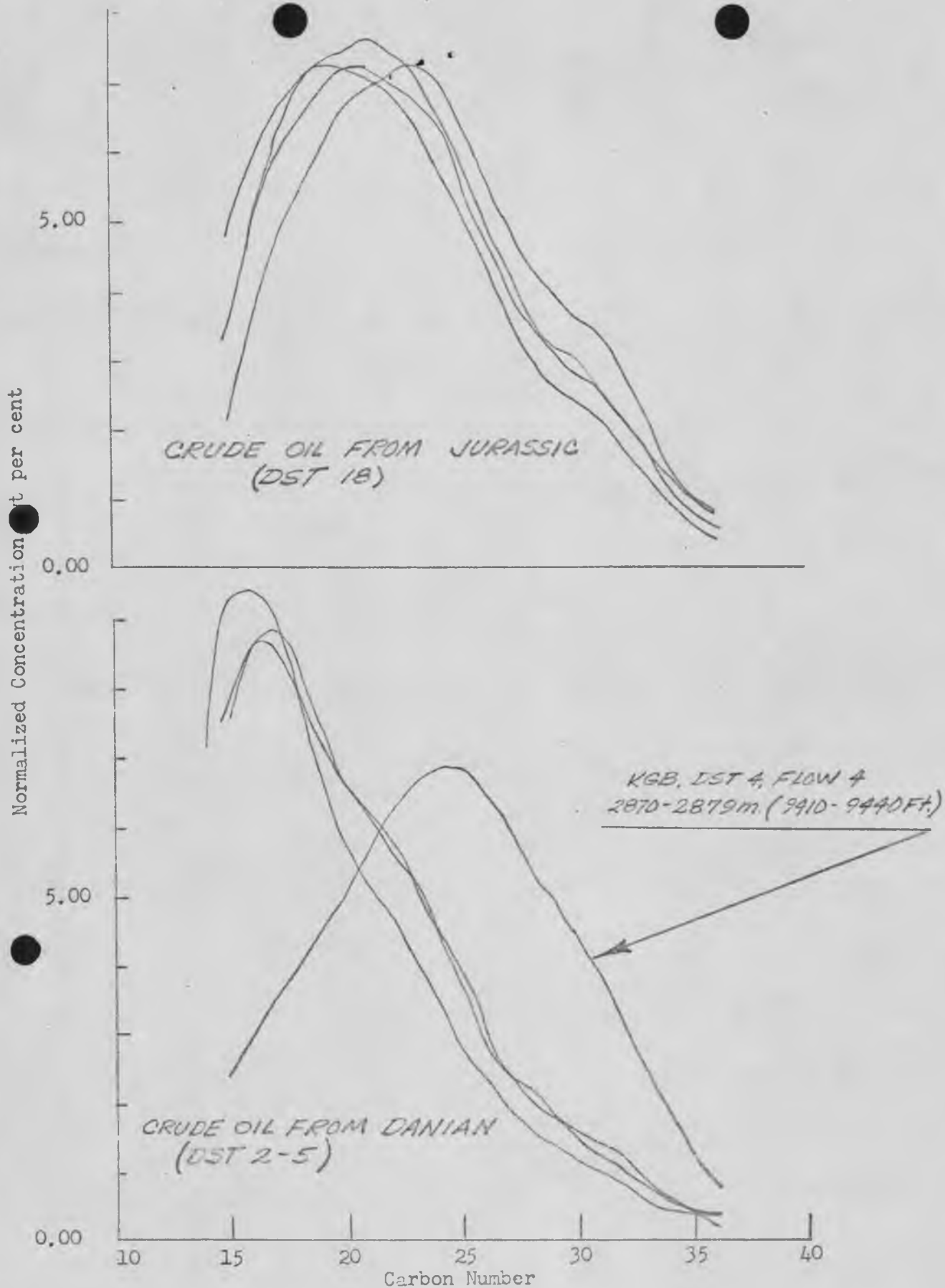


Figure 4. Concentration of n-alkanes by carbon number for crude oil produced from Danian-Cretaceous and Jurassic reservoirs in the Eldfisk 2/7-3X well, Norwegian Sector, North Sea. With the exception of sample KGB, the distributions for the Tertiary oils are similar and show a higher percentage of light components in the n-alkane fraction than oils from the Jurassic reservoir. The variation in n-alkane distribution for sample KGB possibly is the result of difference in sampling conditions.

JURASSIC OIL  
3504-3520 m. (11490-11540 ft.)  
DST #18

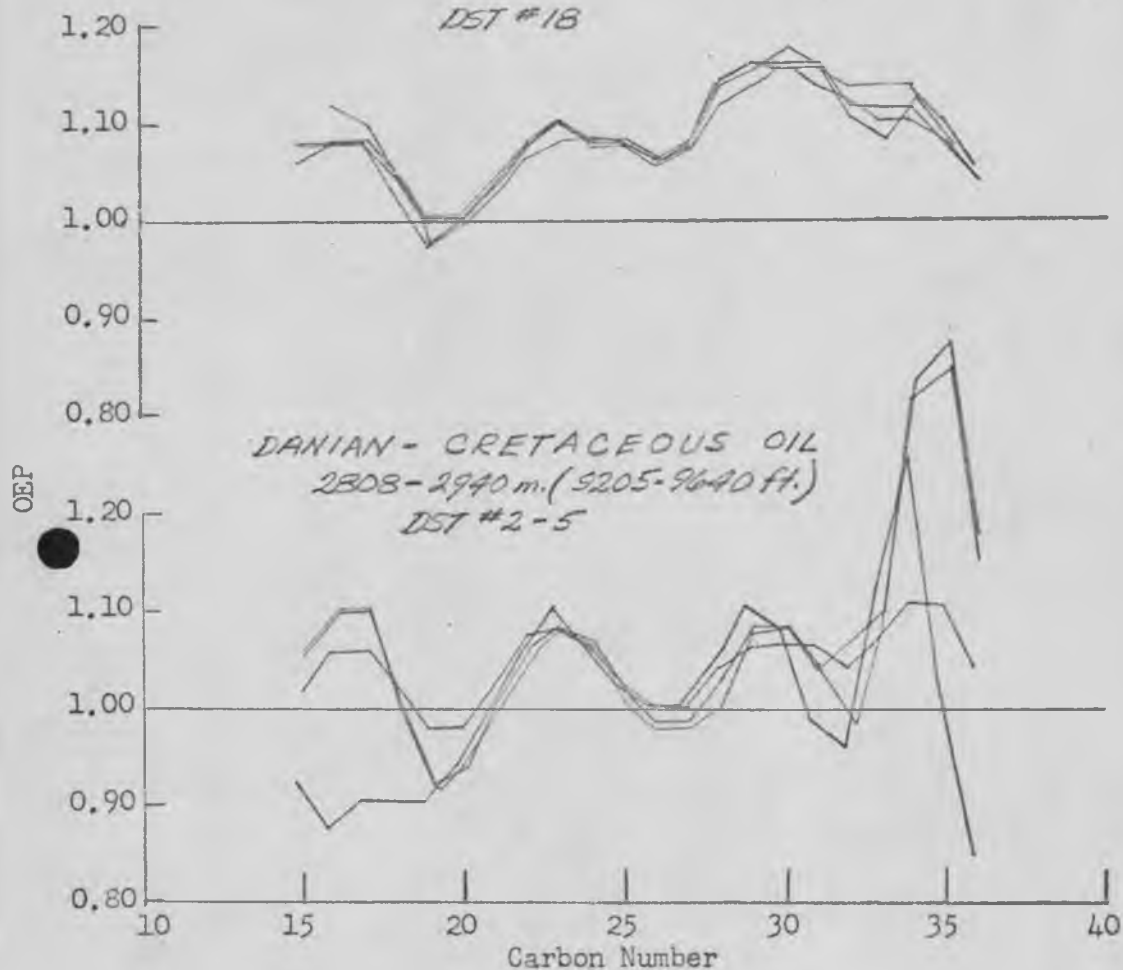


Figure 5. Odd-even predominance (OEP) as a function of carbon number for crude oil produced from Danian-Cretaceous and Jurassic reservoirs in the Eldfisk 2/7-3X well, Norwegian sector, North Sea. One possible interpretation of the similarity in peak position of these curves is that source rocks were developed in the basin under almost identical conditions during several intervals of geologic time.

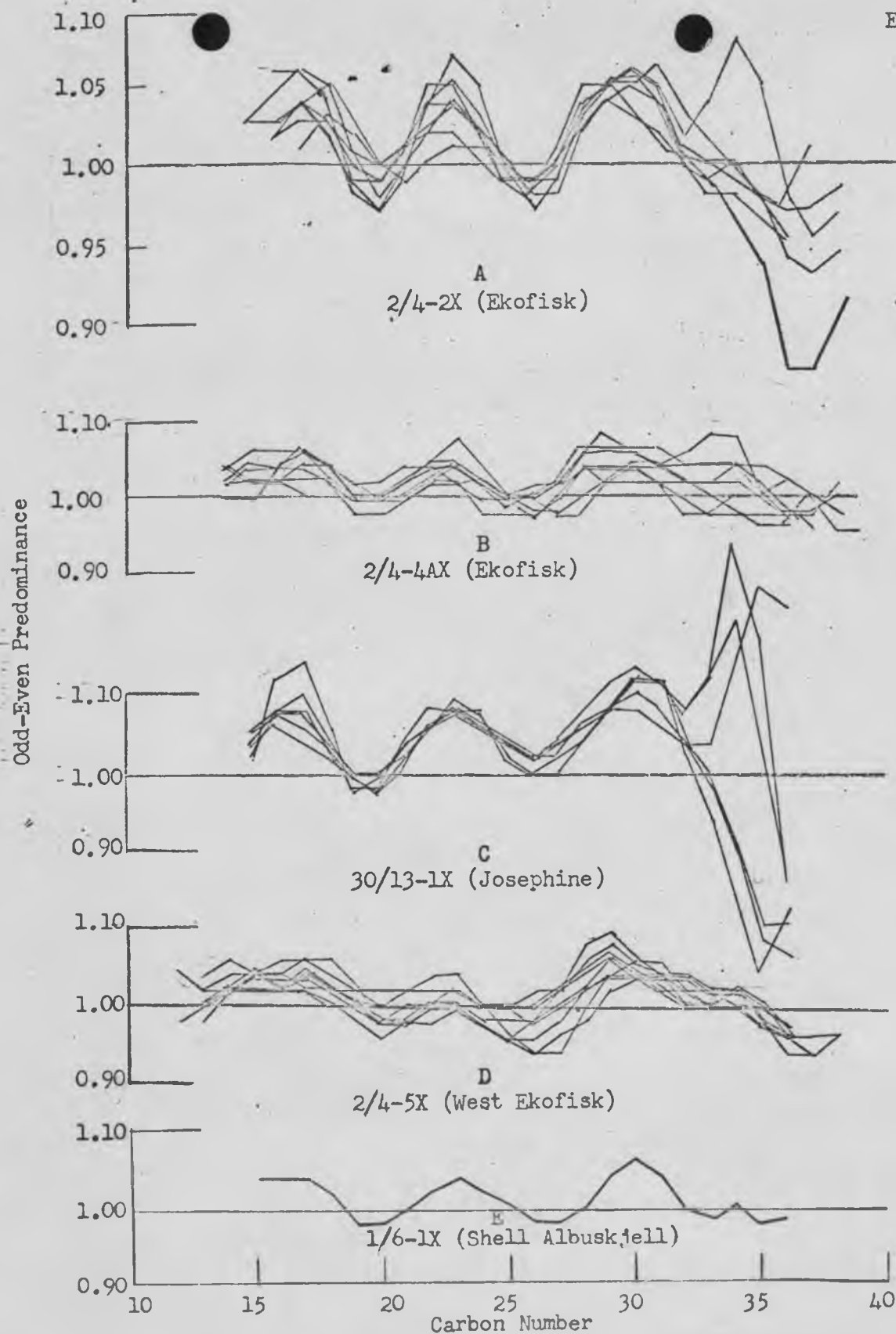


Figure 6. Odd-even predominance (OEP) curves as a function of carbon number for representative Danian-Cretaceous crude oils from the North Sea Tertiary Basin. The close similarity in peak position for these curves and curves for Danian-Cretaceous crude oil from the 2/7-3X well shown in Figure 5 indicate the Tertiary oil in the area is of a common origin. Evidence indicates this oil originated in Tertiary source rock facies and migrated downward into the Danian-Cretaceous carbonate section. (This figure is taken from report letter Er-193-73).

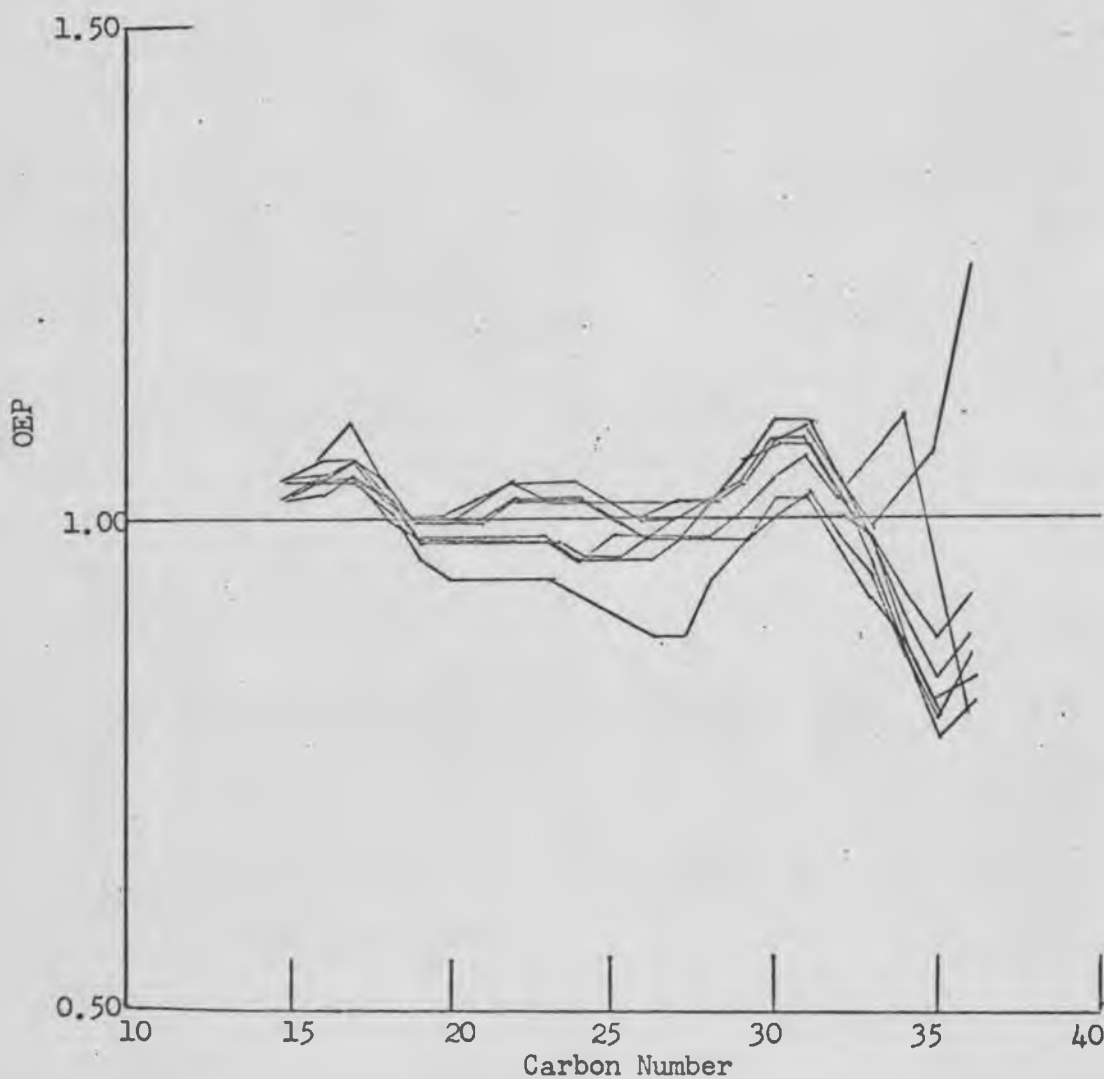


Figure 7. Odd-even predominance (OEP) as a function of carbon number for oils extracted from shales of Jurassic age in the 3814-4249 m (12,510-13,925 foot) interval in the Eldfisk 2/7-1X well. The OEP curves for the crude oil produced from the Jurassic section in the Eldfisk 2/7-3X shown in Figure 5 are quite similar to these OEP curves and indicate a product-source relationship. (This figure is taken from report letter Er-116-71).

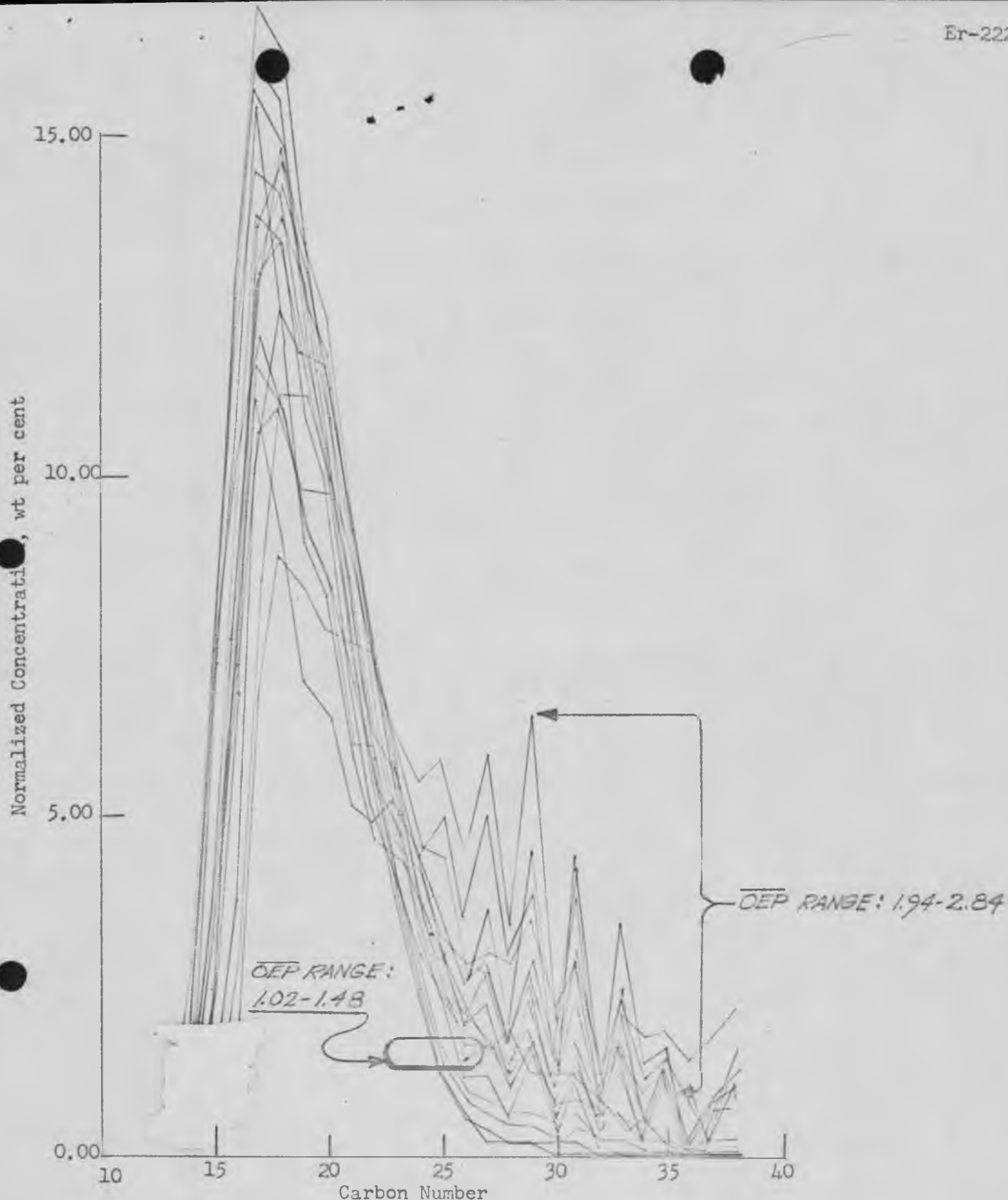


Figure 8. Concentration of n-alkanes by carbon number for crude oil extracted from Tertiary claystones in the 1920-2792 m (6300-9160 feet) interval in the Eldfisk 2/7-3X well, Norwegian Sector, North Sea. These curves basically are similar in that they have an abundance maximum in the  $C_{20}$  range. The claystones having OEP values of 1.94-2.84 also have prominent peaks in the  $C_{30}$  range, indicating that in these samples petroleum genesis is not far advanced. In the case of samples having OEP values of 1.02 to 1.48, there is no large concentration of n-alkanes in the  $C_{30}$  range indicating that petroleum genesis is well advanced. In general, the extent of petroleum genesis increases with increasing depth.

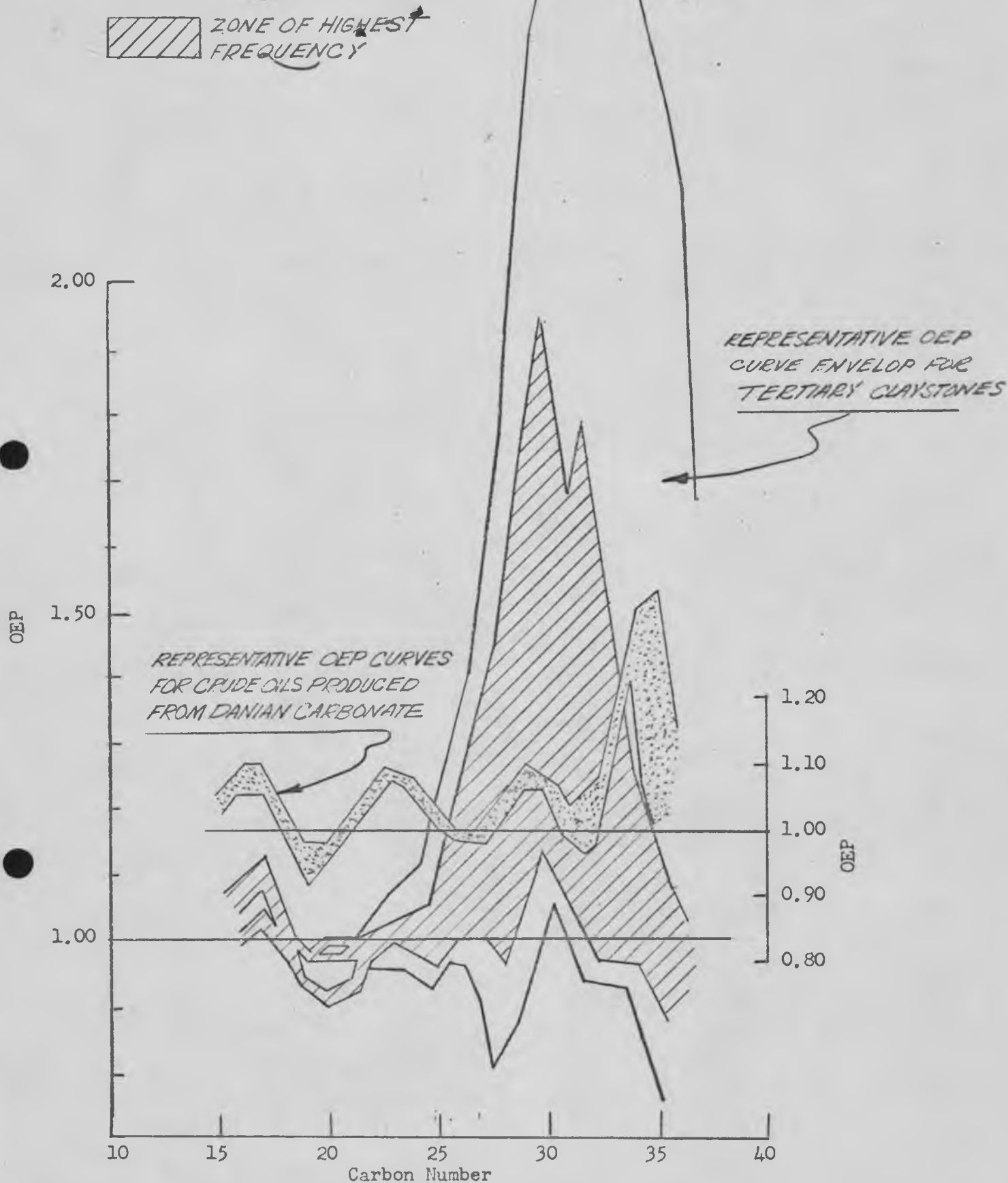


Figure 9. Representative odd-even predominance (OEP) curve envelope for oil extracted from Tertiary claystones in the 1920-2792 m (6300-9160 foot) interval in the Eldfisk 2/7-3X well, Norwegian Sector, North Sea. Superimposed on this envelope are OEP curves for crude oil produced from Danian-Cretaceous reservoirs in this well. The similarity in peak position for the crude oil as compared with OEP curves for the shales having an OEP value approaching unity indicates a definite produce-source relationship.

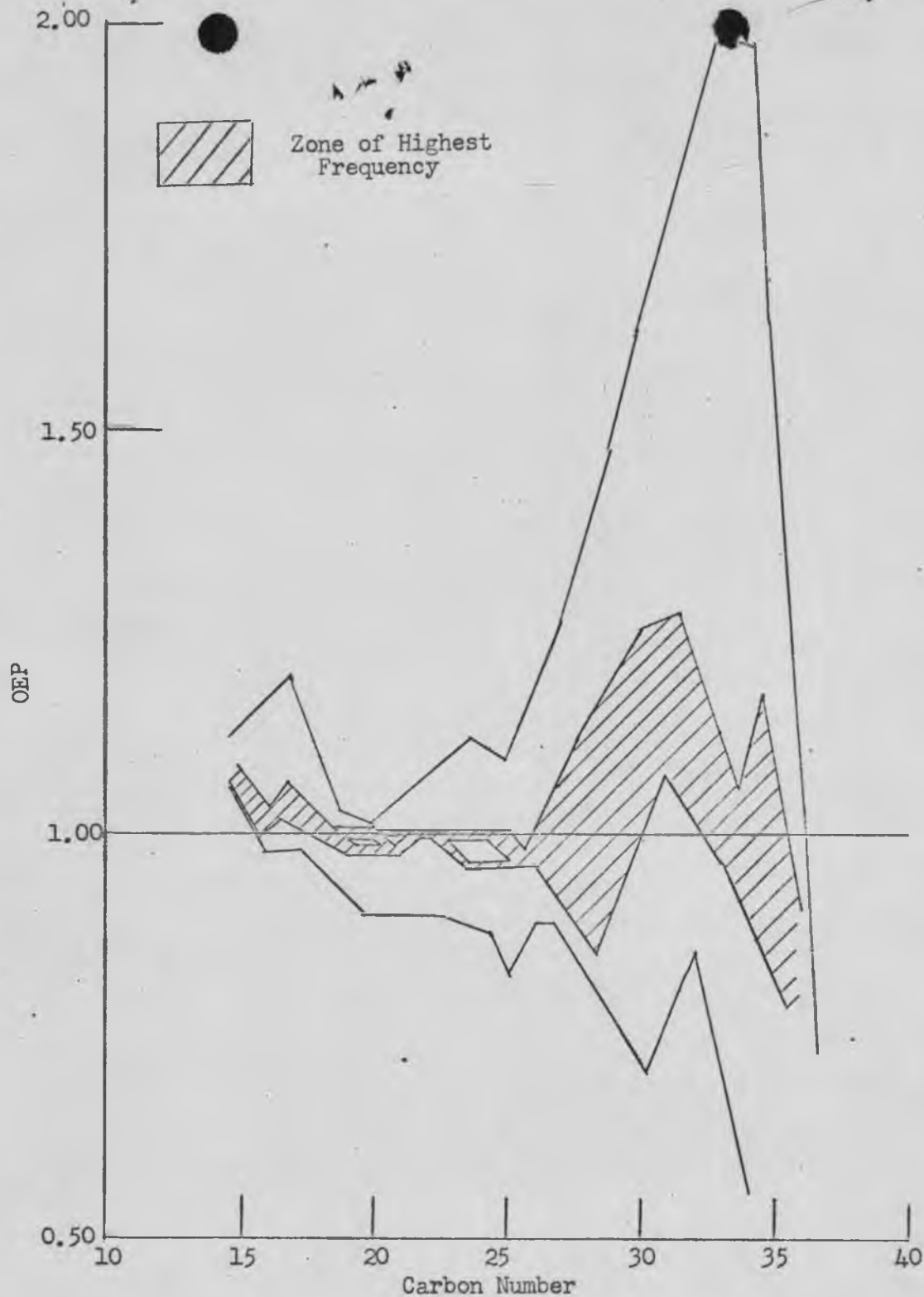


Figure 10. Representative odd-even predominance (OEP) curve envelope for oil extracted from Tertiary cores from the 2715-2949 m (8902-9670 foot) interval in the Eldfisk 2/7-1X well. Comparison with the OEP envelope for Tertiary cores from the Eldfisk 2/7-3X well in the preceding figure shows they are similar with respect to peak position. This indicates that during the time of deposition, Tertiary shales in this area accumulated under similar environmental-ecological conditions. However, the fact that petroleum genesis is not as well advanced in the area of the 2/7-3X indicates favorable geochemical conditions for oil genesis did not prevail uniformly over the area. (This figure is taken from report letter Er-116-71).