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Table 5.--Fischer assays and semiquantitative spectrographic analyses of samples of oil shale from western Brooks Range, northern Alaska

[Fischer assays by J. W. Budinsky; semiquantitative spectrographic analyses by J. L. Fletcher. In semiquantitative spectrographic analyses results are reported in percent to the nearest number in the series 1, 0.7, 0.5, 0.3, 0.2, 0.15, and 0.1, etc., which represent approximate midpoints of group data on a geometric scale. The assigned group for semiquantitative results will include the quantitative value about 30% of the time. Symbols used are: M = major constituents--greater than 10%; 0 = looked for but not detected; <, with number, less than number shown. In addition, P, As, Au, Bi, Cd, Ge, Hf, Hg, In, Li, Pd, Pt, Re, Ta, Te, Th, Tl, U, W, Sm, and Eu, looked for but not detected. Original designates analysis of sample as received; ash designates analysis of ash prepared for spectrographic analyses]

Locality Number	1		4				5		7	
Field sample no.	61ATr28A		63ATr260A		63ATr260B		63ATr255b		63ATr230	
Laboratory no.	D162447		D162450		D162451		D162449		D162448	
Oil, gal/ton	21.6		6.2		0.7		23.5		13.8	
Water, gal/ton	12.0		5.8		6.7		6.2		8.4	
Oil, percent	8.8		2.4		.3		9.4		5.5	
Water, percent	5.0		2.4		2.8		2.6		3.5	
Gas and loss, percent	1.8		1.8		.9		3.9		3.6	
Spent shale, percent	84.5		93.3		96.0		84.1		87.3	
Total	100.1		99.9		100.0		100.0		99.9	
Sp. Gr. of oil $\frac{15.6°C}{15.6°C}$	0.958		.940		.916		.956		.941	
Ash, percent (900°C)	68.5		85.1		91.1		65.1		65.3	
	Original	Ash	Original	Ash	Original	Ash	Original	Ash	Original	Ash
Si	M	M	M	M	M	M	M	M	M	M
Al	3.	7.	5.0	3.0	7.0	5.0	3.0	7.0	3.	5.
Fe	.7	.2	3.0	3.0	3.0	3.0	3.0	5.0	2.0	3.0
Mg	.3	1.	1.0	.7	.5	.5	.5	.5	.3	.5
Ca	.05	.3	3.0	3.0	.5	.5	.3	.7	.3	.5
Na	.5	1.	1.0	.7	1.5	1.0	.7	1.0	1.0	1.0
K	1.5	3.	2.0	1.5	3.0	2.0	1.0	2.0	.5	1.0
Ti	.2	.5	.2	.2	.3	.5	.1	.5	.1	.3
Mn	.0015	.003	.07	.07	.03	.03	.03	.03	.007	.01
Ag	.0007	.0015	.0003	.0003	.0001	.0001	.0001	.0001	.00015	.0002
B	.01	.02	.01	.015	.015	.015	.007	.01	.007	.01
Ba	.07	.2	.15	.2	.2	.2	.2	.3	3.0	5.0
Be	.0002	.0003	.0001	.0002	.0002	.0002	.0002	.0005	.0002	.0003
Ce	0	.03	0	.01	0	.01	0	.01	0	.01
Co	0	0	.001	.0015	.0007	.0007	.001	.0015	.001	.0015
Cr	.01	.02	.005	.005	.007	.007	.003	.007	.003	.005
Cu	.003	.007	.007	.01	.005	.005	.01	.015	.007	.01
Ga	.0007	.002	.0015	.0015	.002	.0015	.0015	.002	.001	.0015
La	.007	.01	0	.005	.005	.005	.005	.007	.007	.01
Mo	.015	.03	.003	.003	.001	.001	.005	.01	.003	.007
Nb	.001	.002	.0015	.0015	.002	.002	.001	.0015	.001	.0015
Ni	.007	.02	.007	.01	.003	.005	.005	.01	.015	.03
Pb	.003	.015	.001	.0015	.0015	.0015	.002	.005	.0015	.003
Sb	.015	.03	0	0	0	0	0	0	0	0
Sc	.0015	.003	.0015	.0015	.0015	.001	.001	.002	.001	.002
Sn	0	.001	0	0	0	0	0	0	0	0
Sr	.007	.02	.02	.02	.02	.02	.01	.02	.05	.1
V	.2	.5	.05	.05	.015	.015	.015	.03	.02	.03
Y	.001	.003	.005	.005	.005	.005	.005	.007	.005	.007
Yb	<.0005	<.0005	.0005	.0005	.0003	.0005	.0003	.0005	.0005	.0007
Zn	0	0	.07	.05	.05	.05	0	0	0	0
Zr	.02	.05	.01	.015	.015	.02	.01	.02	.015	.03
Pr	0	.007	0	0	0	0	0	0	0	0
Nd	0	.01	0	0	0	0	0	0	0	0