TABLE 5.—*Results of cracking Pennsylvania refined burning oil under various conditions of temperature and pressure.*

[Specific gravity of original oil, 0.802; viscosity, 1.05° Engler.]

Temperature, ° C	Original oil	850	750	750	750	750	600	600	600
Pressure, atmospheres		1	12	6	1	(a)	24	18	12
Oil used, grams		731	372	545	893	800	568	572	547
Oil recovered, per cent		9.7	15.9	16.9	16.5	33.9	37.3	40.5	43.6
Specific gravity of recovered oil.		1.026	.910	1.020	1.012	.905	.962	.926	.918
Viscosity of recovered oil, ° Engler.						1.04			1.11
Carbon, per cent		7.4	24.3	15.3	3.7	16.1	7.5	5.3	3.6
Gas, liters per kilogram of oil used.		817		620	612				240
Illuminants in gas, per cent.		12.3		10.8	32.0				19.6
Calorific value of gas, B. t. u. per cubic foot.		822		1,058	1,239				1,406

a Vacuum.

RESULTS OF DISTILLATION.

First drop at (° C.)	120		70		75		70		60				36		30		33	
Temperature.	Per cent.	Specific gravity.	Per cent.	Specific gravity.	Per cent.	Specific gravity.	Per cent.	Specific gravity.	Per cent.	Specific gravity.	Per cent.	Specific gravity.	Per cent.	Specific gravity.	Per cent.	Specific gravity.	Per cent.	Specific gravity.
° C.																		
100			18.0	0.875	30.2	0.865	31.6	0.876	16.8	0.876	3.7	0.800	19.0	0.837	19.0	0.816	18.0	0.807
150	4.8	0.763	7.0	.859	9.4	.834	9.7	.860	14.3	.878	14.3	.832	21.5	.862	25.0	.855	24.2	.851
200	46.7	.784	10.0	.885	17.9	.824	8.3	.873	8.9	.922	39.2	.848	9.3	.876	12.7	.860	15.0	.857
250	39.0	.811	30.0	Solid.	25.5	Solid.	22.2	Solid.	20.7	Solid.	23.7	.904	13.5	Solid.	15.3	.931	14.0	.930
300									8.2	Viscous at 21°.	6.3	.956						
Total to 150	4.8	.763	25.0	.873	39.6	.858	41.3	.872	31.1	.877	18.0	.826	40.5	.847	44.0	.837	42.2	.833
Total 150 to 250	85.7	.797	40.0		43.4		30.5		29.6		62.9	.858	22.8		28.0	.900	29.0	.893

Temperature, ° C	600	600	600	500	500	500	500	500	500	450
Pressure, atmospheres	6	1	(a)	24	18	12	6	1	(a)	12
Oil used, grams	861	591	750	576	539	561	951	750	750	575
Oil recovered, per cent	31.4	59.9	97.4	72.5	79.7	84.2	57.8	94.5		93.1
Specific gravity of recovered oil	.885	.840	.811	.828	.819	.808	.810	.799	.802	.809
Viscosity of recovered oil, ° Engler	1.00		1.04	.97	.96	.98	1.00	1.00	1.04	1.02
Carbon, per cent	2.4	0.6	0.0	1.2	0.0	0.0	0.0	0.0	6 g(?)	5.1
Gas, liters per kilogram of oil used			16.7				53.8		5.3	
Illuminants in gas, per cent			54.5				26.1	52.9	54.9	
Calorific value of gas, B. t. u., per cubic foot			1,441				1,192	1,458	1,333	

a Vacuum.

RESULTS OF DISTILLATION.

First drop at (° C.)			31				32		30		30		40		36				30	
Temperature.	Per cent.	Specific gravity.	Per cent.	Specific gravity.	Per cent.	Specific gravity.	Per cent.	Specific gravity.	Per cent.	Specific gravity.	Per cent.	Specific gravity.	Per cent.	Specific gravity.	Per cent.	Specific gravity.	Per cent.	Specific gravity.	Per cent.	Specific gravity.
° C.																				
100	14.5	0.772	8.7	0.759	0.5		13.5	0.726	9.5	0.714	9.5	0.725	5.0	0.735	1.0	0.718	0.0		3.5	0.715
150	25.0	.829	18.5	.803	3.5	0.770	16.2	.802	14.5	.790	14.3	.786	10.0	.780	6.7	.761	3.0	0.760	8.3	.778
200	21.0	.838	36.5	.815	44.5	.791	27.3	.813	32.7	.806	34.0	.801	38.8	.793	42.5	.787	46.0	.786	34.0	.793
250	16.5	.889	23.5	.850	41.0	.818	25.0	.850	28.5	.839	27.3	.831	33.0	.820	38.0	.814	37.5	.813	33.0	.820
300	7.5	.956	5.7	.901									8.0	.851						
Total to 150	39.5	.809	27.2	.790	4.0	.769	29.7	.771	24.0	.765	23.8	.763	15.0	.767	7.7	.758	3.0	.760	11.8	.764
Total 150 to 250	37.5	.861	60.0	.827	85.5	.804	52.3	.832	61.2	.818	61.3	.814	71.8	.804	80.5	.800	83.5	.798	67.0	.805