TABLE 7.—*Results of cracking California (Kern River) crude oil under various conditions of temperature and pressure.*

[Specific gravity of original oil, 0.970; viscosity, 35.7° Engler.]

Temperature, ° C.	Original oil	850	800	750	750	750	750	600	600	600
Pressure, atmospheres		(a)	(a)	12	6	1	(a)	24	18	12
Oil used, grams		646	582	315	539	603	578	569	517	597
Oil recovered, per cent		34.2	43.7	21.1	20.9	20.9	47.4	31.6	33.7	52.5
Specific gravity of recovered oil		1.025	1.017	1.022	1.025	1.092	.963	1.030	.997	.996
Viscosity of recovered oil, ° Engler			3.95							1.79
Carbon, per cent		7.1	6.9	38.8	36.2	9.9	8.7	26.7	27.5	19.3
Gas, liters per kilogram of oil used		429			556	495	104		385	248
Illuminants in gas, per cent		42.2			5.6	20.5	49.8		4.4	11.5
Calorific value of gas, B. t. u., per cubic foot		1,296			1,004	875	1,464		808	1,241

[a] Vacuum.

RESULTS OF DISTILLATION.

First drop at (° C.)							70		67		70				40		33		67	
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			8.0	0.864	12.5	0.849	32.8	0.852	31.1	0.879	13.4	0.870	1.7		11.3	0.837	21.3	0.847	11.0	0.828
150			6.0	.861	7.5	.859	14.8	.839	8.4	.864	10.8	.875	6.8	0.814	22.7	.871	17.5	.870	11.5	.853
200	1.8	0.806	8.0	.879	8.3	.874	6.5	.862	2.6	.886	3.6	.917	7.1	.841	4.7	.908	5.3	.893	7.0	.870
250	5.5	.854	14.7	.953	14.0	.929	22.2	Solid.	11.1	Solid.	17.5	Solid.	10.8	.874	10.6	.990	13.1	.980	10.5	.922
300	10.0	.886	9.0	.962	10.0	.963							13.3	.906					14.0	.946
Total to 150			14.0	.863	20.0	.852	47.6	.848	39.5	.875	24.2	.873	8.5	.814	34.0	.862	38.8	.867	22.5	.842
Total 150 to 250	7.3	.841	22.7	.926	22.3	.908	28.7		13.7		21.1		17.9	.859	15.3	.964	18.4	.953	17.5	.903

Temperature, ° C.	600	600	600	550	500	500	500	500	500	450
Pressure, atmospheres	6	1	(a)	24	24	12	6	1	(a)	12
Oil used, grams	987	611	551	563	571	621	571	514	510	613
Oil recovered, per cent	43.9	46.6	81.8	40.6	53.6	64.8	71.5	91.3	73.6	75.4
Specific gravity of recovered oil	.984	.966	.960	.991	.942	.925	.928	.939	.950	.924
Viscosity of recovered oil, ° Engler	1.15	1.98			1.35	1.35	1.52	6.16		2.71
Carbon, per cent	16.2	12.3	13.6	21.1	11.7	14.5	10.1	3.7	11.9	2.3
Gas, liters per kilogram of oil used	314	205	33.2	275			103	34.2	75.2	
Illuminants in gas, per cent	17.6	41.7	42.4	8.3			19.6	32.8	41.7	
Calorific value of gas, B. t. u., per cubic foot	1,295	1,479	1,310	1,264			1,358	1,184	1,180	

[a] Vacuum.

RESULTS OF DISTILLATION.

First drop at (° C.)	35		33		30		30		33		35		38		50				40	
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	16.5	0.826	8.3	0.767	3.3	0.800	12.5	0.787	12.8	0.736	11.0	0.729	8.5	0.759	3.2	0.727	0.3		4.3	0.720
150	19.2	.863	14.5	.831	3.2	.832	17.3	.862	12.3	.828	11.0	.812	10.7	.815	4.5	.785	1.2	0.807	5.2	.793
200	7.5	.887	8.0	.861	4.0	.847	8.2	.894	7.0	.863	8.3	.848	7.8	.858	5.3	.824	1.0		5.5	.825
250	10.8	.952	12.0	.902	11.3	.883	11.0	.966	12.3	.910	10.7	.891	9.5	.893	8.8	.865	5.3	.848	9.3	.867
300	10.0	.988	15.5	.937	9.7	.905					10.5	.920	11.0	.919	13.2	.891	12.0	.883	11.5	.894
Total to 150	35.7	.847	22.8	.808	6.5	.817	29.8	.829	25.1	.783	22.0	.776	19.2	.794	7.7	.765	1.5		9.5	.764
Total 150 to 250	18.3	.926	20.0	.884	15.3	.873	19.2	.936	19.3	.893	19.0	.872	17.3	.876	14.1	.848	6.3	.845	14.8	.851