

ENCLOSURE (B) 3

STUDIES ON THE CATALYTIC
REFORMING OF PINE ROOT OIL

by

CHEM. ENG. COMDR. H. FUJIKOTO

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Table I(B)3
TEST RESULTS

Reaction	350°C	400°C	450°C	500°C
Yields of Gas (lit/lit of charge)	15.2	19.7	26.0	38.3
Yields of Gasoline Stock (Vol.% of charge)	77.6	71.8	66.6	56.0
Yields of Residue (Vol.% of charge)	7.2	8.5	7.4	5.7
Properties of Gasoline Stock				
Sp. gr. (15/4)	0.836	0.838	0.842	0.843
Distillation test (°C)				
I.D.	70	68	67	64
10%	126	120	115	117
50%	171	171	162	162
90%	187	190	191	186
E.P.	211	214	213	207
Olefines (%)	5.0	4.0	5.0	6.0
Aromatics (%)	70.4	73.7	72.0	79.5
Naphthenes (%)	10.2	8.6	23.0	4.8
Paraffins (%)	14.4	13.7		9.7
Octane Value, plain	83.3	88.5	89.4	89.9
Octane Value, leaded 0.15%	93.0	93.6	94.8	93.9
A.S.T.M. glass dish gum test, mg/100cc	0.8	3.4	2.6	1.2

ENCLOSURE (B)₃Table II(B)3
EXPERIMENTAL REFORMING RESULTS

Reaction temperature (°C)	300	350	400
Total distillate (Vol.% of charge)	86.0	83.9	77.7
Vol. of cracked gas (liter)	41.1	37.5	210.4
Properties of distillate Sp. gr. (15/4)	0.865	0.845	0.840
Distillation test (°C)			
I.D.	90	48	45
10%	162	144	124
50%	181	171	170
90%	336	279	264
E.P.	390	364	369

Table III(B)3
YIELDS AND PROPERTIES OF PRODUCTS ON REDISTILLATION

Yields of gasoline stock (Vol.% of charge)	61.8	62.5	61.4
Properties of gasoline stock Sp. gr. (15/4)	0.841	0.835	0.837
Distillation test (°C)			
I.D.	113	76	69
10%	152	136	122
50%	168	165	160
90%	178	181	179
E.P.	193	199	191
Olefines (%)	9.8	4.8	8.0
Aromatics (%)	51.7	61.2	68.6
Naphthenes (%)	28.5	11.5	12.8
Paraffins (%)	28.5	22.5	10.6
Octane Value leaded 0.15%	91.8	93.8	92.7
A.S.T.M. glass dish gum test, mg/100cc	3.8	3.6	3.3

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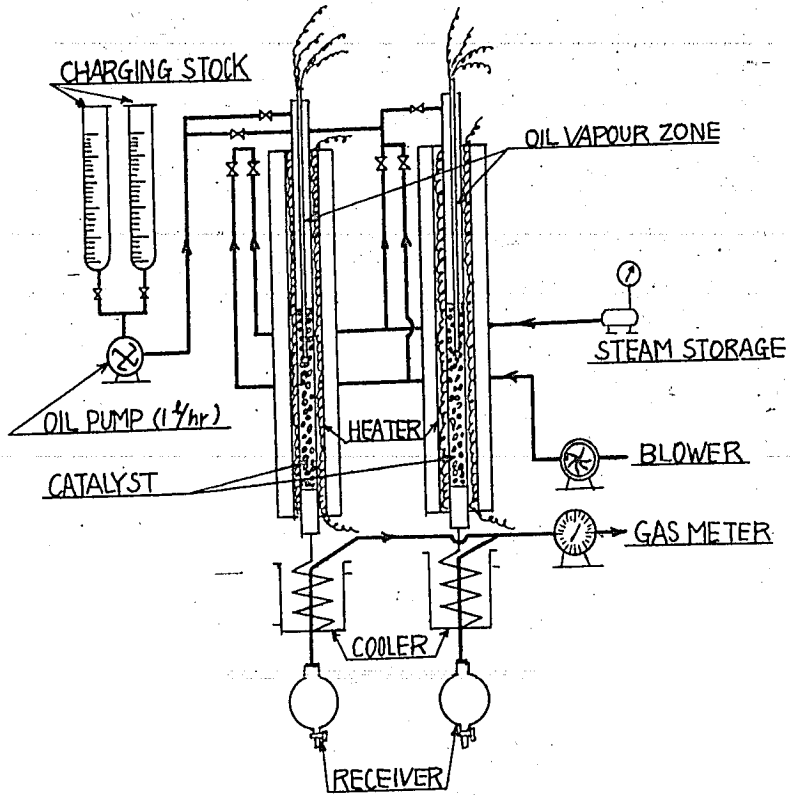


Figure 1(B)3.
APPARATUS OF CATALYTIC REFORMING

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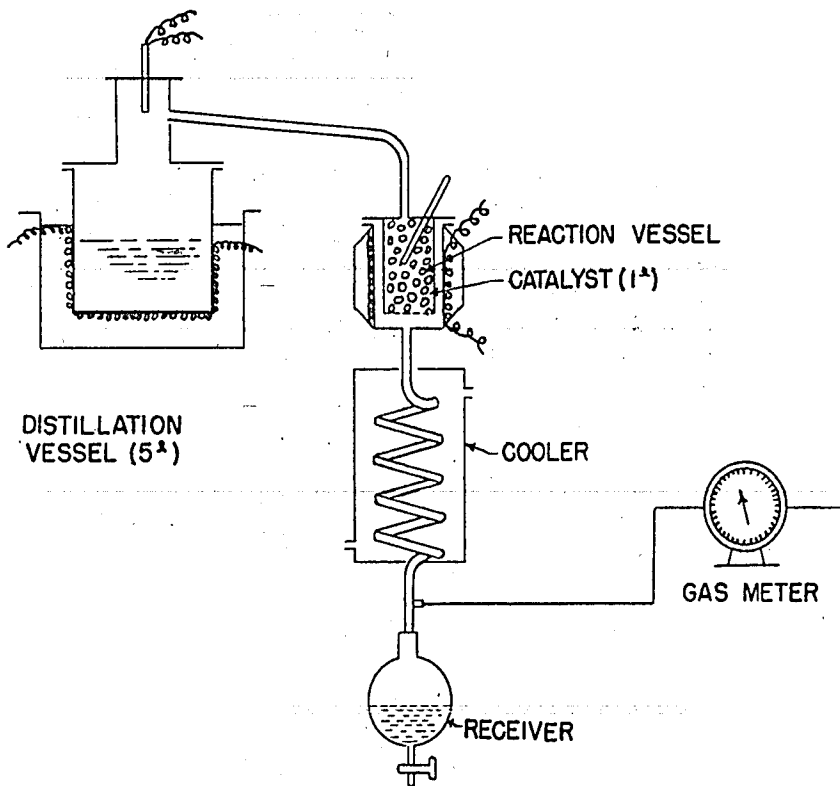


Figure 2(B)3
APPARATUS OF SIMPLIFIED CATALYTIC REFORMING