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C5076

MESSRS. SCOTT'S NO. 534 FOR ATLANTIC REFINING COMPANY.

## Test Results on Main Propelling Motor.

Shunt, Com. Pole, Double Unit D.C. Motor, Type M.P. 78/106,  
Machine No. R. 55097, Armature No. 70120.  
" " R. 55098, " " 70191.  
H.P. 28,000, Amps. 2230, Volts 1,000, Speed 95 R.P.M.

Machine No. R. 55097, Armature No. 70120, as a motor on overload.  
" " 55098, " " 70191, as a generator.

When hot and on full load as a motor the internal volts of one-half of the double unit are 484. Consequently, as a generator, the terminal volts of one-half of the double unit with 484 internal volts, will be 468 volts.

### Generator.

Time	Line Volts	Line Amps.	Field Volts.	Field Amps.	Speed R. P. M.
10.0 am.	472.5	2230	250	52.75	95
Machine run for six hours with 2230 line amps. and 250 volts on the field.					
4.0 pm.	468	2230	250	48.5	95
Machine shut down and temperatures taken.					

### Motor.

10. am.	472.5	2500	192	42	95
Machine run for six hours on overload.					
4. pm.	468	2510	178	38	95
Machine shut down and temperatures taken.					

Temperature rise by thermometer in degrees Centigrade after six hours :

	<u>Generator.</u>	<u>Motor.</u>
Armature Core	37	41
Armature Winding	32.8	34
Commutator	31	32
Com. Pole Winding	37.4	39
Shunt Field Winding	50.5	35.5

The inlet air temperature to the fan supplying air to the machine was 17.2 degrees Centigrade.

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## INSULATION RESISTANCE TEST.

The insulation resistance to earth of the armature windings, com. pole windings, brush gear and terminals, was found to be 7 megohms.

The insulation resistance to earth of the shunt field windings was found to be 100 megohms.

## HIGH POTENTIAL TEST.

The windings, terminals and brush gear of the machines withstood a high potential test of 2,000 volts A.C. for one minute to earth.

## LIGHT RUNNING READING.

The light running reading of one armature at 484 volts no load, corresponding to 500 volts full load, and the other armature unexcited :-

<u>Line</u> <u>Volts.</u>	<u>Line</u> <u>Amps.</u>	<u>K. W.</u> <u>—</u>	<u>Speed</u> <u>R.P.M.</u>
484	29.5	14.25	95

The friction and windage of one armature was found to be 2.75 K.W.. Therefore the core loss, friction and windage, and brush friction of one-half of the double unit motor is 14.25 K.W. minus 2.75 K.W. = 11.5 K.W.

*RL*  
1st August, 1928.



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