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FUEL RESEARCH INSTITUTE

OF SOUTH AFRICA

TEGNISE TECHNICAL MEMORANDUM NO. 10 OF 1969.

THE EFFECT OF CHANGING THE TEMPERATURE IN THE
VOLATILE MATTER DETERMINATION FROM 925°C TO 900°C.

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No corresponding determinations were made on the same samples at the two temperatures, so that no valid comparisons can be made. However, regular monthly determinations are done on railway (bituminous) coal samples and export (anthracite) samples. The change-over was made in the middle of 1968, so that a comparison of the first and second average half-yearly values can give an indication of the order of difference in values to be expected.

	Average Change in 2nd Half-year
<u>RAILWAY COALS.</u>	
Wolvekrans	-1.3
Koornfontein	-1.0
Union	-1.0
Tweefontein	-0.9
Waterpan	-0.8
Landau	-0.8
Douglas	-0.8
Albion	-0.7
Van Dyks Drift	-0.7
Tavistock	-0.7
Phoenix Beath Bank	-0.7
Transvaal Navigation	-0.5
Greenside	-0.4
New Clydesdale	-0.3
Consolidated	-0.2
Springbok	+0.1
Average Transvaal	-0.7%

Newcastle-Platberg...../

	Average Change in 2nd Half-year
<u>RAILWAY COALS (Cont.)</u>	
Newcastle-Platberg	-2.1
Natal Navigation	-1.4
Ingagane	-1.1
Hlobane	-0.7
Natal Steam	-0.65
Ballengeigh	+2.8
Umgala	+4.0
Natal Coal Exploration*	-2.0
<u>EXPORT COALS.</u>	
<u>Natal Anthracite</u>	
<u>(-0.27 average)</u>	
Large Nut	-0.35
Small Nut	-0.0
Pea	-0.6
Grain	-0.1
Duff	-0.2
<u>Natal Ammonium</u>	
<u>(-0.26 average)</u>	
Large Nut	-0.2
Small Nut	-0.2
Pea	-0.5
Grain	-0.2
Duff	-0.2
<u>Alpha Anthracite</u>	
<u>(-0.39 average)</u>	
Large Nut	-0.2
Pea	-0.45
Grain	-0.5
Duff	-0.4
<u>Riversdale Anthracite</u>	
<u>(-0.32 average)</u>	
Pea	-0.3
Grain	-0.5
Duff	-0.1
Overall average of anthracite -0.3%	

* 4 months comparison (i.e. March to October).

Some of the differences in the Transvaal are difficult to explain, notably Wolvekrans and Springbok. The Natal bituminous coals are liable to rather large changes

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in volatile matter content from month to month in most cases due to variations in volatile matter content underground. The case of Umgala is different in that at about the critical mid-year period the original mine ceased production and the new mine south of Utrecht started supplying the railways.

Comparisons were made of anthracites only when at least 4 values were available for the half-year. In fact 5 or 6 samples were normally averaged, 4 samples applying once, and 7 samples twice.

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Chief Research Officer.

PRETORIA.
18th February, 1969.