

RH

Development of High-Speed, High-
Degasser

(Nobuyoshi Takashiba)

(Hiroshi Okamoto)

(Kanji

Aizawa)

:

1.5

2

K 0.31min⁻¹

C

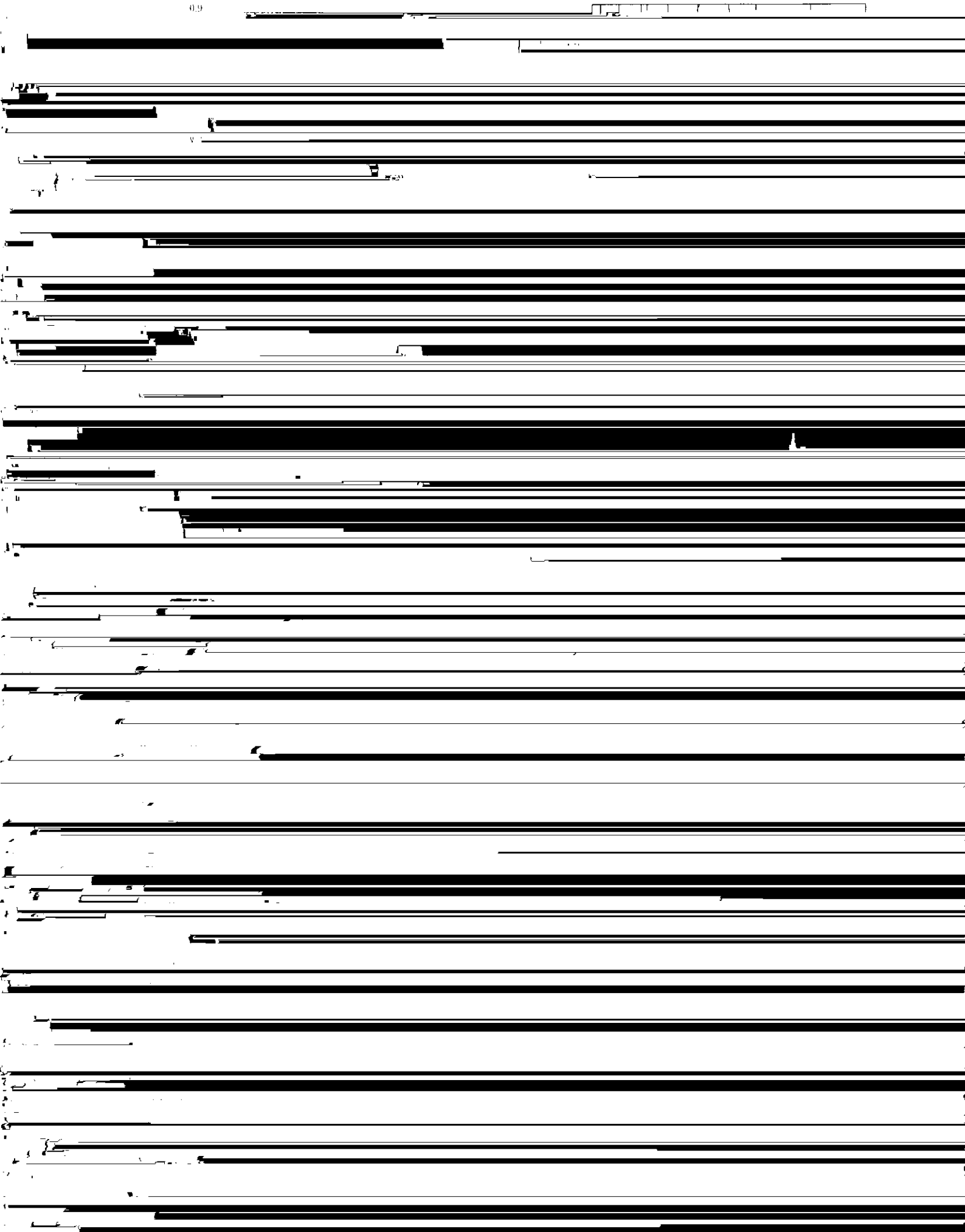
15ppm

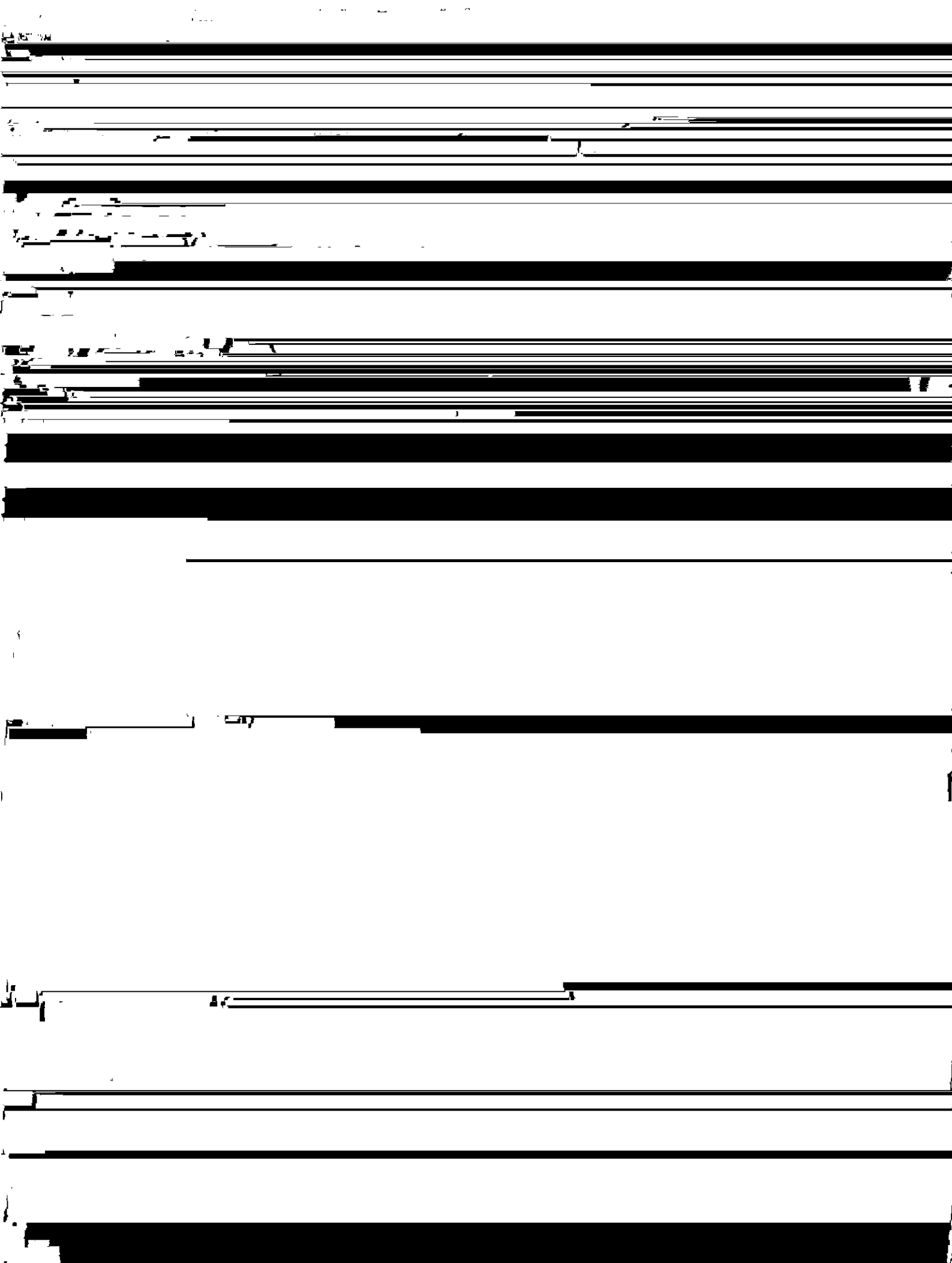
Synopsis :

Study results indicated that increasing the reaction area and circulation rate of the vacuum degassing vessel was more advantageous in securing high-speed, high-efficiency decarburization than installing a high-volume exhaust capacity which also entailed higher equipment and running costs. Kawasaki Steel, therefore, enlarged the lower Vessel of a degasser to an elliptical shape and, in line with this change, expanded the snorkel diameter by 50% over that used cylindrical vessels. An internal fog cooling technique was developed and applied in order to prevent thermal cracking of

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0.9





Cooling type	(a) Without cooling	(b) Air cooling	(c) Fog cooling
Cooling structure	<p>Inner surface Outer surface Brick Main frame Castable</p>	<p>Cooling pipe</p>	
Temperature distribution			

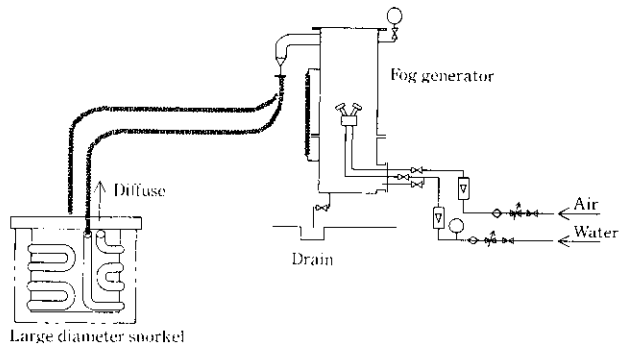
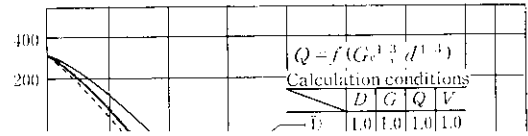


Fig. 9 Fog cooling equipment for large-diameter snorkel

以上の高真空下ではCO気泡の受ける静圧は溶鋼静圧が支配的であり、それ以上に真空度を上げてCO発生量に差がなく効果は少ないとの説が有力であった⁹⁾。しかし、真空度の影響を加味した脱炭

計算式(1)の計算結果を比較すると、見事に到達真空度を



ている。

(1) 脱炭反応が酸素供給律速であるリムド処理前半に、真空槽内

Table 2 Operational results

の鋼液は脱炭が速く、脱炭率は、 $0.015 \sim 0.020$ である。