ABG Interpretation

Primary disorder:
Low HCO_3 or high pCO_2

Primary disorder:
High HCO_3 or low pCO_2

6.9_____7.40_____7.7

<----------ACIDOSIS----------> <----------ALKALOSIS----------->

METABOLIC	RESPIRATORY	METABOLIC	RESPIRATORY
$pCO_2<40$	$pCO_2>40$	$pCO_2>40$	$pCO_2>40$
Compensation: $pCO_2 = 1.5[HCO_3] + 8$	Acute Compenastion: delta[pCO_2]= 10: delta[HCO_3]=1 Chronic Compensation: delta[pCO_2]= 10: delta[HCO_3]=3.5	Compensation: Expected $pCO_2=0.7[HCO_3] +20$	Acute Compensation: delta[pCO_2]=10: delta[HCO_3]=2 Chronic Compensation: delta[pCO_2]=10: delta[HCO_3]=5

Anion Gap:
[Na]-[Cl]-[HCO_3]<10+/-2

Corrected Gap
cAG: ANION GAP + 0.25(delta[ALBUMIN])

Finally:
Delta-Delta (or Gap-Gap)
delta[AG]-delta[HCO_3] IF >6 metabolic alkalosis: IF <-6 hyperchloremic metabolic acidosis

OR

delta[AG]/delta[HCO_3]>2 is metabolic alkalosis, 1-2 is HAGMA, 0.4-0.8 possible mixed HAGMA AND NAGMA, <0.4 NAGMA