Name _____ Date _____

Lab Partner_____ Lab Section_____

Lab Report for Properties of Hydrates

A. Reversibility of Hydration (Optional)

Record your observations:

B. Hygroscopic and Efflorescent Solids

	Substance	Initial mass of container and sample	Final mass of container and sample	Change in mass	Observations on structure, texture , wetness, etc. …	Conclusion
1.	**$CaCl_2$**					
2.	**$Na_2SO_4 \cdot 10\ H_2O$**					
3.	**$KAl(SO_4)_2 \cdot 12H_2O$**					
4.	**$CuSO_4$**					
5.	**$FeCl_3$**					

C. Hydrates

	Substance	Initial color	Water upon heating (Y/N)	Color Residue	Residue soluble (Y/N)	Color of residue dissolved	Hydrate (Y/N)
1.	**Nickel (II) chloride**						
2.	**Cobalt (II) chloride**						
3.	**Sucrose**						
4.	**Calcium carbonate**						
5.	**Barium chloride**						
6.	**Sodium tetraborate**						
7.	**Potassium chloride**						

D. Determination of the formula of a hydrate

Data

1. Mass of crucible and cover _____
2. Mass of crucible, cover and solid hydrate _____
3. Mass of crucible, cover and anhydrous solid _____

Calculations

1. Mass of hydrate _____
2. Mass of anhydrous solid _____
3. Mass of water lost _____
4. Formula of anhydrous solid (from Instructor) _____
5. Molar mass of anhydrous solid _____
6. Moles of H_2O present in the hydrate _____
7. Moles of anhydrous solid present _____
8. Ratio of moles H_2O:Anhydrous solid = ***x*** _____
9. Formula of hydrate [Anhydrous solid•***x***H_2O] _____
10, Name this compound _____

Unknown ID _____

Questions:

1. Did the compound(s) that appeared wet in section B lose or gain water? Explain what may have happened.

2. What will be the effect, on the mass of the residue, of overheating the hydrate so that the compound decomposes. Will this likely lead to a higher or lower value of ***x*** than the actual value?

3. What will be the effect, on the mass of the residue, of not heating the hydrate enough to drive off all the water of hydration in the hydrate. Will this likely lead to a higher or lower value of ***x*** than the actual value?