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Technical Progress Report
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Report No. COO-1707-6

Contract Period: Sept. 1, 1969 to Aug. 31, 1970

MASTER

THERMODYNAMIC INVESTIGATION OF
ALKALI METAL MIXTURES

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by

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Reprints of three articles which were published during the past year in scientific journals are attached. The titles and references are as follows:

1. J. B. Ott, J. R. Goates, D. R. Anderson, and H. T. Hall, Jr., "Solid-Liquid Phase Equilibria in the Sodium-Potassium System," Trans. Faraday Soc., 65, 2870 (1969).
2. J. R. Goates and J. B. Ott, "Quasi-Lattice Interpretation of the Thermodynamic Properties of Mixing of Binary Alkali Metal Systems," J. Chem., Phys., 51, 3853 (1969).
3. J. R. Goates, J. B. Ott, and C. C. Hsu, "Solid-Liquid Phase Equilibria in the Sodium-Rubidium Alloy System," Trans. Faraday Soc., 66, 25 (1970).

Copies of three manuscripts which will be submitted for publication during the coming year are attached. The titles are as follows:

4. J. B. Ott, J. R. Goates, and D. E. Oyler, "Solid-Liquid Phase Equilibria in the Sodium-Cesium Alloy System."
5. J. R. Goates, J. B. Ott, and H. T. Hall, Jr., "Solid-Liquid Phase Equilibria in the Potassium-Cesium Alloy System."
6. D. R. Anderson, J. R. Goates, J. B. Ott, and H. T. Hall, Jr., "High Pressure Phase Studies on Sodium, Potassium, Rubidium, and Cesium Metals and on Sodium-Potassium Alloys."

From the start of the current grant period on Sept. 1, 1969 to May 31, 1970, 25% of the time of each of the co-investigators, J. Bevan Ott and J. Rex Goates, has been devoted to this project. From June 1, 1970 to August 31, 1970, 100% of the time of both co-investigators will be devoted to this project.