

THE FORMATION OF SOME COBALT AND NICKEL  
COMPLEXES ON CLAY SURFACE

PHATTRA PHOKASUNTARANGKON

A THESIS SUBMITTED TO THE GRADUATE SCHOOL IN  
PARTIAL FULFILMENT OF THE REQUIREMENTS  
FOR THE DEGREE OF  
MASTER OF SCIENCE  
IN CHEMISTRY

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

Copyright© by Chiang Mai University

All rights reserved

GRADUATE SCHOOL  
CHIANG MAI UNIVERSITY  
OCTOBER 1995


THE FORMATION OF SOME COBALT AND NICKEL  
COMPLEXES ON CLAY SURFACE

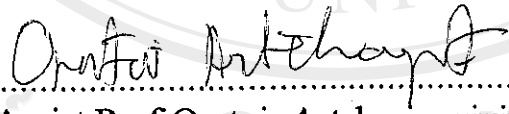
PHATTRA PHOKASUNTARANGKON

THIS THESIS HAS BEEN APPROVED TO BE A PARTIAL  
FULFILMENT OF THE REQUIREMENTS FOR THE  
DEGREE OF MASTER OF SCIENCE  
IN CHEMISTRY

EXAMINING COMMITTEE

  
.....CHAIRMAN  
( Assoc.Prof.Dr.Vichitr Rattanaphani )

  
.....MEMBER  
( Assoc.Prof.Dr.Prasak Thavornyutikarn )

  
.....MEMBER  
( Assist.Prof.Oratai Artchariyavivit )

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่  
Copyright© by Chiang Mai University  
All rights reserved

6 October 1995

Copyright of the Graduate School, Chiang Mai University

## ACKNOWLEDGEMENTS

The author would like to express her heartfelt gratitude and appreciation to her supervisor, Associate Professor Dr. Vichitr Rattanaphani, for his kind supervision, valuable guidance and constant encouragement.

The author would also like to thank Assistant Professor Oratai Artchariyavivit for her helpful suggestions, and Mineral Resources Region 3 (Chiang Mai) for their valuable help.

The author also wish to express her gratitude to the Chemistry Department, Faculty of Science, Chiang Mai University, for kindly providing her with the laboratory and library facilities which made this study possible.

Last and most of all, The author are indebted to her parents, Mr. Pichai and Mrs. Wanpen Phokasuntarangkoon, and my brother for their tender love and care and endless encouragement.

Phattra Phokasuntarangkoon  
October 1995

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

Copyright© by Chiang Mai University

All rights reserved