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INITIAL MICROFACIES AND LITHOSTRATIGRAPHY OF PERMIAN CARBONATE SEDIMENTS IN THE VICINITY OF KHAO LAMPHEAN, AMPHOE NONG MUANG, CHANGWAT LOP BURI

Mr. Nitipon Noipow

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การวิจัยนี้มีจุดประสงค์เพื่อศึกษาลักษณะปรากฏในระดับจุลภาคและการลำดับชั้นตามลักษณะหินของตะกอนคาร์บอเนตอายุเพอร์เมียนในพื้นที่ศึกษา นอกจากนี้ยังได้ศึกษาอนุกรมวิธานของซากดึกดำบรรพ์ปะการังและฟิวซูลินิดที่พบ รวมทั้งการสังเคราะห์สภาพแวดล้อมการสะสมตัวของตะกอน

การศึกษาศิลาวรรณาโดยละเอียดจาก 310 ตัวอย่างซึ่งเก็บตามลำดับชั้น จากแนวการตรวจวัดชั้นหิน 5 แนว ชั้นหินมีความหนารวม 553.5 เมตร พบว่าสามารถแบ่งลักษณะปรากฏหินออกเป็น 9 ชุดลักษณะได้แก่ 1) แพคไบโอมิไครท์ของสาหร่าย 2) ไบโอมิครูไดท์ของเศษเปลือกหอย 3) เอนครีไนท์ 4) สปาร์สไบโอมิไครท์เนื้อดิน 5) แพคไบโอมิครูไดท์ของฟอแรม 6) สแปร์สไบโอมิไครท์และฟอร์สซิลิเฟอร์รัสมิไครต์ 7) ไบโอสปาไรต์ 8) ไบโอสปาไรต์ชนิดเม็ดกลมเล็ก และ 9) ไบโอมิไครท์ชนิดเม็ดกลมเล็ก และ แบ่งลำดับชั้นหินตามลักษณะหินออกเป็น 4 หมู่หินจากล่างขึ้นบนได้แก่ 1) หมู่หิน 1 (ความหนา 90 เมตร) มีชั้นชีวภาพของปะการังเป็นลักษณะสำคัญ 2) หมู่หิน 2 (ความหนา 55 เมตร) ประกอบด้วย แพคไบโอมิไครท์ของตะกอนหลายชนิด 3) หมู่หิน 3 (ความหนา 58 เมตร) มี ไบโอสปาไรต์ และไบโอสปาไรต์ชนิดเม็ดกลมเล็กเป็นลักษณะเด่น 4) หมู่หิน 4 (ความหนา 42.5 เมตร) มีแพคไบโอมิไครท์ของสาหร่ายเป็นลักษณะเด่น ซากดึกดำบรรพ์พบปะการังสกุล *Waagenophyllum*, *Multimurinus*, *Ipciphyllum* และ *Sinopora* ฟิวซูลินิดพบว่าเป็น สกุล *Colania*, *Chusenella*, *Verbeekina* และ *Codonofusiella* และชนิด *Sumatrina* cf. *longissima* ซึ่งบ่งอายุกลางยุคเพอร์เมียนตั้งแต่ตอนล่างถึงตอนบนของ Capitanian สภาพแวดล้อมการสะสมตัวของตะกอนเชื่อว่าอยู่ในทะเลตื้นบริเวณลาดตอนกลางสัมพันธ์กับหย่อมพืดปะการัง ถึงทะเลตื้นในลาดตอนบริเวณสัมผัสกับท้องคลื่น ใต้ระดับน้ำขึ้นลงสูงสุด

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NITIPON NOIPOW : INITIAL MICROFACIES AND LITHOSTRATIGRAPHY OF PERMIAN CARBONATE SEDIMENTS IN THE VICINITY OF KHAO LAMPHEAN, AMPHOE NONG MUANG, CHANGWAT LOP BURI. THESIS ADVISOR : ASSIST.PROF. SOMPOP VEDCHAKANCHANA, THESIS CO-ADVISOR : ASSOC.PROF. CHAIYUDH KHANTAPRAB, 155 pp. ISBN 974-17-5294-6.

The objective of this study is to establish the lithomicrofacies and lithostratigraphy of the Permian carbonate succession in the study area. Additional attempts have been made to identify fossils of corals and fusulinids and to reconstruct the depositional environment of Permian carbonate sediments.

Five measured sections, totally 553.5 meters long, were examined and 310 stratified rock samples were carefully studied by petrographic method. Nine microlithofacies were distinguished, namely, 1) algal packed biomicrite , 2) shell fragments biomicrudite, 3) encrenite, 4) argillaceous sparse biomicrite, 5) foraminiferal biomicrudite, 6) sparse biomicrite, 7) biosparite, 8) biopelsparite, and 9) biopelmicrite. The lithostratigraphy of the studied sequence can be divided into four members, notably, 1) member I (90 meter-thick) characterized by the coral biostromes, 2) member II (55 meter-thick) comprising of mixed bioclasts and peloidal micritic rocks, 3) member III (58 meter-thick) characterized by biosparite and biopelsparite with algae and forams, 4) member IV (42.5 meter-thick) consists dominantly of algal packed biomicrite. The coral fossils discovered are: *Multimurinus* sp., *Ipciphyllum* sp., *Waagenophyllum* sp., *Sinopora* sp., and fusulinid fossils of: *Colania* sp., *Sumatrina* cf. *longissima*, *Chusenella* sp., *Verbeekina* sp., *Codonofusiella* sp. indicating Lower to Upper Capitanian age. The depositional environment was believed to be subtidal zone in middle and inner ramps and locally restricted by patchy reefs.

Department.....Geology..... Student's signature.....Nitipon Noipow.....

Field of study.....Geology..... Advisor's signature.....

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