Daerah penelitian meliputi daerah Gunung Buhusumale, Kecamatan Langgikima, Kabupaten Konawe Utara, Propinsi Sulawesi Tenggara. Daerah penelitian Secara geografis terletak pada koordinat 418000– 421500 dan 9628700 – 9633700 UTM Zona -51. Aspek geologi, potensi nikel, serta optimalisasi cadangan pit A7 daerah Gunung Buhusumale akan menjadi objek telitian yang diangkat pada skripsi ini.Geomorfologi daerah penelitian dibedakan menjadi tiga satuan bentuk asal, yaitu bentuk asal struktural dengan bentuk lahan berupa perbukitan berlereng terjal (S1) dan dataran (S2) , bentuk asal marine dengan bentuk lahan berupa pantai (M1), serta bentuk asal fluvial dengan bentuk lahan tubuh sungai (F1).Stratigrafi yang ada di daerah Gunung Buhusumale dibagi menjadi tiga satuan batuan dengan urutan dari yang paling tua adalah satuan peridotit berumur Kapur, satuan Konglomerat Pandua berumur Miosen-Pliosen, dan satuan Alluvial berumur Kuartenari.Struktur yang berkembang pada daerah telitian adalah struktur kekar dan sesar, dimana struktur kekar dan sesar yang dijumpai berarah baratlaut-tenggara. Pada analisa sesar didapatkan dua jenis sesar yaitu Normal Right Slip Fault pada bagian selatan daerah telitian dan Reverse Right Slip Fault pada bagian utara daerah telitian. Potensi geologi daerah Gunung Buhusumale adalah potensi tambang nikel yang di dalamnya berbagai perusahaan yang sedang eksplorasi tambang, dimana memiliki tipikal ore saprolit.Perhitungan cadangan pit a7 dengan metode inverse distance, diperkirakan memiliki cadangan sebesar 1.187.364 ton dengan cadangan ekonomis sebesar 572.352 ton dan cadangan non-ekonomis 615.012 ton.

ABSTRACT

The studied area encompasses the region of Buhusumale Mountain area, Langgikima district, North Konawe residence, Southeast Sulawesi Province. It’s precisely located on X:418000– 421500 and Y: 9628700 – 9633700 coordinate based on UTM -51 Zone. The thesis emphasizes the effort to understanding geological aspect, surface nickel potential, and pit a7 reserves optimize which become the main concern of it.Based on geomorphic consideration the studied are is divided into three basic form, the structural basic form which is subdivided into steep slope hills (S1) and lowland (S2), the marine basic form which is subdivided into coast (M1) and the fluvial basic form which is subdivided into river body (F1) .The stratigraphy of the studied area is subdivided litostratigraphically into sixdifferent rock units based on litology similiarity supported by comparing its against previous research which conducted on the same area. From oldest to youngest respectively are satuan peridotit (Cretaceous), satuan konglomerat Pandua (Miocen-Pliocen), and satuan alluvial (Quatenary).Geological structures that develop in research area are joints and faults which domain structures in this area have Northwest- Southeast trend. Fault analysis on stereonet in this research area are Normal Right Slip Fault in southern area and Reverse Right Slip Fault in northern research area.Geological Potential of research area are nickel mine which have explorating by several mining companies in this area, which has saprolith ore type.Based on pit A7 reserve optimize analysis with inverse distance method, pit a7 area reserves potential can be estimated to the value of 1.187.364 ton, which economic reserves value around 572.352 ton and non-economic reserve values around 615.012 ton.