01349670 GEOREF NO.: 84-50464 BIBL. INDEX GEOLOGY NO.: 84-53640
MONOGRAPH TITLE: Lead-zinc deposits of the Coast Province of Kenya and some exploration guidelines
AUTHOR(S): Bugg, S. F.
CORPORATE SOURCE: Geosurvey International, Dodoma, Tanzania, United Republic of
SOURCE: Overseas Geology and Mineral Resources vol. 59
DATE: 1982 19 p.
COUNTRY OF PUBLICATION: United Kingdom
CODEN: OGMRA3 ISSN: 0030-7467 REFS.: 42
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Monographic
ILLUSTRATIONS: illus.; sketch map; geol. sketch map; sect.
LANGUAGE: English
MAJOR DESCRIPTORS: *Kenya; *mineral exploration
DESCRIPTORS: economic geology; lead-zinc deposits; geochemical methods; veins; metal ores; Triassic; Karroo System; faults; sulfides; galena; marcasite; chalcopyrite; sphalerite; regional geochemical methods; East Africa; Africa; Kinagoni Hill
SECTION HEADINGS: 27 (Economic Geology, Metals)

01210408 GEOREF NO.: 82-39241 BIBL. INDEX GEOLOGY NO.: 82-36022
TITLE: AGID; regional workshop on strategies for small scale mining and mineral industries
AUTHOR(S): Berger, A. R.
CORPORATE SOURCE: Memorial Univ. Newfoundland, St. John's, Canada
SOURCE: Episodes vol. 1980 no. 2 p. 33
DATE: 1980
COUNTRY OF PUBLICATION: Canada
ISSN: 0705-3797
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Analytic
ILLUSTRATIONS: illus.
LANGUAGE: English
NOTE: Symposium held at Mombasa, Kenya, April 14-25, 1980
MAJOR DESCRIPTORS: *symposia; *associations
DESCRIPTORS: engineering geology; mining geology; general; Association of Geoscientists for International D; education; Kenya; East Africa; Africa; report
SECTION HEADINGS: 22 (Engineering & Environmental Geology)

01173225 GEOREF NO.: 82-01558 BIBL. INDEX GEOLOGY NO.: 82-05041
TITLE: Notes on the geology and mineral resources of the Mtito Andei-Taita area (southern Kenya)
AUTHOR(S): Pohl, W.; Horkel, A.
SOURCE: Mitt. Oesterr. Geol. Ges. vol. 73 p. 145-152
DATE: 1980
COUNTRY OF PUBLICATION: Austria
REFS.: 29
SUBFILE: B
DOCUMENT TYPE: Serial; Map BIBLIOGRAPHIC LEVEL: Analytic
ILLUSTRATIONS: illus.; 4 tables; 1 plate; strat. col.
MAP TYPE: geol. map MAP SCALE: 1:120,000
LANGUAGE: English SUMMARY LANGUAGE: German
NOTE: With the collaboration of Neubauer, W., Niedermayer, G., Okelo, R. E., Wachira, J. K., and Werneck, W.
COORDINATES: Latitude: S040000 ; S023000; Longitude: E0383000 ; E0380000
MAJOR DESCRIPTORS: *Kenya
DESCRIPTORS: economic geology; mineral resources; areal geology; maps; East Africa; Africa; southern Kenya; economic geology maps; Mtito Andei; Taita ; geologic maps; tectonics; gems; graphite deposits; base metals; metal ores; magnetite; oxides; kaolin deposits
SECTION HEADINGS: 26 (Economic Geology, General & Mining)

01036651 GEOREF NO.: 81-29726 BIBL. INDEX GEOLOGY NO.: 81-27779
TITLE: Nagoya University East African Prehistoric Research Expedition in 1978/79
EDITOR(S): Omi, G. (editor)
SOURCE: Preliminary Report of African Studies, Nagoya University vol. 5 p. 1-8
DATE: 1980
COUNTRY OF PUBLICATION: Japan
REFS.: 4
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Analytic
ILLUSTRATIONS: illus.; sketch maps
LANGUAGE: English
COORDINATES: Latitude: S050000 ; N050000 ; Longitude: E0420000 ; E0293000
Latitude: S043000 ; N043000 ; Longitude: E0420000 ; E0340000

Latitude: S020000 ; N040000 ; Longitude: E0350000 ; E0290000

MAJOR DESCRIPTORS: *Kenya; *Uganda
DESCRIPTORS: stratigraphy; archaeology; Pleistocene; Africa; Great Rift Valley; Mweya North site; Mweya Peninsula; Lake Edward; Kazinga Channel; Quaternary; Cenozoic; Kaiso Formation; Katanda Formation; Semliki Series; Acheulian; Paleolithic; Rupa site; Moroto; Karamoja District; Mount Moroto; Musopo River; Later Stone Age; chalcedony; silica minerals; framework silicates; silicates; Mtongwe site; Mombasa; Early Stone Age; Changamwe Terrace
SECTION HEADINGS: 24 (Surficial Geology, Quaternary Geology)

01026703 GEOREF NO.: 81-19424 BIBL. INDEX GEOLOGY NO.: 81-20956
TITLE: Sedimentary facies and palaeoenvironments associated with Tertiary formations of the lower Galana River basin, Kenya
AUTHOR(S): Hove, A. R. T.
CONFERENCE TITLE: 26th international geological congress
CONFERENCE LOCATION: Paris, France
CONFERENCE DATE: July 7-17, 1980
SOURCE: Int. Geol. Congr. Abstr.--Congr. Geol. Int., Resumes no. 26; Vol. 1 p. 239
DATE: 1980
COUNTRY OF PUBLICATION: Varies
CODEN: IGABBY
SUBFILE: B
DOCUMENT TYPE: Abstract; Serial; Conference BIBLIOGRAPHIC LEVEL: Analytic
LANGUAGE: English
COORDINATES: Latitude: S040000 ; S023000; Longitude: E0403000 ; E0380000
MAJOR DESCRIPTORS: *Kenya; *sedimentary rocks; *sedimentation
DESCRIPTORS: stratigraphy; Neogene; lithostratigraphy; environment; lithofacies; Africa; Malindi; Galana River basin; Tertiary; Cenozoic; Baratumu Formation; Marafa Formation; marl; clastic rocks; carbonate rocks; limestone; conglomerate; shallow-water environment; marine environment; terrestrial environment
SECTION HEADINGS: 12 (Stratigraphy, Historical Geology)
?T 17/5/26-50

01015813 GEOREF NO.: 81-08387 BIBL. INDEX GEOLOGY NO.: 81-05753
TITLE: Petrology and geochemistry of the alkaline intrusion, Jombo Hill, Kenya
AUTHOR(S): Nyambok, I. O.
SOURCE: Geol. Mag. vol. 117 no. 4 p. 327-338
DATE: 1980
COUNTRY OF PUBLICATION: United Kingdom
CODEN: GEMGA4 ISSN: 0016-7568 REFS.: 30
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Analytic
ILLUSTRATIONS: tables; plates; sketch maps
LANGUAGE: English
COORDINATES: Latitude: S043000 ; N043000 ; Longitude: E0420000 ; E0340000
Latitude: S050000 ; S030000; Longitude: E0400000 ; E0360000
MAJOR DESCRIPTORS: *Kenya; *igneous rocks; *absolute age; *intrusions
DESCRIPTORS: petrology; composition; alkalic composition; dates; chemical composition; Africa; Jombo Hill; carbonatite; lamprophyre and carbonatite family
SECTION HEADINGS: 05 (Petrology, Igneous & Metamorphic)

01268840 GEOREF NO.: 83-30931 BIBL. INDEX GEOLOGY NO.: 83-31968
MONOGRAPH TITLE: Geology of the Taita Hills, Degree Sheet 60 SE (Sheet 189/4)
AUTHOR(S): Horkel, A.; Niedermayr, G.; Wachira, J. K.; Pohl, W.; Okelo, R. E. A.; Nauta, W. J.
CORPORATE SOURCE: Austromineral, Vienna, Austria; Mines and Geol. Dep., Kenya, Naturhist. Mus., Austria, Min. Univ. Leoben, Austria
SOURCE: Kenya, Geol. Surv., Rep. vol. 102
DATE: 1979 33 p.
COUNTRY OF PUBLICATION: Kenya
CODEN: KCMGAY
SUBFILE: B
DOCUMENT TYPE: Serial; Map BIBLIOGRAPHIC LEVEL: Monographic
ILLUSTRATIONS: illus.; 3 tables; 3 plates; sketch maps
MAP TYPE: colored geol. map MAP SCALE: 1:50,000
LANGUAGE: English SUMMARY LANGUAGE: German
COORDINATES: Latitude: S033000 ; S031500; Longitude: E0383000 ; E0381500
MAJOR DESCRIPTORS: *Kenya
DESCRIPTORS: areal geology; maps; East Africa; Africa; Taita Hills; basement; Mozambique Belt; tectonics; mineral resources; ground water
SECTION HEADINGS: 13 (Areal Geology, General)

01036642 GEOREF NO.: 81-29717 BIBL. INDEX GEOLOGY NO.: 81-24955
TITLE: Vanadian and vanadium grossulars from the Mozambique metamorphic rocks, Mgama Ridge, Kenya
AUTHOR(S): Suwa, K.; Suzuki, K.; Miyakawa, K.; Agata, T.
SOURCE: Preliminary Report of African Studies, Nagoya University no. 4 p. 87-95
DATE: 1979
COUNTRY OF PUBLICATION: Japan
REFS.: 12
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Analytic
ILLUSTRATIONS: illus.; table; plates; sketch maps
LANGUAGE: English
COORDINATES: Latitude: S033900 ; S033200; Longitude: E0381900 ; E0381500
MAJOR DESCRIPTORS: *Kenya; *minerals
DESCRIPTORS: petrology; metamorphic rocks; economic geology; garnet deposits; orthosilicates; garnet group; vanadium garnet; Africa; Mombasa; vanadium; garnet; silicates; Mgama Ridge; Tanzania; Lualenyi Mine; gneiss ; gneisses; chemical composition; mineral assemblages; evaporites; chemically precipitated rocks; lakes; sedimentation; environment; geochemistry; metamorphism; Precambrian; grossular; crystallography
SECTION HEADINGS: 05 (Petrology, Igneous & Metamorphic)

01036641 GEOREF NO.: 81-29716 BIBL. INDEX GEOLOGY NO.: 81-25475
TITLE: Some interesting corals from the Middle Jurassic Kambe Limestone in Mombasa-Kwale area, Kenya; Part 1, A new coral species, Thamnasteria (Thamnasteria) mombasensis found from the Kambe Limestone at southwest of Tsulujimba
AUTHOR(S): Yamagiwa, N.
SOURCE: Preliminary Report of African Studies, Nagoya University no. 4 p. 83-85
DATE: 1979
COUNTRY OF PUBLICATION: Japan
REFS.: 5
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Analytic
ILLUSTRATIONS: plates; sketch map
LANGUAGE: English
COORDINATES: Latitude: S060000 ; S030000; Longitude: E0400000 ; E0390000
MAJOR DESCRIPTORS: *Coelenterata; *Kenya
DESCRIPTORS: Scleractinia; Jurassic; paleontology; Africa; Mombasa; Kwale; Kambe Limestone; Mesozoic; Middle Jurassic; new taxa; taxonomy; Thamnasteria mombasensis; Tsulujimba; Anthozoa; Astrocoeniina; Thamnasteriidae
SECTION HEADINGS: 10 (Paleontology, Invertebrate)

01036640 GEOREF NO.: 81-29715 BIBL. INDEX GEOLOGY NO.: 81-25070
TITLE: Grain fabric of the fluvio-lacustrine sandstone (Duruma Sandstones) near Mombasa, Kenya
AUTHOR(S): Saka, Y.; Rikita, M.; Miyata, T.
SOURCE: Preliminary Report of African Studies, Nagoya University no. 4 p. 73-82
DATE: 1979
COUNTRY OF PUBLICATION: Japan
REFS.: 6
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Analytic
ILLUSTRATIONS: illus.; table; geol. sketch maps
LANGUAGE: English
COORDINATES: Latitude: S060000 ; S033000; Longitude: E0394000 ; E0393000
MAJOR DESCRIPTORS: *Kenya; *sedimentary rocks; *sedimentation
DESCRIPTORS: sedimentary petrology; textures; fabric; provenance; paleocurrents; Africa; Mombasa; lakes; streams; Duruma Sandstone; environment; sedimentary structures; cross-laminations; planar bedding structures; Maji-Ya-Chumui Beds; Karroo System; orientation; Taru Grit; Mariakani Sandstone; paleogeography; Permian; Paleozoic; Triassic; Mesozoic; Phanerozoic; boundary
SECTION HEADINGS: 06 (Petrology, Sedimentary)

01036639 GEOREF NO.: 81-29714 BIBL. INDEX GEOLOGY NO.: 81-25058
TITLE: Deformed cross-lamination in the Karroo System, near Mombasa, Kenya
AUTHOR(S): Miyata, T.; Saka, Y.
SOURCE: Preliminary Report of African Studies, Nagoya University no. 4 p. 63-72
DATE: 1979
COUNTRY OF PUBLICATION: Japan
REFS.: 24
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Analytic
ILLUSTRATIONS: illus.; strat. col.; table; plates
LANGUAGE: English
COORDINATES: Latitude: S040000 ; S033000; Longitude: E0394000 ; E0393000
MAJOR DESCRIPTORS: *sedimentary structures; *Kenya; *sedimentation
DESCRIPTORS: planar bedding structures; cross-laminations; sedimentary petrology; provenance; paleocurrents; Africa; Mombasa; Karroo System; folds; deformation; Mariakani Sandstone; streams; Permian; Paleozoic; Triassic; Mesozoic; boundary; Phanerozoic; paleogeography; Duruma Sandstone; tectonics; structure; stratigraphy; lithostratigraphy
SECTION HEADINGS: 06 (Petrology, Sedimentary)

01036638 GEOREF NO.: 81-29713 BIBL. INDEX GEOLOGY NO.: 81-25069
TITLE: Directional structures and paleocurrent of the Duruma Sandstones (Karroo System) near Mombasa, Kenya
AUTHOR(S): Saka, Y.; Miyata, T.
SOURCE: Preliminary Report of African Studies, Nagoya University no. 4 p. 41-62
DATE: 1979
COUNTRY OF PUBLICATION: Japan
REFS.: 19
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Analytic
ILLUSTRATIONS: illus.; strat. col.; sect.; plates; geol. sketch maps
LANGUAGE: English
COORDINATES: Latitude: S050000 ; S033000; Longitude: E0400000 ; E0390000
MAJOR DESCRIPTORS: *Kenya; *sedimentation; *paleogeography
DESCRIPTORS: sedimentary petrology; environment; fluvial environment; Mesozoic; provenance; paleocurrents; Africa; Mombasa; Karroo System; Duruma Sandstone; structure; Permian; Paleozoic; Triassic; boundary; sedimentary structures; cross-laminations; planar bedding structures; bedding-plane structures; deposition; stratigraphy; lithostratigraphy; tectonics; clastic rocks; lakes; Phanerozoic; subsidence; deltas; structural analysis; grain size; Mariakani Sandstone; Mazeras Sandstone
SECTION HEADINGS: 06 (Petrology, Sedimentary)

00975616 GEOREF NO.: 80-22527 BIBL. INDEX GEOLOGY NO.: 80-21038
TITLE: Flow regime of the Mzima Springs in Kenya
AUTHOR(S): Ertuna, C.
SOURCE: Inst. Civ. Eng. (Lond.), Proc. vol. 67 Part 2 no. Research and theory p. 833-840
DATE: 1979
COUNTRY OF PUBLICATION: United Kingdom
CODEN: PCIEAT ISSN: 0307-8361 REFS.: 6
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Analytic
ILLUSTRATIONS: illus.; tables; sketch maps
LANGUAGE: English
COORDINATES: Latitude: S033000 ; S020000; Longitude: E0390000 ; E0370000
MAJOR DESCRIPTORS: *Kenya
DESCRIPTORS: economic geology; water resources; hydrogeology; springs; Africa; Mzima Springs; Mombasa; hydrology; discharge; resources; rainfall ; runoff; statistical analysis
SECTION HEADINGS: 21 (Hydrogeology & Hydrology)

00937999 GEOREF NO.: 79-25520 BIBL. INDEX GEOLOGY NO.: 79-24334
TITLE: Genesis, occurrence, and causes of sediment distribution in inner reefs of Mombasa, Kenya
AUTHOR(S): Pereira, C. P. G.
CONFERENCE TITLE: AAPG-SEPM annual meeting
CONFERENCE LOCATION: Houston, Tex., United States
CONFERENCE DATE: April 1-4, 1979
SOURCE: Am. Assoc. Pet. Geol., Bull. vol. 63 no. 3 p. 508-509
DATE: 1979
COUNTRY OF PUBLICATION: United States
CODEN: AAPGBS ISSN: 0149-1423
SUBFILE: B
DOCUMENT TYPE: Abstract; Serial; Conference BIBLIOGRAPHIC LEVEL: Analytic
LANGUAGE: English
COORDINATES: Latitude: S050000 ; S030000; Longitude: E0400000 ; E0390000
MAJOR DESCRIPTORS: *Kenya; *Indian Ocean; *sedimentation; *sediments
DESCRIPTORS: oceanography; reefs; environment; distribution; Africa; Mombasa; West Indian Ocean; genesis; carbonate sediments; terrigenous materials; fringing reefs; textures; size distribution; statistical analysis; sorting; provenance
SECTION HEADINGS: 07 (Marine Geology & Oceanography)

00936395 GEOREF NO.: 79-23912 BIBL. INDEX GEOLOGY NO.: 79-25851
TITLE: Distribution and factors controlling foraminiferal associations and assemblages on fringing reefs during winter, Mombasa, Kenya
AUTHOR(S): Banner, F. T.; Pereira, C. P. G.
CONFERENCE TITLE: AAPG-SEPM annual meeting
CONFERENCE LOCATION: Houston, Tex., United States
CONFERENCE DATE: April 1-4, 1979
SOURCE: Am. Assoc. Pet. Geol., Bull. vol. 63 no. 3 p. 414
DATE: 1979
COUNTRY OF PUBLICATION: United States
CODEN: AAPGBS ISSN: 0149-1423
SUBFILE: B
DOCUMENT TYPE: Abstract; Serial; Conference BIBLIOGRAPHIC LEVEL: Analytic
LANGUAGE: English
COORDINATES: Latitude: S043000 ; S023000; Longitude: E0403000 ; E0383000
MAJOR DESCRIPTORS: *Indian Ocean; *ecology; *foraminifera; *Kenya
DESCRIPTORS: oceanography; reefs; paleontology; Africa; Mombasa; West Indian Ocean; paleoecology; fringing reefs; lagoons; marine environment; thanatocenoses; biocenoses; diversity; cluster analysis; statistical methods; assemblages; Holocene; Quaternary; modern
SECTION HEADINGS: 24 (Surficial Geology, Quaternary Geology)

01355982 GEOREF NO.: 84-56881 BIBL. INDEX GEOLOGY NO.: 84-49746
MONOGRAPH TITLE: Petrology and geochemistry of the alkaline intrusion, Jombo Hill, Kenya
AUTHOR(S): Nyambok, I. O.
CORPORATE SOURCE: Univ. Uppsala, Dep. Mineral. and Petrol., Uppsala, Sweden
SOURCE: UUDMP Research Report vol. 8
DATE: 1978 14 p.
COUNTRY OF PUBLICATION: Sweden
ISSN: 0348-1336 REFS.: 38
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Monographic
ILLUSTRATIONS: illus.; 4 tables; 2 plates; geol. sketch map
LANGUAGE: English
MAJOR DESCRIPTORS: *Kenya; *intrusions; *sodium; *rubidium; *potassium; *igneous rocks
DESCRIPTORS: petrology; geochemistry; composition; alkalic composition; East Africa; Africa; Jombo Hill Intrusion; solid solution; carbonatites; Mrima Intrusion; ijolite; alkali gabbros; gabbros; magmas; feldspar group ; framework silicates; silicates; syenites; metasomatism; K/Rb; nepheline syenite; Mombasa
SECTION HEADINGS: 05 (Petrology, Igneous & Metamorphic); 02 (Geochemistry)

01355981 GEOREF NO.: 84-56880 BIBL. INDEX GEOLOGY NO.: 84-49747
MONOGRAPH TITLE: Microprobe and X-ray diffraction analyses of the major minerals from Jombo Hill alkaline rocks, Kenya
AUTHOR(S): Nyambok, I. O.; Lindqvist, B.
CORPORATE SOURCE: Univ. Uppsala, Dep. Mineral. and Petrol., Uppsala, Sweden
SOURCE: UUDMP Research Report vol. 9
DATE: 1978 16 p.
COUNTRY OF PUBLICATION: Sweden
ISSN: 0348-1336 REFS.: 22
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Monographic
ILLUSTRATIONS: illus.; 3 tables
LANGUAGE: English
MAJOR DESCRIPTORS: *Kenya; *igneous rocks; *intrusions
DESCRIPTORS: geochemistry; composition; alkalic composition; East Africa; Africa; mineral composition; Jombo Hill Intrusion; X-ray data; electron probe data; petrology; genesis; feldspar group; framework silicates; silicates; clinopyroxene; pyroxene group; chain silicates; biotite; mica group; sheet silicates; ijolite; alkali gabbros; gabbros; syenites; nepheline; nepheline group; diopside; hedenbergite; silica; migmatite
SECTION HEADINGS: 05 (Petrology, Igneous & Metamorphic); 02 (Geochemistry)

01355980 GEOREF NO.: 84-56879 BIBL. INDEX GEOLOGY NO.: 84-49275
MONOGRAPH TITLE: Distribution of trace elements and their petrogenetic significance in the Jombo Hill alkaline rocks, Kenya
AUTHOR(S): Nyambok, I. O.
CORPORATE SOURCE: Univ. Uppsala, Inst. Geol., Dep. Mineral. and Petrol., Uppsala, Sweden
SOURCE: UUDMP Research Report vol. 10
DATE: 1978 8 p.
COUNTRY OF PUBLICATION: Sweden
ISSN: 0348-1336 REFS.: 26
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Monographic
ILLUSTRATIONS: illus.; 3 tables
LANGUAGE: English
MAJOR DESCRIPTORS: *Kenya; *igneous rocks
DESCRIPTORS: geochemistry; trace elements; composition; alkalic composition ; East Africa; Africa; Jombo Hill intrusion; sandstone; clastic rocks; ijolite; alkali gabbros; gabbros; albite nepheline syenite; orthoclase nepheline syenite; syenites; rare earths; distribution; patterns; carbonatites; magmas
SECTION HEADINGS: 02 (Geochemistry)

00954308 GEOREF NO.: 80-00884 BIBL. INDEX GEOLOGY NO.: 80-00350
MONOGRAPH TITLE: Petrology, mineralogy and geochemistry of the alkaline rocks, Jombo Hill, Kenya
AUTHOR(S): Nyambok, I. O.
SOURCE: Acta Univ. Ups. no. 493
DATE: 1978 14 p.
COUNTRY OF PUBLICATION: Sweden
CODEN: AUUSAO ISSN: 0345-0058 REFS.: 7
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Monographic
LANGUAGE: English
COORDINATES: Latitude: S043000 ; N043000 ; Longitude: E0420000 ; E0340000
MAJOR DESCRIPTORS: *Kenya; *intrusions
DESCRIPTORS: petrology; composition; alkalic composition; Africa; Jombo Hill; mineral composition; geochemistry; chemical composition; igneous rocks; nepheline; nepheline group; framework silicates; silicates; pyroxene; pyroxene group; chain silicates; titanite; orthosilicates; magnetite; oxides; biotite; sheet silicates; analcime; albite; feldspar group; ijolite; alkali gabbro family
SECTION HEADINGS: 05 (Petrology, Igneous & Metamorphic)

00918966 GEOREF NO.: 79-06312 BIBL. INDEX GEOLOGY NO.: 79-03406
TITLE: Schreyerite, V SUB 2 Ti SUB 3 O SUB 9 , a new mineral
AUTHOR(S): Medenbach, O.; Schmetzer, K.
SOURCE: Am. Mineral. vol. 63 no. 11-12 p. 1182-1186
DATE: 1978
COUNTRY OF PUBLICATION: United States
CODEN: AMMIAY REFS.: 9
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Analytic
ILLUSTRATIONS: illus.; tables
LANGUAGE: English
COORDINATES: Latitude: S041200 ; S041200; Longitude: E0384000 ; E0384000
MAJOR DESCRIPTORS: *Kenya; *minerals; *crystal chemistry; *crystal structure
DESCRIPTORS: mineralogy; oxides; schreyerite; Africa; Kwale District; Lasamba Hill; Voi; new minerals; mineral data; formula; chemical composition; V SUB 2 Ti SUB 3 O SUB 9; (V SUB 0.93 Cr SUB 0.06 Al SUB 0.01) SUB 2 Ti SUB 3 O SUB 9; occurrence; optical properties; rutile; exsolution; lamellae; coexisting minerals; X-ray data; electron probe data
SECTION HEADINGS: 01 (Mineralogy & Crystallography)

00912471 GEOREF NO.: 78-48524 BIBL. INDEX GEOLOGY NO.: 78-40451
TITLE: Spessartin aus den Taita Hills, Kenia
TRANSLATED TITLE: Spessartine from the Taita Hills, Kenya
AUTHOR(S): Medenbach, O.; Schmetzer, K.; Krupp, H.
SOURCE: Aufschluss vol. 29 no. 9 p. 275-276
DATE: 1978
COUNTRY OF PUBLICATION: Germany, Federal Republic of
CODEN: AFSLAO REFS.: 2
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Analytic
ILLUSTRATIONS: tables
LANGUAGE: German
COORDINATES: Latitude: S043000 ; N043000 ; Longitude: E0420000 ; E0340000
MAJOR DESCRIPTORS: *Kenya; *minerals
DESCRIPTORS: mineralogy; orthosilicates; garnet group; spessartine; orthosilicates, garnet group; Taita Hills; occurrence; chemical composition; cations
SECTION HEADINGS: 01 (Mineralogy & Crystallography)

01036627 GEOREF NO.: 81-29700 BIBL. INDEX GEOLOGY NO.: 81-27747
TITLE: On the Acheulean site of Mtongwe, Mombasa
AUTHOR(S): Kato, Y.; Omi, G.; Adachi, K. (Kato, Yoshijiro)
SOURCE: Preliminary Report of African Studies, Nagoya University vol. 3 p. 13-17
DATE: 1977
COUNTRY OF PUBLICATION: Japan
REFS.: 6
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Analytic
ILLUSTRATIONS: illus.; geol. sketch map
LANGUAGE: English
COORDINATES: Latitude: S040500 ; S040000; Longitude: E0394000 ; E0393000
MAJOR DESCRIPTORS: *Kenya; *geomorphology
DESCRIPTORS: stratigraphy; archaeology; Pleistocene; shore features; terraces; Africa; Mombasa Island; Mtongwe; Mombasa Terraces; Ganda Terrace; Kilifi Terrace; Malindi Terrace; Marafa Beds; Changamwe Terrace; Magarini Sands; Kilindini Sands; Shelly Beach Terrace; Quaternary; Cenozoic; Mombasa; Acheulian; Paleolithic; Songoan
SECTION HEADINGS: 24 (Surficial Geology, Quaternary Geology)

00841885 GEOREF NO.: 77-26970 BIBL. INDEX GEOLOGY NO.: 77-25387
TITLE: Kenyasaurus, a new eosuchian reptile from the early Triassic of Kenya
AUTHOR(S): Harris, J. M.; Carroll, R. L.
SOURCE: J. Paleontol. vol. 51 no. 1 p. 139-149
DATE: 1977
COUNTRY OF PUBLICATION: United States
CODEN: JPALAZ REFS.: 11
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Analytic
ILLUSTRATIONS: illus.; plate
LANGUAGE: English
NOTE: K. mariakaniensis, n. g., n. sp.
MAJOR DESCRIPTORS: *Kenya; *Reptilia; *Triassic
DESCRIPTORS: paleontology; Mombasa; Africa; lower Triassic; Lepidosauria; morphology; skeleton; fossilization; paleoecology; affinities; Eosuchia; Kenyasaurus mariakeniensis; new taxa
SECTION HEADINGS: 11 (Paleontology, Vertebrate)

01228960 GEOREF NO.: 82-58018 BIBL. INDEX GEOLOGY NO.: 82-56399
TITLE: Aspects of magmatic and metallogenetic processes in the coast province of Kenya
AUTHOR(S): Vasilescu, A.; Popescu, G.
SOURCE: Revue Roumaine de Geologie, Geophysique et Geographie. Serie de Geologie vol. 24 p. 121-126
DATE: 1980
COUNTRY OF PUBLICATION: Romania
CODEN: RRGGBH ISSN: 0556-8102
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Analytic
LANGUAGE: English
MAJOR DESCRIPTORS: *Kenya; *mineral deposits; *genesis
DESCRIPTORS: economic geology; mineral resources; processes; igneous processes; East Africa; Africa; mineral deposits, genesis
SECTION HEADINGS: 26 (Economic Geology, General & Mining)

00872459 GEOREF NO.: 78-08489 BIBL. INDEX GEOLOGY NO.: 78-08057
TITLE: Vanadiumhaltiger gruener Kornerupin vom Kwale-District, Kenya
TRANSLATED TITLE: Green iron-free vanadium kornerupine from the Kwale District, Kenya
AUTHOR(S): Girgis, K.; Guebelin, E.; Weibel, M.
SOURCE: Schweiz. Mineral. Petrogr. Mitt. vol. 56 no. 1 p. 65-68
DATE: 1976
COUNTRY OF PUBLICATION: Switzerland
CODEN: SMPTA8 REFS.: 7
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Analytic
ILLUSTRATIONS: tables
LANGUAGE: German SUMMARY LANGUAGE: English
COORDINATES: Latitude: S040000 ; S003000; Longitude: E0380000 ; E0360000
MAJOR DESCRIPTORS: *Kenya; *minerals
DESCRIPTORS: mineralogy; orthosilicates; kornerupine; south; Kwale; iron-free composition; vanadium; chemical composition
SECTION HEADINGS: 01 (Mineralogy & Crystallography)

00637961 GEOREF NO.: 72-23526
TITLE: Further Evidence for the Age of the Madadoni Beds of Kenya
AUTHOR(S): Stephenson, D. G.
SOURCE: J. Nat. Hist. Vol. 6, No. 3, p. 339-341
DATE: 1972
CODEN: JNAHA9
SUBFILE: B
DOCUMENT TYPE: Serial
JOURNAL ANNOUNCEMENT: 1972
LANGUAGE: English
NOTE: Middle Miocene-Pliocene age indicated on basis of echinoid spines
MAJOR DESCRIPTORS: *Kenya; *Tertiary; *Echinodermata
DESCRIPTORS: Stratigraphy; Madadoni Beds; biostratigraphy; Coast Province; Echinoidea; Prionocidaris; Stylocidaris; Africa; upper Tertiary
SECTION HEADINGS: 12 (Stratigraphy, Historical Geology)

00867559 GEOREF NO.: 78-03587 BIBL. INDEX GEOLOGY NO.: 78-00095
TITLE: Schreyerit (V SUB 2 Ti SUB 3 O SUB 9), ein neues Vanadium-Mineral aus Kenya
TRANSLATED TITLE: Schreyerite (V SUB 2 Ti SUB 3 O SUB 9), a new vanadium mineral from Kenya
AUTHOR(S): Medenbach, O.; Schmetzer, K.
SOURCE: Naturwissenschaften vol. 63 no. 6 p. 293-294
DATE: 1976
COUNTRY OF PUBLICATION: Germany, Federal Republic of
CODEN: NATWAY REFS.: 2
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Analytic
LANGUAGE: German
NOTE: Short notes
COORDINATES: Latitude: S043000 ; S040000; Longitude: E0394000 ; E0383000
MAJOR DESCRIPTORS: *Kenya; *minerals; *crystal structure
DESCRIPTORS: mineralogy; oxides; schreyerite; Kwale; new minerals; occurrence; properties; optical properties; physical properties; composition; chemical composition; cell dimensions; symmetry; mineral data
SECTION HEADINGS: 01 (Mineralogy & Crystallography)

01262993 GEOREF NO.: 83-25066 BIBL. INDEX GEOLOGY NO.: 83-26942
TITLE: Bajocian ammonoid fauna of Tethyan affinities from the Kambe Limestone Series of Kenya and implication to plate tectonics
AUTHOR(S): Westermann, G. E. G.
CORPORATE SOURCE: McMaster Univ., Dep. Geol., Hamilton, ON, Canada
SOURCE: Newsletters on Stratigraphy vol. 4 no. 1 p. 23-48
DATE: 1975
COUNTRY OF PUBLICATION: International
CODEN: NLSGAO ISSN: 0078-0421 REFS.: 52
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Analytic
ILLUSTRATIONS: illus.; 1 table; 2 plates; strat. col.; geol. sketch maps
LANGUAGE: English SUMMARY LANGUAGE: German
COORDINATES: Latitude: S055500 ; S041000; Longitude: E0394000 ; E0395000
MAJOR DESCRIPTORS: *Kenya; *mollusks
DESCRIPTORS: stratigraphy; Jurassic; ammonoids; East Africa; Africa; biostratigraphy; Tethys; Kambe Limestone Series; lithostratigraphy; deep-sea environment; Bositra buchi facies; Bajocian; Middle Jurassic; Mombasa; Bathonian; Mwachi Valley
SECTION HEADINGS: 12 (Stratigraphy, Historical Geology)

00785766 GEOREF NO.: 76-16352
TITLE: Untersuchungen zur Morphodynamik tropisch-subtropischer Kuesten; II. Beobachtungen zum Problem des Saumriffs und des Aeolianits an der Kueste von Kenia
TRANSLATED TITLE: Investigations of the morphodynamics of tropical and subtropical coasts; II, The fringing reefs and eolian deposits on the Kenya coast
AUTHOR(S): Magdefrau, G.
SOURCE: Wuerzburg. Geogr. Arb. no. 43 Dynamische Geomorphologie p. 25-35
DATE: 1975
CODEN: WBGAA9
SUBFILE: B
DOCUMENT TYPE: Serial BIBLIOGRAPHIC LEVEL: Analytic
ILLUSTRATIONS: geol. sketch map
LANGUAGE: German SUMMARY LANGUAGE: English; French
MAJOR DESCRIPTORS: *Kenya; *geomorphology; *reefs; *changes of level; *paleoecology
DESCRIPTORS: shore features; southeast; coastal; Malindi; eolian features; evolution; Pleistocene; Africa; Coelenterata; corals; fringing reefs; distribution; indicators; climate; tropical
SECTION HEADINGS: 23 (Surficial Geology, Geomorphology)

00737793 GEOREF NO.: 75-07551
TITLE: Das Mineral Kornerupin unter besonderer Beruecksichtigung eines neuen Vorkommens im Kwale Distrikt, Kenya
TRANSLATED TITLE: The mineral kornerupine, with particular consideration of a new occurrence from the Kwale District, Kenya
AUTHOR(S): Schmetzer, K.; Medenbach, O.; Krupp, H.
SOURCE: Dtsch. Gemmol. Ges., Z. Vol. 23, No. 4, p. 258-278 (incl. Engl. sum.), illus. (incl. sketch map)
DATE: 1974
CODEN: ZDGGB7
SUBFILE: B
DOCUMENT TYPE: Serial
JOURNAL ANNOUNCEMENT: 1975
LANGUAGE: German
MAJOR DESCRIPTORS: *Minerals; *Kenya
DESCRIPTORS: Orthosilicates; Kornerupine; occurrence; paragenesis; quality; optical properties; crystal structure; physical properties; gems; color; spectroscopy; Africa; Mineralogy; Kwale
SECTION HEADINGS: 13 (Areal Geology, General)

00736897 GEOREF NO.: 75-06636
TITLE: Chrom-Diopsid aus Kenya
TRANSLATED TITLE: Chrome-diopside from Kenya
AUTHOR(S): Schmetzer, K.; Medenbach, O.
SOURCE: Dtsch. Gemmol. Ges., Z. Vol. 23, No. 3, p. 178-179, illus.
DATE: 1974
CODEN: ZDGGB7
SUBFILE: B
DOCUMENT TYPE: Serial
JOURNAL ANNOUNCEMENT: 1975
LANGUAGE: German
MAJOR DESCRIPTORS: *Minerals; *Kenya
DESCRIPTORS: Chain silicates; pyroxene group; Diopside; chrome-diopside; spectroscopy; absorption; gems; Africa; Mineralogy; Kwale
SECTION HEADINGS: 13 (Areal Geology, General)

00553543 GEOREF NO.: 70-21068
TITLE: Le quaternaire du littoral kenyan entre Mombasa et Malindi
TRANSLATED TITLE: Quaternary of the Kenyan coast between Mombasa and Malindi
AUTHOR(S): Battistini, Rene.
SOURCE: Ass. Fr. Etude Quaternaire, Bull. Vol. 6, No. 3 (20), p. 229-238 (incl. Engl. sum.), illus. (incl. geol. sketch map)
DATE: 1969
SUBFILE: B
DOCUMENT TYPE: Serial
JOURNAL ANNOUNCEMENT: 1970
LANGUAGE: French
NOTE: Pleistocene, two marine transgressions, Tatsimian barrier reef, Karimbolian fringing reefs, dunes, and benches, pre-Karimbolian uplift
MAJOR DESCRIPTORS: *Kenya; *Quaternary; *Shorelines
DESCRIPTORS: Stratigraphy; coast; Mombasa; Malindi
SECTION HEADINGS: 12 (Stratigraphy, Historical Geology)
?T 17/5/51-66

00555679 GEOREF NO.: 70-23204
TITLE: Some Miocene Cidaridae (Echinoidea) from Kenya
AUTHOR(S): Stephenson, D. G.
SOURCE: J. Natur. Hist. Vol. 2, No. 4, p. 553-568, illus.
DATE: 1968
SUBFILE: B
DOCUMENT TYPE: Serial
JOURNAL ANNOUNCEMENT: 1970
LANGUAGE: Unspecified (U)
NOTE: Systematic descriptions, Prionocidaris praeverticillata n. sp., P. malindiensis n. sp., Phyllacanthus opiparus, P. aff. dubius, Kilifi district
MAJOR DESCRIPTORS: *Kenya; *Echinoidea; *Tertiary
DESCRIPTORS: Paleontology; Miocene; Kilifi; Cidaridae; Prionocidaris malindiensis; new species; Phyllacanthus dubius; Prionocidaris praeverticillata; Phyllacanthus opiparus
SECTION HEADINGS: 10 (Paleontology, Invertebrate)

00547320 GEOREF NO.: 70-14841
TITLE: Manganese occurrences in the vicinity of Kiwara, coast province, Kenya
AUTHOR(S): Mason, J. E.
SOURCE: Kenya, Mines Geol. Dep., Inform. Circ. No. 5, 15 p., illus. (incl. sketch maps)
DATE: 1968
SUBFILE: B
DOCUMENT TYPE: Serial
JOURNAL ANNOUNCEMENT: 1970
LANGUAGE: English
NOTE: Low-grade deposits, reserves, upper Karroo system
MAJOR DESCRIPTORS: *Kenya; *Manganese; *Mineral deposits; *genesis
DESCRIPTORS: Economic geology; Kiwara; reserves; Paleozoic; Karroo formation
SECTION HEADINGS: 26 (Economic Geology, General & Mining)

00408443 GEOREF NO.: 65-04735-E
TITLE: Fossil burrows on the coast of Kenya
AUTHOR(S): Stephenson, D. G.
SOURCE: Nature v. 207, no. 4999, p. 850-851, illus.
DATE: 1965
SUBFILE: E
JOURNAL ANNOUNCEMENT: 1965
LANGUAGE: English
ABSTRACT: Burrows exposed as grooves on weathered vertical faces of limestone resembling Pleistocene coquinas described in a report on the geology of the Malindi area, Kenya are similar to the deep burrows dug during neap tides on present-day beaches of the area by the ghost crab Ocypode kuhli, lending support to the proposed origin of the coquinas as offshore bars on which dunes developed.
MAJOR DESCRIPTORS: *Kenya; *Paleontology; *Tracks and trails
DESCRIPTORS: Burrows; Malindi area; Pleistocene; Quaternary; Pleistocene burrows

00381726 GEOREF NO.: 63-05444-E
TITLE: Geology of the Hadu-Fundi Isa area, north of Malindi; degree sheets 61, S.E. quarter and 62, S. W. quarter
AUTHOR(S): Williams, L. A. J.
SOURCE: Kenya, Geol. Surv., Rept. no. 52, 62 pp., illus. (incl. col. g. maps 1:125,000)
DATE: 1962
SUBFILE: E
JOURNAL ANNOUNCEMENT: 1963
LANGUAGE: English
ABSTRACT: ''With the exception of two small occurrences of basic igneous rocks, the geological succession embraces only poorly exposed sediments,which range in age from Triassic to Recent. The oldest beds, comprising continental and lacustrine deposits, are correlated with middle and upper members of the Duruma formation of the southern part of the coast, while later formations include marine upper Jurassic rocks, richly fossiliferous lower Miocene littoral deposits and a variety of Quaternary sediments.''
MAJOR DESCRIPTORS: *Geologic maps; *Kenya; *Jurassic; *Mineral resources (general); *Quaternary; *Tertiary; *Triassic; *Water supply
DESCRIPTORS: Hadu-Fundi Isa area; Areal geology

00377685 GEOREF NO.: 63-01403-E
TITLE: Geology and asbestos deposits of the Taita hills, Kenya
AUTHOR(S): Farquhar, Oswald Cornell
SOURCE: Kenya, Geol. Surv., Mem. no. 2, 110 pp., illus. (incl. col. g. map)
DATE: 1960
SUBFILE: E
JOURNAL ANNOUNCEMENT: 1963
LANGUAGE: English
ABSTRACT: Four lithologic units are represented in the Taita hills--Archean basement rocks; an intrusive ultramafic suite consisting of subconcordant sills and sheets whose centers have been altered to serpentinites and the margins to zoned magnesian schists; younger pegmatites; and minor Quaternary deposits. Origin of the asbestos associated with the serpentinites is attributed to local stress conditions during transformation of peridotite into serpentinite. A description of the Makinyambu asbestos mine, by L. D. Sanders, is appended.
MAJOR DESCRIPTORS: *Asbestos; *Kenya; *Geologic maps; *Metamorphic rocks; *Mineral deposits; *origin; *Petrogenesis; *Precambrian
DESCRIPTORS: Taita hills; Makinyambu asbestos mine area; Areal geology; Economic geology

00368969 GEOREF NO.: 62-05853-E
TITLE: Geology of the area south of the Taita hills; degree sheet 65, S.W. quarter and parts of degree sheet 65, N.W. quarter and degree sheet 68, N.W. quarter
AUTHOR(S): Walsh, J.
SOURCE: Kenya, Geol. Surv., Rept. no. 49, 26 pp., illus. (incl. col. g. map 1:125,000)
DATE: 1960
SUBFILE: E
JOURNAL ANNOUNCEMENT: 1962
LANGUAGE: English
ABSTRACT: For the most part the area south of the Taita hills is covered by Pleistocene and Recent deposits, mainly sandy soils and secondary surface limestones (kunkar). Mapping of outcrops in isolated hills has shown that bedrock comprises metamorphosed basement rocks, mainly paragneisses derived from psammites, widely developed crystalline limestones, and locally developed graphitic rocks. In the southeast the basement is intruded by a major metadoleritic mass. The petrography of the various basement rock types, data on the metamorphism, granitization, and structure of the basement, and the economic possibilities of the area are summarized.
MAJOR DESCRIPTORS: *Geologic maps; *Kenya; *Metamorphic rocks; *Mineral resources (general)
DESCRIPTORS: Taita hills area; south; Areal geology

00344114 GEOREF NO.: 60-05011-E
TITLE: A study of the movement of groundwater in lava-covered country
AUTHOR(S): Temperley, Bernard Nicholas
SOURCE: Overseas Geol. & Min. Res. v. 8, no. 1, p. 37-52, illus. (incl. g. sk. maps)
DATE: 1960
SUBFILE: E
JOURNAL ANNOUNCEMENT: 1960
LANGUAGE: English
ABSTRACT: ''The main features are described of the Chyulu composite and multiple basaltic volcano that lies in south-eastern Kenya, 40 miles north-east of Kilimanjaro, and deductions are drawn regarding the form and size of the groundwater reservoir within the volcano from which Mombsa is now supplied via the Mzima springs. The almost complete canalisation of the overflow of this groundwater reservoir into the Mzima locality is attributed to the configuration of the land surface buried beneath the volcanic rocks. The absence of seasonal variation in the discharge of Mzima springs is believed to be due mainly to the restraining action of intersecting dykes within the cone belt. Relationships observed between rainfall records and long- term variations in the discharge of small springs at the north-eastern fringe of the lava field are discussed, variations being attributed to crustal tilting rather than to climatic change.''
MAJOR DESCRIPTORS: *Ground water; *Kenya
DESCRIPTORS: Mombasa area; lava terrain; Water; ground and surface

00339958 GEOREF NO.: 60-00855-E
TITLE: The Mrima Hill carbonatite, Coast province, Kenya (with discussion)
AUTHOR(S): Coetzee, G. L.; Edwards, C. B.
SOURCE: Geol. Soc. S. Africa, Tr. v. 62, p. 373-397, illus. (incl. g. map 1:12,000)
DATE: 1959
SUBFILE: E
JOURNAL ANNOUNCEMENT: 1960
LANGUAGE: English
ABSTRACT: ''Mrima hill represents the carbonatite facies of a post-Karroo alkaline province on the Kenya coast. Four different types of carbonatite which occur at Mrima are described and some partial analyses of these rocks are given. The geology and mineralogy of a large body of limonitic and kaolinitic rocks is described. These rocks are believed to be weathered derivatives of carbonatites, non-calcareous igneous rocks and fenitised sediments. One chemical analysis and some physical data are quoted for gorceisxite, a phosphate mineral prominent in the weathered rocks. . . . Niobium-rich weathered rocks are considered to present a special example of the formation of a mineral occurrence by residual concentration through chemical weathering.''
MAJOR DESCRIPTORS: *Geologic maps; *Kenya; *Petrology (general); *Rock descriptions
DESCRIPTORS: Mrima hill area; Petrology; Carbonatite; Mrima hill; Carbonatites

00293543 GEOREF NO.: 58-01547-E
TITLE: Silica bands and serpentinite in the Taita hills, Kenya (abs.)
AUTHOR(S): Farquhar, Oswald Cornell
SOURCE: Geol. Soc. Am., B. v. 69, no. 12, pt. 2, p. 1562-1563
DATE: 1958
SUBFILE: E
DOCUMENT TYPE: Abstract
JOURNAL ANNOUNCEMENT: 1958
LANGUAGE: English
MAJOR DESCRIPTORS: *Kenya; *Metamorphic rocks; *Silicification
DESCRIPTORS: Silica bands-serpentinite; Taita hills; silica bands-serpentinites

00291367 GEOREF NO.: 57-05333-E
TITLE: Geology of the Malindi area; explanation of degree sheets 66 N.E. quarter and 67 N.W. quarter
AUTHOR(S): Thompson, A. O.
SOURCE: Kenya, Geol. Surv., Rept. no. 36, 63 pp., illus. (incl. col. g. map 1:125,000)
DATE: 1956
SUBFILE: E
JOURNAL ANNOUNCEMENT: 1957
LANGUAGE: English
ABSTRACT: The Malindi area, southeastern Kenya, consists topographically of a coastal plain bounded on the west by a plateau region that grades into a discontinuous range of hills. The principal rocks are Triassic sandstones and siltstones, Jurassic shales and limestones, and Miocene to Recent sands and clays. Igneous dikes of probable upper Miocene or lower Pliocene age have been identified as basanite and olivine nephelinite. The lead ore of the Vitengeni mine (now shut down) is a hypogene deposit of hydrothermal origin in the Triassic sediments. Other possible economic materials are cinnabar, gypsum, black sands, and building stone. Stratigraphic data are given in detail, and the structure and geologic history of the area are discussed.
MAJOR DESCRIPTORS: *Geologic maps; *Kenya; *Jurassic; *Lead; *Mineral resources (general); *Quaternary; *Tertiary; *Triassic
DESCRIPTORS: Malindi area; Areas described

00290232 GEOREF NO.: 57-04198-E
TITLE: Manganese deposits in Kenya
AUTHOR(S): Pulfrey, William
SOURCE: Int. Geol. Cong., 20th, Manganeso, Symp. t. 2, p. 197-203, sk. map
DATE: 1956
SUBFILE: E
JOURNAL ANNOUNCEMENT: 1957
LANGUAGE: Unspecified (U)
ABSTRACT: Only three manganese deposits of possible economic interest have been discovered in Kenya. The ore of the Gilgil deposit consists of pyrolusite with some psilomelane and possibly some manganite, impregnating Pleistocene diatomite; its origin may be due to the activity of hot springs. In the Chonyi district west of Kilifi, the ore caps Kiwara hill and a smaller hill to the southeast, and is considered to be residual. At Mrima hill, the ore occurs as residual boulders in ferruginous and aluminous earth, and overlies rocks containing niobium minerals and monazite.
MAJOR DESCRIPTORS: *Kenya; *Manganese; *Mineral deposits; *origin
DESCRIPTORS: Economic geology

00280219 GEOREF NO.: 56-01024-E
TITLE: Geology of the Kilifi-Mazeras area, degree sheet 66, S. E. quarter
AUTHOR(S): Caswell, P. V.
SOURCE: Kenya, Geol. Surv., Rept. no. 34, 54 pp., illus. (incl. col. g. map 1:125,000)
DATE: 1956
SUBFILE: E
JOURNAL ANNOUNCEMENT: 1956
LANGUAGE: English
ABSTRACT: The Kilifi Mazeras area, Kenya, is composed essentially of a thick sequence of Triassic Duruma sandstones in the west, Tertiary and younger deposits in the east, and an intervening plateau of Jurassic shales and limestones. Deposition of most of the sediments is considered to have taken place along the margin of a relatively stable trough, under conditions which were not suitable for the development of coal beds. Three periods of faulting are postulated. Evidence for mid-Pliocene faulting is fairly conclusive, but is less so for the earlier periods. The known mineralization of the coastal zone (manganese, lead, zinc) is apparently related to the older faulting and by its distribution indicates two phases of dislocation.
MAJOR DESCRIPTORS: *Faulting; *Kenya; *Geologic maps; *Jurassic; *Mineral resources (general); *Quaternary; *Tertiary; *Triassic; *Water supply
DESCRIPTORS: Kilifi-Mazeras area; Areas described

00279599 GEOREF NO.: 56-00404-E
TITLE: Geology of the Taveta area
AUTHOR(S): Bear, L. M.
SOURCE: Kenya, Geol. Surv., Rept. no. 32, 48 pp., illus. (incl. col. g. map 1:125,000)
DATE: 1955
SUBFILE: E
JOURNAL ANNOUNCEMENT: 1956
LANGUAGE: English
ABSTRACT: The rocks of the Taveta area, Taita district, southeastern Kenya, consist of basement gneisses, with intermediate and basic intrusions, Tertiary lavas, comprising olivine basalts and olivine soda-trachytes, and Pleistocene and Recent calcareous tuffaceous grits. Petrography, granitization, and metamorphism are discussed. Kyanite is mined in the area, at Murka, and a new kyanite locality south of Longalonga, also containing sillimanite and garnet, was discovered during mapping.
MAJOR DESCRIPTORS: *Geologic maps; *Kenya; *Igneous rocks; *Metamorphic rocks; *Mineral resources (general); *Tertiary
DESCRIPTORS: Taveta area; Taita district; Areas described

00262295 GEOREF NO.: 53-00812-E
TITLE: Geology of the Mombasa-Kwale area, degree sheet 69
AUTHOR(S): Caswell, P. V.
SOURCE: Kenya, Geol. Surv., Rept. no. 24, 69 pp., illus. (incl. col. g. map 1:25,000, under separate cover)
DATE: 1953
SUBFILE: E
JOURNAL ANNOUNCEMENT: 1953
LANGUAGE: English
ABSTRACT: A report on the results of geologic reconnaissance in the Mombasa-Kwale area, Kenya; a chapter on the petrology of the Jombo hill complex, by B. H. Baker, is included. The area is composed of Permo-Carboniferous to Recent sedimentary formations and an alkaline intrusion (Jombo hill). Minerals of economic importance occur at several localities. It is possible that lead-zinc-barite lodes are present at depth below the manganese laterite capping one of the satellite masses of the Jombo hill complex. The prospect of locating workable coal seams in Karroo rocks is considered unlikely. Upper Duruma (Permo-Triassic) sandstones are the most promising source of additional water supply.
MAJOR DESCRIPTORS: *Geologic maps; *Kenya; *Intrusions; *Mineral resources (general); *Rock descriptions; *Water supply
DESCRIPTORS: Mombasa-Kwale area; Jombo hill; Areas described; Alkaline rocks; Jombo hlll complex

00264634 GEOREF NO.: 53-03151-E
TITLE: Geology of the Mariakani-Mackinnon road area, degree sheet 66, S. W. quadrant
AUTHOR(S): Miller, J. M.
SOURCE: Kenya, Geol. Surv., Rept. no. 20, 32 pp., illus. (incl. col. g. map 1:125,000)
DATE: 1952
SUBFILE: E
JOURNAL ANNOUNCEMENT: 1953
LANGUAGE: English
ABSTRACT: The Mariakani- Mackinnon road area near Mombasa, Kenya, is composed of members of the Duruma sandstone series (Permo-Triassic) underlain by Precambrian gneisses and schists. The sandstone series is correlated on lithologic and paleontologic bases with the Sakamena and Isalo series of Madagascar and Karroo formations of Africa. The possible occurrence of coal is discussed, and records of borings are included.
MAJOR DESCRIPTORS: *Borings; *Kenya; *Coal; *Correlation tables; *Geologic maps; *Permian; *Precambrian; *Triassic
DESCRIPTORS: Mariakani-Mackinnon region; Areas described; Mariakani-Makinnon region; Mariakani- Macklnnon region

00201870 GEOREF NO.: 39-22535-E
TITLE: On certain aspects of the physiography of the coast ranges of Kenya Colony, near Mombasa
AUTHOR(S): Busk, Henry Gould
SOURCE: Geol. Mag. no. 900, v. 76, no. 6, p. 222-224, 1 fig., Jun
DATE: 1939
SUBFILE: E
JOURNAL ANNOUNCEMENT: 1939
LANGUAGE: English
MAJOR DESCRIPTORS: *Kenya Colony
DESCRIPTORS: Physiographic geology; Coast ranges; Mombasa region

00184208 GEOREF NO.: 35-02389-E
TITLE: Zur Kenntnis des Jura von Mombasa (British-Ostafrika)
AUTHOR(S): Mayer-Guerr, Alfred
SOURCE: Zentr. Miner. Abt. B no. 10, p. 387-399, 1 fig.
DATE: 1935
SUBFILE: E
JOURNAL ANNOUNCEMENT: 1935
LANGUAGE: German
ABSTRACT: Subdivides the Jurassic deposits of Mombasa, Kenya Colony, into horizons and describes fossils which determine these horizons.
MAJOR DESCRIPTORS: *Cephalopoda; *Kenya Colony; *Jurassic; *Paleontology
DESCRIPTORS: Mombasa; Historical geology

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TECHNICAL ARCHIVES OF MINES AND GEOLOGICAL DEPARTMENT, NAIROBI, KENYA

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Number	Page	Title
1	1	Note on the probable water supply of the Likoni-Matuga areas South coast province by P.V. Caswell 1950.
2	1	The port Reitz Brickyard by P.V. Caswell 1953.
3	1	Notes on examination of Mrima manganese samples for barium and lead by William Pulfrey, 1948.
4	1	Boreholes at Kilindini by P.V. Caswell 1952.
5	1	Radioactive hazards by D. Hobden. 1954.
	10	Radiation hazards at Mrima by F.W. Biuge 1955.
6	1	Prospecting at Mrima hill and Vitengeni by William Pulfrey, 1942.
7	1	Notes on examination of Mrima manganese samples for barium and lead by William Pulfrey, 1948.
8	1	A trip to Mombasa by F.M. Clyers.
9	1	Report on an attempt to locate an alleged accurate of manganese near Kwale by William Pulfrey 1942.
10	1	Report on Radioactive specimens from Mrima by William Pulfrey, 1952.
	2	Report on a reconnaissance in the area of Mrima and Kiruku hills Kwale District, with a Gelger-Mueller counter by B.H. Baker, 1951.
11	1	Rare earths by D. Havesson 1953.
12	1	Visit to Mrima hill and hot springs by S. Dodhia 1972.
13	1	Manganese-Mrima hill, coast Province note covering Mr. Yates report by C. Standfield Hitchen 1943.
	3	Report on Mrima manganese deposit on Mrima moisture, Digo by H. Wiyates.
	4	Report on Mrima Manganese deposit on Mrima moisture, Digo by H. Wiyates.
14	1	Mrima T. Deans, 1954.
15	1	Notes on Mrima. Notes on a deposit of niobium and rare earths at Mrima, coast Province, Kenya, East

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		Africa by F. W. Binge, 1954.
16	1	Mrima hill pyrochlore deposit Anglo American prospecting (Africa) limited, (Author N.K. Kinkead Weekes)
	6	Mrima hill expenditure geological department Angle American prospecting (African) Ltd., 1956.
17	1	Geological data on the changamwe shales by William Pulfrey.
18	1	Brief geological report on the area to the South of Port reitz.
19	1	Test drilling in sandstone and availability of Water 1960.
	3	Water samples 1960.
20	1	The extraction of niobium from the Mrima hill deposit.
21	1	The extraction of niobium from the Mrima hill deposit.
22	1	The extraction of niobium from the Mrima hill deposit.
23	1	The extraction of niobium from the Mrima hill deposit.
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26	1	The extraction of niobium from the Mrima hill deposit.
27	1	The extraction of niobium from the Mrima hill deposit.
28	1	The extraction of niobium from the Mrima hill deposit.
29	1	The extraction of niobium from the Mrima hill diposit.

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Number	Page	Title
30	1	Some new section in the cenozoic and older strata. South of Mombasa by T.P. Rainey 1973.
31	1	A visit to E.A. Dil Refinery by R.R. Kamundia 1973.
32	1	Mrima hill by W. D. Haverson 1957.
	2	Mrima hill investigation by W.D. Haverson 1957.
	3	Mineral in the Mombasa-Kwale area by William Pulfrey 1953.
33	1	Coast Province Application for Gypsum concession adjoining the report Reitz Aerodrome 1952.
34	1	Results of the Joint Exploration project in Kwale District by T.P. Rainey.
35	1	Galena/Babytes occurence at Mwereni Kwale district Clarke, 1969.
	9	Drainage reconnissance for base metals in Kwale Musamweni Jitendra Patel 1967.
36	1	The extraction of niobium from the Mrima hill deposit.
37	1	Summary report on the Mrima hill investigation.
38	1	Summary report on the Mrima hill investigation.
39	1	Summary report on the Mrima hill investigation.
40	1	Summary report on the Mrima hill investigation.
41	1	The Extraction of niobium from the Mrima hill deposit.
42	1	The extraction of niobium from the Mrima hill deposit.
43	1	Mrima hill niobium recovery.
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	16	Application for financial assistance-Makinyambu asbestos mines Ltd.by G.M. Pain
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Number	Page	Title
	66	Ore treatment experiment makinyambu asbestos.
76	1	Kenya Kyanite reserves by Dan K. Hamilton 1951.
77	1	The Murka Kyanite mino Kenya, East Africa.
78	1	Rapid development of Kenya's kyanite industry by E. R. Varley.
79	1	Copy of a report on East African Minerals (Graphite) limited, Mwatate, Kenya by M.C. Gregosius.
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82		Copy of report on East African minerals (Graphite) limited, Mwatate, Kenya by M.C. Gregorius.
83		Reconnassance Geochemical survey nickel and copper (August-Nov. 1970) by A. M. Ngumi.
84	1	Upon a visit to Tsavo and the Taita Highlands. C.W. Hobley, 1895.
85		Geology of the Taita hills (sheet 189/4) kenya Ausrtal mineral exploraton 1976 project.
86		The Wanjala Manganetite prospecte Kenya Austral mineral exproration project, 1977.
87		Murka Kyanite Project, Kenya Austral mineral exproeation project.
88		Green vanadium grossular garnet from Lualenyi near Voi, Kenya by Gubolin, 1975.

SB-37-3 Mombasa
Geology

Number	Title
GL/1	Figs 1,2,3,7,10,11,12,13,14,15 Geology Mombasa Kwale area.
GL/2	Figs 6,8,15 Geology Mombasa Kwale area.
GL/3	Figs 9 Geology Mombasa Kwale area.
GL/4	Specimen locality Map Mombasa Kwale.
GL/5	Field sheet Mombasa Kwale area.
GL/6	Field sheet Mombasa Kwale area.
GL/7	Geological Map of The Mombasa Kwale area.
GL/8	Geological Map of The Mombasa Kwale area.
GL/9	Geological Map of The Mombasa Kwale area.
GL/10	Figs 1,2,4,6 and 7 Mrima hill niobium deposit.
GL/11	Fig.3 Mrima hill niobium deposit.
GL/12	Fig.5 I Mrima hill niobium deposit.
GL/13	Fig.5 II Mrima hill niobium deposit.
GL/14	Fig.5 III Mrima hill niobium deposit.
GL/15	Mrima hill assay plans & bench plans high value area Jsorad Map.
GL/16	Jsorad values & niobium values.
GL/17	Assay values niobium.
GL/18	Mrima hill sections.
GL/19	Mrima sketch plans & sections.
GL/20	Block assay values.
GL/21	Idealised composite plan of carbonatite.
GL/22	Mrima hill Boreholes values 1961 Re assay.
GL/23	Sections along lines.
GL/24	Nb205 assays in boreholes and datum heights.
GL/25	Mrima Sample variation charty

Number	Title
GL/26	Assay values.
GL/27	Calculations of values & ore reserves.
GL/28	Assay values
GL/29	Niobium assay & brock values.
GL/30	Traverse cut & sample pits niobium block values.
GL/31	Niobium values.
GL/32	Niobium values.
GL/33	Niobium values.
GL/34	Niobium values.
GL/35	Niobium values.
GL/36	Assay values.
GL/37	General geological plan Mrima hill.
GL/38	Field Map surface geology & topography.
GL/39	Mrima specimen locality Map.
GL/40	Soil Types & sample depths in pits.
GL/41	North-Western outcrop of carbonatite & shafy and aditin high values area.
GL/42	Field sheet of S. Western outcrop carbonate.
GL/43	Field sheet of Northren carbonatite outcrop.
GL/44	Topography of area of high grade Mrima hill.
GL/45	Plan of 500'level high grade area Mrima hill.
GL/46	Plan of 550'level high grade area Mrima hill.
GL/47	Plan of 600'level figh grade area Mrima hill.
GL/48	Plan of 650'level high grade area Mrima hill.
GL/49	Plan of 700'level high grade area Mrima hill.
GL/50	Plan of Mrima hill Manganese deposit.
GL/51	Plan of Mrima hill Manganese deposit.

Number	Title
GL/52	Sketch showing samples of ore at Mrima hill S.M. Syndicate Ltd.
GL/53	Kisauni beach-Mombasa Mainland.
GL/54	Jombo-Dzirihini Geological Map.
GL/55	Geology of the Dzirihini Structure.
GL/56	Geology of the Dzirihini Structure.
GL/57	Geology of Jombo hill area.
GL/58	Geology of Jombo hill area.
GL/59	Reconnaissance soil map of the Lungalunga area.
GL/60	Geology of Mombasa Kwale area.
GL/61	Reconnaissance soil Map of the Kwale Mombasa area.
GL/62	Geology and mineral localities between Kwale and Mazeras.
GL/63	Geology and mineral localities between Kwale and Mazeras.
GL/64	Fig. 2 Jombo-Dzirihini Kimberlite pipe Locality Map.
GL/65	Prospecting plan Mrima hill.
GL/66	Map of The Kwale area.
GL/67	Anomaly I Fig 7.
GL/68	Anomaly C Fig 7.
GL/69	Anomaly E Fig 7.
GL/70	Anomaly G Fig 8.
GL/71	Anomaly L Fig 7.
GL/72	Anomaly Q Fig 8.
GL/73	Anomaly F Fig 7.
GL/74	Anomaly S Fig S/7.
GL/75	Kaolin localities in Kenya.
GL/76	Limestone in Kenya.

SB-37-3, Mombasa
Geochemistry

Number	Title
GC/1	Position of samples Based on H.W.
GC/2	Geochemical reaction for lead.
GC/3	Soil geochemistry of Jombo hill (Mn,Zn,Cu,Ba,Pb).
GC/4	Soil geochemistry of Jombe hill (sample locality Map).
GC/5	Soil geochemistry of The Dzirihini structure (sample locality Map).
GC/6	Soil geochemistry of Jombo hill (barium).
GC/7	Soil geochemistry of Jombo hill (copper).
GC/8	Soil geochemistry of Jombo hill (lead).
GC/9	Soil geochemistry of Jombo hill (manganese).
GC/10	Soil geochemistry of Jombo hill (zinc).
GC/11	Soil geochemistry of the Dzirihini structure (barium).
GC/12	Soil geochemistry of the Dzirihini structure (copper).
GC/13	Soil geochemistry of the Dzirihini structure (lead).
GC/14	Soil geochemistry of the Dzirihini structure (manganese).
GC/15	Soil geochemistry of the Dzirihini structure (zinc).
GC/16	Soil geochemistry of the Dzirihini structure.
GC/17	Figs 7aI,II; 7bI,II; 7cI,II; 7dI,II; Histogram for Ba,Cu, Pb, Mn,Zn,-Jombo-Dzirihini.
GC/18	Geology and geochemistry in lutsongani and Maicuganyi forests.
GC/19	Fig.1 locality Map Mrima hill.
GC/20	Figs 1,2,2a,7,9 & 11 geochemistry soil survey of Mrima hill for base metals.
GC/21	Fig.3 block diagram Mrima hill, Kenya.
GC/22	Fig.4 geological plan.
GC/23	Fig.5 self potential Anomalies.
GC/24	Fig.6 geochemistry soil survey copper.

SB-37-3, Mombasa
Geochemistry

Number	Title
GC/25	Fig.8 geochemistry soil survey lead
GC/26	Fig.10 geochemistry soil survey zinc.
GC/27	Fig.12 sample locality map.
GC/28	Fig.13 stream & soil geochemistry Chasimba.
GC/29	Fig.14 anomaly (F) histograms Pb,Ba,Cu,Zn.
GC/30	Fig.15 anomaly (F) lead contours.
GC/31	Fig.16 anomaly (F) value of lead.
GC/32	Fig.4 anomaly (F) zinc contous.
GC/33	Fig.4a anomaly (F) values of zinc.
GC/34	Fig.5a anomaly (F) zinc contous.
GC/35	Fig.3 anomaly (F) copper.
GC/36	Fig.2a anomaly (F) barite.
GC/37	Fig.2 anomaly (F) Barium.
GC/38	Fig.11a anomaly (F) values of zinc.
GC/39	Fig.1 anomaly (F) locality Map.
GC/40	Fig.S/2 anomaly (S) barium.
GC/41	Fig.S/3 anomaly (S) copper.
GC/42	Fig.S/4 anomaly (S) zinc contous.
GC/43	Fig.S/5 anomaly (S) lead contous.
GC/44	Fig.S/6 anomaly (S) histogram.
GC/45	Fig.E/1 anomaly (S) locality Map.
GC/46	Fig.E/3 anomaly (S) copper contous
GC/47	Fig.E/4 anomaly (E) zinc contous.
GC/48	Fig.E/5 anomaly (E) lead contous.
GC/49	Fig.E/6 anomaly (E) histogram.
GC/50	Fig.I/1 anomaly (I) locality map.

Number	Title
GC/51	Fig.I/2a anomaly (I)values.
GC/52	Fig.I/2b anomaly (I) values.
GC/53	Fig.I/2c anomaly (I) values.
GC/54	Fig.I/2e anomaly (I) values.
GC/55	Fig.I/2d anomaly (I) lead values.
GC/56	Fig.I/3A anomaly (I) barium.
GC/57	Fig.I/4 anomaly (I) zinc.
GC/58	Fig.I/5 anomaly (I) lead contous.
GC/59	Fig.I/6 anomaly (I) histogram.
GC/60	Fig.R/1 anomaly (R) locality Map.
GC/61	Fig.R/2 anomaly (R) barium.
GC/62	Fig.R/3 anomaly (R) copper.
GC/63	
GC/64	
GC/65	
GC/66	Fig.C/I anomaly (C) locarity Map.
GC/67	Fig.C/2a anomaly (C) barium.
GC/68	Fig.C/2b anomaly (C) copper in ppm.
GC/69	Fig.C/2c anomaly (C) copper in ppm.
GC/70	Fig.C/5 anomaly (C) lead contous.
GC/71	Fig.C/4 anomaly (C) zinc contous.
GC/72	Fig.C/3 anomaly (C) baraite contous.
GC/73	Fig.C/2a anomaly (C) lead contous.
GC/74	Fig.C/6 anomaly (C) histogram.
GC/75	Fig.Q/1 anomaly (Q) zinc.
GC/76	Fig.Q/4 anomaly (Q) histogram.

Number	Title
GC/77	Fig.Q/5 anomaly (Q) lead contous.
GC/78	Fig.Q/4 anomaly (Q) zinc contous.
GC/79	Fig.Q/3 anomaly (Q) copper
GC/80	Fig.Q/2 anomaly (Q) barium.
GC/81	Fig.Q/1 anomaly (Q) locarity Map
GC/82	Fig.Q/7 anomaly (Q) horizanttes.
GC/83	Fig.G/7 anomaly (G) horizanttes.
GC/84	Fig.G/6 anomaly (G) horizanttes.
GC/85	Fig.G/6 anomaly (G) histogram.
GC/86	Fig.G/5 anomaly (G) lead contous.
GC/87	Fig.G/4 anomaly (G) zinc contous.
GC/88	Fig.G/3 anomaly (G) copper contous.
GC/89	Fig.G/2 anomaly (G) barium
GC/90	Fig.G/1 anomaly (G) localityt Map.
GC/91	Fig.G/7 anomaly (G) horizanttes.

Number	Title
GP/1	Radiometric Anomalies and background
GP/2	Radiometric Anomalies and background
GP/3	Radiometric Anomalies and background
GP/4	Radiometric Anomalies and background
GP/5	Radiometric Anomalies and background
GP/6	Radiometric Anomalies and background
GP/7	Radiometric Anomalies and background
GP/8	Self-potencial anomalies and tranverse resistivity tests and Boreholes sites
GP/9	Self potencial anomalies and tranverse resistivity tests & boreholls sites
GP/10	Geological anomalies 1952 by Thomson (Mrima hill)
GP/11	Self potential resistivity tests and borehole sites
GP/12	Isorads Indicating areas of relative values in thorium in rare earths on surface (Mrima)
GP/13	isorad values above fivetimes above background (Mrima hill
GP/14	Isorad values above five times above background (Mrima hill)
GP/15	Hobdens Geiger values in terms of backgroung at Kikomen R.H. (Mrima hill)
GP/16	Hobdens Geiger values in terms of backgroung at Kikomen R.H. (Mrima hill)
GP/17	Radiometric anomalies (Gulanzi area)
GP/18	Fig.4 magnetic survey Dzirihini structure anomaly curves and topographical section along the profiles.
GP/19	Fig.4 magnetic survey Dzirihini structure anomaly curves and topographical sections along the profile.
GP/20	Magnetic survey Dzirihini structure.
GP/21	V.L.F./E.M. Mrima hill.
GP/22	V.L.F./E.M. Mrima hill.

SB-37-3, Mombasa
Mining

Number	Title
M/1	Oil exploration licence No.11
M/2	Application for An E.P.L., A.J. Storm E.P.L.131

SB-37-3, Mombasa
Drilling

Number	Title
D/1	Boreholes sites Mrima hill.

SB-37-3, Mombasa
Hydrology

Number	Title
H/1	boreholes sites Kinango and Mtaa
H/2	The Map showing location selected boreholes sites at Mrima & Mwangulu.
H/3	Mkurumuji river water discharge
H/4	Boreholls for water.

SB-37-3, Mombasa
Miscellaneous

Number	Title
MS/1	Dzirihini structure geographical location.
MS/2	Base Map of Jombo Dhirihini area.
MS/3	Base Map for soil geochemistry Jombo hill.
MS/4	Base Map for soil geochemistry of the Dzirihini area.
MS/5	Mrima native forest.
MS/6	Mrima native forest.
MS/7	Base Map Mrima hill.

SB-37-3, Mombasa
Miscellaneous

Number	Title
MS/8	Bathymetry of port Kilindini and port reitz.

SA-37-15 Kilifi
Geology

Number	Title
GL/1	Field sheet sample locality Map (geology of Mackinnon road and Mariakani area)
GL/2	Field sheet sample locality Map (geology of Mackinnon road and Mariakani area)
GL/3	Field sheet sample locality Map (geology of Mackinnon road and Mariakani area)
GL/4	Field sheet sample locality Map (geology of Mackinnon road and Mariakani area)
GL/5	Field sheet sample locality Map (geology of Mackinnon road and Mariakani area)
GL/6	Geological Map of the Mackinnon road and Mariakani area
GL/7	Figs 1,2,3.4,5,6,7,8,9.
GL/8	Field sheet and sample locality Map (geology of The Kilifi Mazeras area)
GL/9	Field sheet and sample locality Map (geology of The Kilifi and Mazeras area)
GL/10	Geological Map of South Kilifi Mazeras area
GL/11	Specimen locality Map Kilifi-Mazeras area
GL/12	Geological Map of The Kilifi Mazeras area.
GL/13	Figs 1,3,4 geology of the Malindi area
GL/14	Field sheet and Locality sample Map of geology of Marindi area.
GL/15	Field sheet and Locality sample Map of geology of Marindi area.
GL/16	Geological Map of the Malindi area.
GL/17	Geological Map of the Malindi area.
GL/18	Specimen localities Mid-Galana area D.S. 66 N.W.
GL/19	Geological Map of the Mid Galana area.
GL/20	Figs 1,7,9, Mid-Galana area.
GL/21	Geological Map of the Mid-Galana area.

Number	Title
GL/22	Figs 1,2,3,4 for manganese occurrence in the coast province.
GL/23	Kiwara manganese deposit plan of drill hole sites.
GL/24	Bungu manganese deposit plan of drill hole sites
GL/25	Kiwara manganese deposit locality Map.
GL/26	Galanema drill holes.
GL/27	Sections along The drill hole lines of Kiwara Manganese
GL/28	Kiwara Manganese deposit plan of drill hole sites ref: (kilifi 21/1)
GL/29	bangu manganese deposit plan of drill hole sites
GL/30	Figs 2,4,5,6,7A,7B,8A,8B,8D,8E,8G,8H and 8I S Kinagoni surface working.
GL/31	Kinagini hill D.O.H. locations.
GL/32	Geological Map of Kinagoni hill
GL/33	Limestone outcrop, zinc stream values, soil anomalies, some data on pangani Kaset Kinagoni hill.
GL/34	Suggested extension of Duruma Sandstones
GL/35	Geological Map of the Mombasa Pipeline east of Mazeras resevoirs.
GL/36	Geological Map of the area South of Mazeras area.
GL/37	Field sheet and locality Map of Mazeras.
GL/38	Geological Map of Kinagoni ore deposit.
GL/39	Coast minerals deposit.
GL/40	Sketch Map of Malindi Sabaki valley area.
GL/41	Simplified stratigraphic Map of the Malindi area-after A. O. Thompson.
GL/42	Schematic geological section from X to Y of Jibana area.
GL/43	Columner section for Jibana area.
GL/44	Physiographical Map of Jibana area.

AS-37-15 Kilifi
Geology

Number	Title
GL/45	Stractual Map of Jibana area.
GL/46	Geology of Jibana area
GL/47	Geology of Jibana area.
GL/48	Limestone No.3.
GL/49	Photogeological Map of Bamba area.
GL/50	Underground geology of Kinagoni hill.
GL/51	Underground Geology of Kinagoni hill.
GL/52	Field sheet and Sample locality Map of Mazeras
GL/53	Sampling plan of Mwachi Rwer tributary zinc-lead.
GL/54	Geology and Communication, drainage, to Photography of Mariakani Mackinnon road.
GL/55	Section C-Diagram of section Indicated on Fig.I geological Map of Mombasa pipeline east of Mazeras reservoirs.

SA-37-15, Kilifi
Geochemistry

Number	Title
GC/1	Mazeras geochemical reconnaissance (zinc)
GC/2	Mazeras geochemical reconnaissance (lead)
GC/3	Mazeras geochemical reconnaissance (lead)
GC/4	Mazeras geochemical reconnaissance (zinc)
GC/5	Soil geochemistry (Mazeras) zinc.
GC/6	Soil geochemistry (Mazeras) zinc.
GC/7	Soil geochemistry (Mazeras) zinc.
GC/8	Soil geochemistry (Mazeras) zinc.
GC/9	Soil geochemistry (Mazeras) lead and zinc.
GC/10	Soil geochemistry (Mazeras) zinc.
GC/11	Soil geochemistry (Mazeras) copper
GC/12	Main geochemical anomalies Mazeras area lead.
GC/13	Main geochemical anomalies (Mazeras area) zinc.
GC/14	Main geochemical anomalies mazeras area (lead and zinc).
GC/15	Soil geochemistry (Mazeras area) lead.
GC/16	Soil geochemistry (Mazeras area) zinc.
GC/17	Benyagundo lead anomaly.
GC/18	Benyagundo hill zinc anomaly
GC/19	Soil Geochemistry (kisimani area) lead.
GC/20	Soil geochemistry (kisimani area) zinc.
GC/21	Soil geochemistry lead and zinc (Ribe Changombe)
GC/22	Soil geochemistry (Changombe) lead.
GC/23	Soil Geochemistry (Ribe Changombe) zinc
GC/24	Soil Geochemistry (Ribe Changombe) lead.
GC/25	Soil Geochemistry stream sampling lead (Ribe Changombe)
GC/26	Stream Geochemistry (Ribe Changombe) zinc.

SA-37-15, Kilifi
Geochemistry

Number	Title
GC/27	Stream Geochemistry (Ribe Changombe) zinc.
GC/28	Stream Geochemistry (Ribe Rabai) lead and zinc.
GC/29	Soil geochemistry A. and S.extension of kinagoni grid lead.
GC/30	Reconnaissance soil geochemical North of kinagoni hill lead and zinc.
GC/31	Soil geochemistry (kinagoni hill) lead.
GC/32	Soil geochemistry (Ribe) lead.
GC/33	Soil geochemistty (Ribe) zinc.
GC/34	Stream geochemistry (kinagoni hill area) lead.
GC/35	Stream geochemistry (kinagoni hill area) zinc.
GC/36	Stream geochemistry (kinagoni hill area) lead and zinc.
GC/37	Lead geochemistry for final map Kinagoni.
GC/38	Soil geochemistry (Jibana) lead.
GC/39	Soil geochemistry (Jibana) lead.
GC/40	Soil geochemistry (Jibana) zinc.
GC/41	Soil geochemistry (kinagini Jibana) zinc.
GC/42	Soil geochemistry (kinagini Jibana) lead.
GC/43	Stream geochemiatry (Jibama) lead.
GC/44	Stream geochemiatry (Jibama) zinc.
GC/45	Soil geochemistry (Chonyi) lead and zinc.
GC/46	Soil geochemistry locality map (Mazeras).
GC/47	Soil geochemistry locality map (Mazeras).
GC/48	Stream geochemistry locality map (Mazeras).
GC/49	Soil geochemistry (Chonyi)lead.
GC/50	Soil geochemistry (Chonyi) zinc.
GC/51	Soil geochemistry (Gotany) lead.

SA-37-15, Kililfi
Geochemistry

Number	Title
GC/52	Soil geochemistry (Gotany) zinc.
GC/53	Soil geochemistry (Chonyi) lead.
GC/54	Geochemistry (Chonyi) zinc
GC/55	Soil geochemistry (kizingo) lead
GC/56	Geochemical sampling (kizingo hill) zinc.
GC/57	Soil geochemistry (Kaloleni) lead.
GC/58	Soil geochemistry (Kaloleni) zinc.
GC/59	Soil geochemistry (Dzitsoni/Chasimba grid) lead and zinc.
GC/60	
GC/61	
GC/62	
GC/63	Soil geochemistry Vitengeni mine lead and zinc.
GC/64	Soil geochemistry Vitengeni mine zinc lead copper
GC/65	Soil geochemistry locality map Kigutu area
GC/66	Soil geochemistry locality map Kigutu area
GC/67	Soil geochemistry locality map Kigutu area
GC/68	Soil geochemistry locality map Mackinnon road area.
GC/69	Soil geochemistry locality map Mackinnon road area
GC/70	Reconnaissance soil geochemical survey Mackinnon road.
GC/71	Stream geochemistry Mariakani/Mazeras areas lead and zinc.
GC/72	Reconnaissance stream geochemistry survey Mariakani Mazeras grids.
GC/73	Soil stream geochemical grids Mariakani Mazeras area.
GC/74	Madmani geochemistry lead and zinc.
GC/75	Geochemical survey Kilifi district coast Province.
GC/76	Geochemical sampling points for R.Mtomkuu and tributaries.
GC/77	Geochemical sampling points Ganze Chasimba area.

SA-37-15, Kilifi
Geochemistry

Number	Title
GC/78	Coast geochemical sampling areas.
GC/79	Coast geochemical sampling areas.
GC/80	pH of aqueous extracts Pangani soil profile.
GC/81	Stream and soil geochemistry Chasimba area zinc
GC/82	Pangani soil profile zinc
GC/83	Zinc content of the soils.
GC/84	Uranium soil geochemistry (Shambweni)
GC/85	Barium soil geochemistry (Shambweni)
GC/86	Zinc soil geochemistry (Shambweni)
GC/87	Uranium soil geochemistry (Shambweni)
GC/88	Vananium soil geochemistry (Ganze)
GC/89	Manganese soil geochemistry (Ganze)
GC/90	Lead soil geochemistry (Ganze)
GC/91	Zinc soil geochemistry (Ganze)
GC/92	Lead soil geochemistry (Shambweni)
GC/93	Uranium soil geochemistry (Ganze)
GC/94	Barium soil geochemistry (Ganze)
GC/95	Distribution of Mn,V,Pb,U,Zn,Ba and balon line 2+00 S
GC/96	Manganese soil geochemistry (Shambweni)
GC/97	Zinc and lead geochemical anomalies and arill hsle sites.
GC/98	Cumulative area curves and histogram for analytical results of 274 Soil samples (Shambweni)
GC/99	Cumulative area curves and histogram for analytical results of 412 (372 for pH Ganze)
GC/100	Geochemistry of Chasimba area.
GC/101	Histogram showing size distribution of magarin sands (Chasimba)

SA-37-15, Kilifi
Geochemistry

Number	Title
GC/102	Geochemistry Chasimba area.
GC/103	Grnded data Frequency distribution curves for Zn,Cu,Pb and Mn geochemistry results Chasimba.

SA-37-15, Kilifi
Geophysics

Number	Title
GP/1	Area suggested for geophysical prospecting near Mackinnon road Kenya.
GP/2	Aerial grophysical survey coast region.
GP/3	Map of radiometric anomalies and background superimposed coast Province.
GP/4	Radiometric reference.
GP/5	Radiometric anomalies and background
GP/6	Radiometric anomalies and background
GP/7	Radiometric anomalies and background
GP/8	Radiometric anomalies and background
GP/9	Radiometric anomalies and background
GP/10	Radiometric anomalies and background
GP/11	Radiometric anomalies and background
GP/12	Radiometric anomalies and background
GP/13	Radiometric anomalies and background
GP/14	Radiometric anomalies and background
GP/15	Radiometric anomalies and background
GP/16	Geophysical survey at coast Pangani Province Askania vertical magnetic intensity profiles.
GP/17	Geophysical survey at Pangani coast Province Turam profile.
GP/18	Geophysical survey at Pangani coast Province E.M. Gum profile.
GP/19	Geophysical Map of The Kinangoni ore deposits geophysical experiments.
GP/20	V.L.F./E.M. survey Chasimba Ziani area profile I.
GP/21	V.L.F./E.M. survey Chasimba area profile II.
GP/22	Radiometric anomalies Marindi area.
GP/23	Radiometric anomalies Kilifi-Mazeras.

SA-37-15, Kililfi
Geophysics

Number	Title
GP/24	Radiometric Anomalies Kilifi Mazeras.
GP/25	Geology and Gravimeter survey of the Mackinnon road Kilibasi area.
GP/26	Airborne anomalies Kinagoni area.
GP/27	Location Map Boreholl C4300 and Background.
GP/28	Radiometric anomalies and background.
GP/29	Gravity survey.
GP/30	V.L.F./E.M. Kinagoni area.
GP/31	Radiometric anomalies.
GP/32	Radiometric anomalies.
GP/33	Radiometric anomalies.
GP/34	Radiometric anomalies.
GP/35	Geophysical survey (Gravity and Seismic) Makinnon road Overseas geological surveys
GP/36	Radiometric anomalies Kilifi-Mazeras.
GP/37	Radiometric anomalies Kilifi-Mazeras.
GP/38	Radiometric anomalies Kilifi-Mazeras.
GP/39	Radiometric anomalies Kilifi-Mazeras.
GP/40	Radiometric anomalies Kilifi-Mazeras.
GP/41	Radiometric anomalies Kilifi-Mazeras.

SA-37-15, Kilifi
Mining

Number	Title
M/1	Calculatiotn of ore tonage Kinagoni mine.
M/2	Special mining lease No.12.
M/3	Vitengeni trenching and drilling
M/4	Vitengeni special licence No.15.
M/5	Trench and drill hole evalution 1953 and lead, zinc and geochemistry 1967 vitengeni mine.
M/6	Special licence No.38 (Vitengeni)
M/7	Application for extension of mining lease holding S.P.L. No.15
M/8	Map showing locality of vitengeni lead mine prospects
M/9	Fig.1 suggested flow sheet for treatment of Vitengeni lead/brrytes ore, crushing, hand picking and Jigging section.
M/10	Plan of trenches, section 2 of fig.2.
M/11	Plan of marking section 4 of fig.2 Vitengeni mine.
M/12	E.A. mining areas Vitengeni lead mine Epl.No.60 area (lime Ltd) and position of new trenches
M/13	Special licence No.22 Roka area
M/14	The proposed area for special licence for B.S.P.C.Co. Ltd.
M/15	The plan referred to in the authority to prospect in a closed area granted to "Clifford alan white".
M/16	Kinangoni mine.

SA-37-15, Kililfi
Drilling

Number	Title
D/1	Location plan of trences and boreholes Vitengeni mine special licence No.15.
D/2	Plan of boreholes Vitengeni mine
D/3	Section along 300'mag Through Rb21 with projection of Rb3.
D/4	Drill holes sites Kinagoni hill area.
D/5	Halco and diamond drill holes Kinagoni.
D/6	Drill holles sites ribe Changoni area.
D/7	Section through No.3 limestone
D/8	Kinagoni drill holes of mine and geology Agi
D/9	Drill holls sections main geochemical anomalies Mazeras.

SA-37-15 Kilifi
Hydrology

Number	Title
H/1	Water borehole sites.
H/2	Water borehole sites.

SA-37-15 Kilifi
Miscellaneous

Number	Title
MS/1	Sampling points for grass and the depth of overburden over the sands at the Arabuko Sokoke forest.
MS/2	Locality and sketch Map Arabuko Sokoke glass sand deposit area.
MS/3	The depth of good sand at Arabuko Sokoke forest area
MS/4	Arabuko Sokoke sand deposit(Maceu 1959)
MS/5	Sampling points for glass sand at the Arabuko Sokoke forest area.

mumber	Title
MS/6	The depth of the overburden over the sands of the Arabuko Sokoke forest area.
MS/7	Sampling points for grass sand at the Arubako/Sokoke forest area
MS/8	Drill holes sites and water pumping lines Kinagoni hill area
MS/9	Fig.1 North coast.
MS/10	Drainage communication Mazeras area
MS/11	Drainage communication Kisimani area.
MS/12	Drainage communication Ribe Changombe area.
MS/13	Drainage communication Kinagoni area.
MS/14	Drainage communication Ribe Changombe area.
MS/15	Drainage and communication Libana area.
MS/16	Drainage and communication Mariakani & Mazeras.
MS/17	Jibana area locality Map.

Investigation notes

Author	Year	Title
Akizuki, H.	1976	Report on seismic survey, Ziani area.
Dothia, S & Pandit, S.	1976	Mrima hill Inv. Note No.1976/3
Githinji, I.K.	1979	Report on the photogeological interpretation of the Bamba-Kilifi area. Inv. Note No.1979/2.
Githinji, I.K.	1980	South coast Project. Base Metal Follow-up of Anomaly "N", Soil geochemistry and Drilling. Inv. Note No.1980/1
Githinji, I.K.	1980	Lunga-Lunga Barytes prospect ore deposit evaluation, Vanga sheet 202/1. Inv. Note No.1980/1
Lilako, M.C.	1981	Report on geochemical Drainage sampling of the area included by the Mariakani 1:50,000 sheet. Inv.note No.1981/1
Limion, H,	1977	Gamma Ray logging of Water Department Boreholes at Vitengeni and Bamba. Inv. note No.1977/1
Macharia, H.T. & Limion, H.	1978	Analysis of an airborne Radiometric survey in the Coastal area. Inv. note No. 1978/1
Maneno, J.J.	1983	Ground follow-up of airborne uranium Anomalies, Mgama Ridge area South Weat of Voi, coast Province. Inv. note No.1983/2
Muruga, F.K.	1979	Report on geochemical sampling of the area included by the Bamba 1:50,000 sheet. Inv. note No.1979/3
Muruga, F.K.	1979	Report on geochemical Drainage sampling of the area included by the Mariakani 1:50,000 sheet. Inv. note No.1979/4
Muruga, F.K.	1981	Report on Geochemical Drainage Sampling of the area included by the Makamini 1:50,000 sheet Inv. note No.1981/1
Odera, J.T.	1977	The source of soil geocemical zinc anomalies in Chasimba area, Kilifi district. Inv. note No..1977/7

Investigation notes

Author	Year	Title
Odera, J.T.	1978	Preliminary ground follow-up of airborne radiometric anomalies in Shambwen-Gamze areas, Kilifi District. Inv. note No.1978 /3
Otito, G.K.	1983	Induced polarisation survey at Kinangoni, coast Province. inv. note No.1983/1
Segero, A.S.	1977	Preliminary report of the geology of part of Kwale area (South coast project). Inv. note No. 1977/5.
Theuri, F.G.	1977	Geology of Jibani area, Inv. note No.1977/8.
Theuri, F.G.	1979	Geology of the Jibana area, coast Province Inv. Note No.1979/2
Wachira, J.K.	1977	Geology of general Kwale area sheet 200/2. Inv. note No.1977/5
Walter, P.	1977	Second phase South coast: Work Program for detailed investigation. Inv. Note No. 1977/5
Winani, P.	1977	Geology and Soil Geochemistry of Jombo-Dzi-Rihani area. Inv. note No.1977/4
Winani, P.	1977	Dzirihini geology and geochemistry. Inv. note No. 1977/4
Winani, P.	1977	Geology and soil geochemistry of Jombo-Dzirihini area. Inv. note No.1977/4.

Appendix - II

MICROSCOPIC OBSERVATION OF ROCKS IN THIN SECTION

(Igneous Rock and Sedimentary Rock)

Summary of Microscopic Observation (Igneous Rocks) (1)

Code	Sample No.	Rock Name	Phenocrysts								Groundmass & Texture										Secondary Minerals						Note
			Pl	Kf	Ne	Cpx	Hor	Opq	Ti	Ap	Pl	Kf	Ne	Cpx	Hor	Opq	Sd	Cn	Ca	Texture	Ca	Chl	Non Sm	Lim	Wm Se	Opq	
1	KR-009	Camptonite	△	△		△	△	–	△	△	◎	◎		○	○	–				Intergranular	–						
2	KR-017	Camptonite					○				◎	○								Porphyritic	◎	○	◎	–			
3	KR-018	Camptonite				○	○	△	△		◎			◎	◎					Seriate Intergranular	△			△	△		
4	KR-020A	Trachyte	◎				△				△	◎				△				Porphyritic Trachytic							
5	KR-020B	Trachyte	○				○				◎	◎								Porphyritic Pilotaxitic		△		○	○		
6	KR-020C	Syenite	◎	◎		○	△	–	–	–										Granular							
7	KR-021	Camptonite				○	○	△	–		◎		△	◎	○					Porphyritic			△			○	
8	KR-022	Sannaite				○	◎	–			○	◎		○	△	△				Seriate			△		△	△	
9	KR-023	Camptonite				△	–	–			◎			○	△					Aphyric							
10	KR-025A	Gabbro	◎	–		◎	◎	–	–	–										Granular Medium-grained							
11	KR-025B	Nepheline Syenite	◎	◎	◎	○	△	△	–	–										Granular Fine-grained							
12	KR-026	Gabbro	◎			–	◎	–	–											Granular Medium-grained							
13	KR-027	Monzonite	◎	◎		–	△	–	–	–										Mosaic Medium-grained							
14	KR-028	Monzonite	◎	◎			○	–	–	–										Mosaic Medium-grained		–					
15	KR-030	Nephelinite			△	△			–		–		◎	◎				△		Holocrystalline Fine-grained							
16	KR-031	Nepheline Syenite		◎	◎	△		–	–											Mosaic Coarse-grained							

Summary of Microscopic Observation (Igneous Rocks) (2)

Code	Sample No.	Rock Name	Phenocrysts								Groundmass & Texture									Secondary Minerals						Note
			Pl	Kf	Ne	Cpx	Hor	Opq	Ti	Ap	Pl	Kf	Ne	Cpx	Hor	Opq	Sd	Cn	Ca	Texture	Ca	Chl	Non Sm	Lim	Wm Se	Opq	
17	KR-032	Nepheline Syenite	△	◎	◎	○		–	–									–		Granular Coarse-grained				–			
18	KR-033	Nepheline Syenite		◎	◎	△			–									–		Coarse-grained	–		–				
19	KR-034	Nepheline Syenite		◎	◎	◎	–	–	–	–							–			Granular Fine-grained							
20	KR-039	Ash-flow Tuff																		Flow-texture							* "agglomerate"
21	KR-101	Sandstone																		Granular Fine-grained					◎		
22	KR-102A	Barite Rock																		Coarse-grained							
23	KR-102B (1)	Calcite Carbonatite	–																◎	Granular							
24	KR-102B (2)	Calcite Carbonatite																	◎	Granular				○			
25	KR-104	Camptonite				△	–	△	–	–	◎	○	○	◎	◎	–				Seriate	△		△				
26	KR-106	Camptonite				–		–			◎		–	◎		△				Porphyritic Fluidal							
27	KR-109	Lapilli Tuff		◎																		–	△	◎			* "agglomerate"
28	SH-34	Monchiquite				△		–						○						Porphyritic	◎	△					
29	SH-35	Spessartite				–					–			◎	◎	○				Aphyric	–		–	–			
30	SH-36	Andesite	○			△	○	△			◎									Porphyritic Fluidal	◎						
31	SH-39	Andesite	○			○	○	–	–		◎					–				Porphyritic Fluidal	◎				–		

* partial facies of alkaline igneous rocks

Summary of Microscopic Observation (Igneous Rocks) (3)

Code	Sample No.	Rock Name	Phenocrysts								Groundmass & Texture										Secondary Minerals						Note
			Pl	Kf	Ne	Cpx	Hor	Opq	Ti	Ap	Pl	Kf	Ne	Cpx	Hor	Opq	Sd	Cn	Ca	Texture	Ca	Chl	Non Sm	Lim	Wm Se	Opq	
32	MR-106	Carbonatite													–				◎						◎		
33	MR-108	Syenite	△	◎			–		△	△											○				○		
34	MR-111	Nepheline Syenite		△	◎	△	◎	–	–	–							△			Granular							
35	MR-112	Nepheline Monzosyenite	◎	◎	◎	–	△	–	–								–			Mosaic Coarse-grained							
36	MR-113	Lapilli Tuff	△	△				△		○						–					◎			○	–		* "agglomerate"
37	MR-114	Phonolite	◎		◎	△	△	–	–		○		◎	△	△			◎		Porphyritic Granular	–						
38	MR-117	Nepheline Syenite		○	◎	○	△	–	△	–							△	△		Medium-grained Granular							
39	MK-01	Camptonite	○			○	–	△		–			◎		○	–				Porphyritic Hyalopilitic	◎				○		
40	MK-26	Camptonite				△					△			○	○					Porphyritic Hyalopilitic	△		△				
41	MW-03	Monchiquite				○								◎		△					◎		△		△		

* partial facies of alkaline igneous rocks

Pl : Plagioclase　Kf : Pottasium feldspar　Ne : Nepheline　Cpx : Clinopyroxene　Hor : Hornblende
Ti : Titanite　Ca : Calcite　Lim : Limonite　Ap : Apalite　Chl : Chlorite
Wm : White mica　Sd : Sodalite　Non : Nontronite　Se : Sericite　Cn : Cancrinite
Sm : Smectite　Anl : Analcime　Opq : Opaque minerals

◎ : abundant　○ : common　△ : minor　– : rare

Microscopic Observation of Rocks in Thin Section (Igneous Rocks) (1)

Sample Number	Rock Name	Macroscopical features and microscopical texture and structure	Identified minerals	Unidentified Minerals		Remarks
				Opaque minerals	Transparent minerals	
KR-009	CAMPTONITE (Carbonatized)	• Dark gray, compact and hard • Including lithic fragment • Ophytic, fine-grained intergranular	◇PHENOCRYSTS • Hornblende , ≒ 2 %, stout prismatic, < 1 mm • Clinopyroxene , ≒ 3 %, long prismatic, < 1.5 mm • Titanite , < 1%, wedge-shaped~rounded , <1 mm ◇GROUNDMASS • Plagioclase, alkari feldspar, opaque mineral, etc. : > 90 %	Magnetite		
KR-017	CAMPTONITE (Carbonatized)	• Pale yellowish brown with pale brown long prismatic crystals rough surface • Including altered tuff fragment • Porphyritic, spherulitic	◇PHENOCRYSTS • Hornblende, ≒ 5 %, < 4 mm • Completely altered to carbonate, limonite, and chlorite. ◇GROUNDMASS • Mainly (<70 %) consists of thin plagioclase and alkali feldspar. • Secondary carbonate and limonite (≒20%)			
KR-018	CAMPTONITE	• Medium gray • Compact and seriate • Intergranular	◇PHENOCRYSTS • Hornblende (bar-kevikite) , ≒ 3 %, <5 mm • Clinopyroxene , ≒ 5 %, <5 mm • Plagioclase , ≒ 5 %, <1.5 mm • Titanite , < 1 %, <1 mm ◇GROUNDMASS (≒85%) • Hornblende, clinopyroxene, plagioclase, secondary carbonate	Magnetite < 1 %		

Microscopic Observation of Rocks in Thin Section (Igneous Rocks) (2)

Sample Number	Rock Name	Macroscopical features and microscopical texture and structure	Identified minerals	Unidentified Minerals		Remarks
				Opaque minerals	Transparent minerals	
KR-020A	TRACHYTE	• Grayish orange pink and compact, with moderate reddish brown spots • Porphyritic, trachytic	◇PHENOCRYSTS • Plagioclase , ≒ 20 %, tabular or prismatic, completely altered to sericite, limonite and smectite • Hornblende , < 1 %, prismatic or tabular , < 1.5 mm, completely replaced by limonite and smectite ◇GROUNDMASS (> 75%) • Anorthoclase , ≒ 60%, < 0.5 mm • Plagioclase , ≒ 5 % • Limonite, irregular • Quartz, interstitial • Titanite, granular • Cristobalite, filling vesicles	• Magnetite , < 1 % granular ~ irregular , < 1 mm, altered to limonite. • Limonite , ≒ 10 %		
KR-020B	TRACHYTE	• Porphyritic, pilotaxitic	◇PHENOCRYSTS • Plagioclase , < 7 %, prismatic, < 5mm, completely replaced by sericite, limonite and chlorite • Hornblende, < 5 %, long prismatic ~ tabular , < 1.5 mm, altered to limonite and smectite ~ nontronite ◇GROUNDMASS (> 85%) • Anorthoclase , < 0.5 mm, partially altered to sericite • Limonite , < 0.5 mm as pseudomorph after hornblende • Smectite • Plagioclase, interstitial			

Microscopic Observation of Rocks in Thin Section (Igneous Rocks) (3)

Sample Number	Rock Name	Macroscopical features and microscopical texture and structure	Identified minerals	Unidentified Minerals		Remarks
				Opaque minerals	Transparent minerals	
KR-020C	SYENITE	• Very light gray with dark green spots • Compact and hard • Granular	• Plagioclase, ≒ 25%, prismatic ~ tabular with ragged outline, < 5 mm • Alkali feldspar (cryptoperthite ~ microperthite), ≒ 50%, prismatic ~ tabular with interlocked outline, < 5 mm • Clinopyroxene, ≒ 5%, < 3 mm, marked zoning from Ti-augite (core) to aegirine-augite (rim) • Hornblende, ≒ 3%, prismatic ~ irregular, < 3 mm • Titanite, < 1 %, wedge-shaped, < 0.5 mm • Apatite, small amount, prismatic, < 0.2 mm	• Magnetite, < 1 % granular, < 0.5 mm	• Aggregates of granular limonite, plagioclase and carbonate occur within feldspar crystals and interstices of crystals.	
KR-021	CAMPTONITE	• Dark gray • Compact and hard with black needles and white patches • Porphyritic	◇PHENOCRYSTS • Hornblende, ≒ 5 %, prismatic, tabular, acicular, < 2 mm • Clinopyroxene, ≒ 5 %, long prismatic~stout prismatic, tabular, < 2 mm • Titanite, < 1 %, wedge-shaped, rectangular grain, < 0.5 mm • Olivine, < 1%, < 1 mm, replaced by nontronite and mantled ◇GROUNDMASS (> 85%) • Plagioclase, ≒ 50 %, interstitial, < 1.5 mm • Hornblende, ≒ 10 %, acicular ~ prismatic ~ granular, < 0.5 mm • Clinopyroxene, ≒ 15 %, prismatic ~ granular (top or rim altered to secondary minerals.) • Secondary smectite, apatite, titanite and nepheline	• Magnetite, ≒ 1 %, granular, < 5 mm some with ragged outline		

Microscopic Observation of Rocks in Thin Section (Igneous Rocks) (4)

Sample Number	Rock Name	Macroscopical features and microscopical texture and structure	Identified minerals	Unidentified Minerals		Remarks
				Opaque minerals	Transparent minerals	
KR-022	SANNAITE	• Dark gray • Compact and hard • Porphyritic, seriate	◇PHENOCRYSTS • Hornblende, ≒ 10 %, long prismatic, short prismatic, tabular, < 3 mm • Clinopyroxene, ≒ 7%, long prismatic ~ short prismatic, < 3 mm ◇GROUNDMASS (≒ 80%) • Plagioclase, < 10 %, interstitial and clear < 1 mm • Alkali feldspar, > 50 %, altered to smectite, partially sericite • Clinopyroxene, ≒ 10 %, prismatic ~ granular • Hornblende, ≒ 7 %, acicular ~ short prismatic ~ granular • Olivine , < 1 %, < 1 mm replaced by nontronite • Apatite, small amount • Titanite, small amount	• Magnetite · phenocryst: < 1 %, granular < 0.5 mm · groundmass: 3 %, granular		
KR-023	CAMPTONITE	• Dark gray • Compact and hard • Almost aphyric	◇PHENOCRYSTS • Hornblende, ≒ 1 %, long prismatic, < 8 mm • Clinopyroxene , ≒ 2 %, long prismatic ~ tabular , < 2 mm ◇GROUNDMASS (> 95%) • Clinopyroxene , ≒ 10 %, acicular, prismatic, granular < 0.5 mm, green aegirine-augite is rare. • Hornblende , ≒ 3 %, acicular, prismatic, granular < 0.5 mm • Plagioclase , ≒ 60 %, replaced by smectite • Apatite as accessory mineral	• Magnetite · phenocryst: < 1 %, angular < 0.5 mm · groundmass: 3 %		

Microscopic Observation of Rocks in Thin Section (Igneous Rocks) (5)

Sample Number	Rock Name	Macroscopical features and microscopical texture and structure	Identified minerals	Unidentified Minerals		Remarks
				Opaque minerals	Transparent minerals	
KR-025A	CLINO PYROXENE-HORNBLENDE GABBRO	• Light bluish gray base with brownish dark gray crystals • Compact and hard • Very heterogeneous • Medium-grained • Granular	• Hornblende, ≒ 40 %, < 5 mm inclusion of apatite, biotite, magnetite, clinopyroxene and titanite • Clinopyroxene, ≒ 20 %, < 5 mm, zoning, inclusion of apatite and magnetite • Plagioclase, ≒ 30 %, < 5 mm, with inclusion of apatite, titanite, hornblende, clinopyroxene and magnetite, (sericite as alteration product) • Alkali feldspar, ≒ 1 %, < 1 mm, cryptoperthite • Biotite, < 1 %, < 1 mm • Titanite, ≒ 1 %, < 1 mm, wedge-shaped with inclusion of magnetite and apatite • Apatite, < 1 %, < 0.5 mm, prismatic	• Magnetite, < 1 %, < 0.5 mm, irregular		• Melanocratic part of KR-025
KR-025B	NEPHELINE SYENITE	• Fine-grained • Granular • Alkali feldspar vein	• Alkali feldspar, ≒ 40 %, < 2 mm, cryptoperthite, dusty • Plagioclase, ≒ 20 %, < 3 mm • Nepheline, ≒ 25 %, granular < 1 mm • Hornblende, ≒ 3 %, prismatic ~ tabular, < 2 mm • Clinopyroxene, ≒ 8 %, < 3 mm, aegirine-augite • Titanite, < 1 %, < 1 mm, wedge-shaped • Apatite, rare, < 0.5 mm, prismatic • Fluorite, < 1 %, < 0.5 mm, interstitial	• Magnetite, ≒ 2 %, < 0.5 mm, granular ~ irregular		• Leucocratic part of KR-025
KR-026	HORNBLENDE GABBRO	• Abundant brownish black crystals in light gray matrix • Compact • Medium-grained • Granular	• Hornblende, ≒ 45 %, 0.2 ~ 1.5 mm, including apatite, magnetite and titanite grains, and biotite flakes, some with clinopyroxene core • Plagioclase, ≒ 40 %, 0.4 ~ 0.5 mm • Alkali feldspar, < 1 %, < 0.5 mm • Quartz, < 2 %, < 0.5 mm, interstitial	• Magnetite < 1 %, < 0.5 mm, irregular		

Microscopic Observation of Rocks in Thin Section (Igneous Rocks) (6)

Sample Number	Rock Name	Macroscopical features and microscopical texture and structure	Identified minerals	Unidentified Minerals		Remarks
				Opaque minerals	Transparent minerals	
(KR-026)			• Clinopyroxene, < 1 %, < 2 mm • Biotite , < 1 %, < 2 mm, flaky • Titanite , < 1 %, < 2 mm, wedge-shaped, inclusion of biotite and magnetite			
KR-027	MONZONITE	• Leucocratic (pinkish gray) • Compact • Mosaic • Medium-grained	• Plagioclase , > 60 %, 2 ~ 10 mm, exsolving alkali feldspar • Alkari feldspar, ≒ 35 %, 2 ~ 5 mm, exsolving plagioclase • Hornblende, ≒ 2 %, < 3 mm • Biotite , < 1 %, < 2 mm • Titanite , < 1 %, < 0.5 mm • Clinopyroxene, < 1 %, < 1 mm, short prismatic • Apatite • Hematite • Smectite (secondary) • White mica (secondary)	• Magnetite, < 1 %, < 0.5 mm, irregular		
KR-028	MONZONITE	• Leucocratic (pinkish gray) • Compact • Mosaic • Medium-grained	• Plagioclase , ≒ 40 %, < 2 ~ 6 mm • Alkali feldspar, ≒ 50 %, microperthite ~ cryptoperthite ~ microcline • Hornblende, ≒ 8 %, < 3 mm, some with clinopyroxene core, inclusion of apatite, biotite, magnetite • Titanite , < 1 %, < 1.5 mm, mantled with opaque materials • Aggregate of opaque, titanite and carbonate • Apatite, small, rare, prismatic	• Magnetite, < 1 %, < 0.5 mm, granular, irregular		

Microscopic Observation of Rocks in Thin Section (Igneous Rocks) (7)

Sample Number	Rock Name	Macroscopical features and microscopical texture and structure	Identified minerals	Unidentified Minerals		Remarks
				Opaque minerals	Transparent minerals	
KR-030	NEPHELINITE	• Grayish olive green • Compact and hard • Fine-grained • Holocrystalline	◇PHENOCRYSTS • Nepheline, scarce, 0.5 ~ 1 mm, tabular, with cancrinite in cracks and rims • Clinopyroxene, scarce, < 1.5 mm, long prismatic ~ granular, partially altered to nontronite • Titanite, rare, < 0.5 mm, wedge-shaped, irregular ◇GRANDMASS (≒ 99%) • Nepheline , > 70 % • Cancrinite , ≒ 3 % • Clinopyroxene; aegirine-augite, > 20 % • Plagioclase, rare • Zeolite-natrolite • Biotite, small and rare, flaky • Titanite , ≒ 3 %	• Hematite, rare, granular, prismatic		
KR-031	NEPHELINE SYENITE	• Light gray ~ grayish brown • Mosaic • Compact • Coarse-grained	◇PHENOCRYSTS • Alkali feldspare (perthite) , ≒ 55 %, 2 ~ 30 mm, prismatic • Nepheline ≒ 40 %, 1 ~ 5 mm, zoning • Clinopyroxene (aegirine), ≒ 4 %, 0.05 ~ 1.5 mm, prismatic ~ granular ~ irregular, some with aegirine-augite core • Titanite, rare, < 0.6 mm, wedge-shaped • Sodalite, ≒ 1 %, interstitial	• Magnetite, rare, irregular		

Microscopic Observation of Rocks in Thin Section (Igneous Rocks) (8)

Sample Number	Rock Name	Macroscopical features and microscopical texture and structure	Identified minerals	Unidentified Minerals		Remarks
				Opaque minerals	Transparent minerals	
KR-032	NEPHELINE SYENITE	• Light brownish gray • Compact and hard • Coarse-grained • Granular	• Nepheline , ≒, 50 %, 2 ~ 5 mm, including aegirine and titanite in the core • Alkali feldspar (cryptoperthite), ≒ 35%, 10 mm, including aegirine and sporadically • Clinopyroxene (aegirine), ≒ 7 %, < 2 mm, long prismatic ~ acicular ~ granular • Plagioclase , < 2 % • Titanite, scarce, < 1 mm, wedge-shaped • Sodalite , < 1 %, interstitial • Cancrinite, rare, interstitial • Carbonate, rare, interstitial	• Magnetite, small, scarce, < 0.5 mm • Limonite	• reddish brown amorphous	
KR-033	NEPHELINE SYENITE	• Very light gray and brownish gray • Compact • Coarse-grained	• Alkali feldspar (perthite ~ microcline), > 55 %, prismatic • Nepheline , > 40 %, with cancrinite along cracks • Clinopyroxene (aegirine), ≒ 3 %, < 1.5 mm, short prismatic ~ granular • Sodalite , ≒ 1 %, interstitial • Biotite, tiny, rare, flaky • Titanite, rare, < 0.5 mm, wedge-shaped • Cancrinite , rare • White mica , rare • Carbonate , rare	• Hematite, scarce, prismatic or granular		
KR-034	NEPHELINE SYENITE	• Gray and white • Compact • Fine-grained • Granular • Vein	• Alkali feldspar (cryptoperthite), ≒ 40 %, < 2.5 mm, prismatic ~ tabular, clouded • Nepheline, ≒ 40 %, < 1 mm, granular • Clinopyroxene (aegirine), ≒ 10 %, < 2 mm, prismatic ~ granular	• Magnetite, ≒ 2 %, < 0.5 mm		

Microscopic Observation of Rocks in Thin Section (Igneous Rocks) (9)

Sample Number	Rock Name	Macroscopical features and microscopical texture and structure	Identified minerals	Unidentified Minerals		Remarks
				Opaque minerals	Transparent minerals	
(KR-34)			• Hornblende, rare, < 3 mm, long prismatic, some parallel grown with aegirine • Titanite, ≒ 1 %, < 1 mm, wedge-shaped • Biotite, rare, < 1 mm, flaky • Apatite, rare, < 0.5 mm, long prismatic • Sodalite, scarce, interstitial			
KR-039	ASH-FLOW TUFF	• Dark reddish brown fragments in yellowish gray matrix (flow structure), loose reddish brown fragments • Amorphous, brownish red and black material			• Yellowish gray matrix, originally, grass	• "agglomerate" • Partial facies of alkaline igneous rocks
KR-101	SANDSTONE	• Pale yellowish brown • Hard • Vesicle-rich • Fine-grained • Granular	• Quartz, ≒ 85 %, 0.02 ~ 0.4 mm, granular • Barite, scarce, <0.02 m, irregular	• Limonite, ≒ 15 %, granular, forming, pseudomorph after mafic mineral(s), < 0.5 mm		
KR-102A	BARITE ROCK	• White and pale brown • Heavy	• Barite, ≒ 99 %, prismatic (up to 30 mm) ~ granular • Quartz, ≒ 1 %, granular, 1 ~ 15 mm			
KR-102B (1)	CALCITE CARBONATITE	• Granular	• Carbonate (calcite), > 99 %, irregular ~ granular (rounded), mainly 0.4 ~ 1 mm • Plagioclase, < 1 %, < 0.03 mm, granular	• Magnetite		

Microscopic Observation of Rocks in Thin Section (Igneous Rocks) (10)

Sample Number	Rock Name	Macroscopical features and microscopical texture and structure	Identified minerals	Unidentified Minerals		Remarks
				Opaque minerals	Transparent minerals	
KR-102B (2)	CALCITE CARBONATITE	• Granular • Vein	• Carbonate (calcite), ≒ 90 %, 0.1 ~ 2 mm, granular • Alkali feldspar, interstitial • Nepheline, prismatic	• Limonite, < 10 %, fine-grained, granular, forming pseudomorphs after magnetite (0.05 ~ 2 mm)		
KR-104	CAMPTONITE	• Olive gray • Compact and hard • Seriate	◇PHENOCRYSTS • Hornblende, < 1 %, 1 ~ 2.5 mm, prismatic, inclusions: magnetite, apatite and clinopyroxene • Clinopyroxene (Ti-augite), ≒ 3 %, 0.5 ~ 2 mm, prismatic, inclusions: magnetite and apatite • Titanite , < 1 %, 0.5 ~ 2 mm, wedge-shaped, inclusions: magnetite, clinopyroxene and clorite • Apatite , < 1 mm, long prismatic • Olivine, altered to chlorite and serpentine ◇GROUNDMASS (> 95%) • Clinopyroxene, Hornblende } , Prismatic, 0.1 ~ 0.2 mm • Plagioclase, poikilitic, intersertal • Nepheline • Alkali feldspar • Smectite • Calcite	• Magnetite, < 2 %, < 0.3 mm, cube ~ irregular		

Microscopic Observation of Rocks in Thin Section (Igneous Rocks) (11)

Sample Number	Rock Name	Macroscopical features and microscopical texture and structure	Identified minerals	Unidentified Minerals		Remarks
				Opaque minerals	Transparent minerals	
KR-106	CAMPTONITE	• Dark gray • Compact and hard • Fine-grained • Porphyritic, fluidal	◇PHENOCRYSTS • Olivine, ≒ 7 %, 0.2 ~ 1.5 mm, granular ~ prismatic • Clinopyroxene (augite), < 1 %, 0.3 ~ 1 mm, short prismatic ~ tabular ◇GROUNDMASS (> 90%) • Clinopyroxene, ≒ 70 %, 0.1 mm, prismatic • Olivine , 2 %, < 0.05 mm, granular • Plagioclase , 15 %, < 0.1 mm, prismatic • Nepheline , < 1 %, intersertal	• Magnetite , < 1 % (phenocryst) , ≒ 3 % (groundmass)		
KR-109	LAPILLI TUFF	• Lithic fragments such as sandstone and limonite mass	• Calcedny , ≒ 30 %, radial aggregate • Alkali feldspar , ≒ 30 %, irregular • Barite , ≒ 3 %, aggregate	• Limonite, ≒ 35 %, irregular		• "agglomerate" • Partial facies of alkaline igneous rocks
SH-34	MONCHI-QUITE	• Olive gray with white and black spots • Compact and hard • Porphyritic • Vein (calcite)	◇PHENOCRYSTS • Olivine, ≒ 3 %, 1 mm, completely replaced by aggregate of calcite, magnetite, agate, white mica and serpentine • Clinopyroxene (augite), ≒ 2 %, 2 mm, prismatic • Biotite , ≒ 3 %, 0.5 ~ 1 mm, flaky, forming ophitic plates with clinopyroxene and calcite prisms ◇GROUNDMASS (> 90%) • Carbonate (calcite) > 30 % • Clinopyroxene • Biotite • Augite • Chlorite • Glass devitrified to smectite and chlorite	• Magnetite, rare, < 0.1 mm • Hematite		

Microscopic Observation of Rocks in Thin Section (Igneous Rocks) (12)

Sample Number	Rock Name	Macroscopical features and microscopical texture and structure	Identified minerals	Unidentified Minerals		Remarks
				Opaque minerals	Transparent minerals	
SH-35	SPESSARTITE	• Olive gray • Compact and hard • Aphyric	◇PHENOCRYSTS • Clinopyroxene; augite, rare, long ~ short prismatic ◇GROUNDMASS (> 99%) • Brown hornblende, ≒ 30 %, prismatic • Clinopyroxene (augite), ≒ 30 % • Glass , ≒ 30 %, interstitial • Plagioclase , < 1 %	• Magnetite , ≒ 8 %, granular		
SH-36	HORNBLENDE ANDESITE	• Light olive gray with white prismatic crystals • Porphyritic, pilotaxitic	◇PHENOCRYSTS • Plagioclase , ≒ 10 %, 0.5 ~ 5 mm, prismatic, replaced by sericite along rim and cracks • Hornblende, ≒ 5 %, 0.2 ~ 4 mm, long~stout prismatic, replaced by smectite and limonite • Clinopyroxene, ≒ 2 %, short prismatic, completely replaced by opaque granules, smectite, chlorite and limonite • Olivine , rare, < 1 mm, replaced by smectite, calcite, limonite and chalcedony ◇GROUNDMASS (> 80%) • Plagioclase, ≒ 40 % • Carbonate (calcite), ≒ 30 % • Apatite	• Magnetite • Hematite, granules		
SH-39	HORNBLENDE ANDESITE	• Gray • Compact and hard • Porphyritic, fluidal	◇PHENOCRYSTS • Plagioclase, ≒ 7 %, 0.5 ~ 5 mm, prismatic, some with dusty inclusion-rich core, altered to sericite partially	• Magnetite , ≒ 1 % , < 0.5 mm, granular		

Microscopic Observation of Rocks in Thin Section (Igneous Rocks) (13)

Sample Number	Rock Name	Macroscopical features and microscopical texture and structure	Identified minerals	Unidentified Minerals		Remarks
				Opaque minerals	Transparent minerals	
(SH-39)			• Hornblende • Clinopyroxene , ≒ 5%, 0.5 ~ 4 mm, long prismatic ~ granular, altered to calcite, chlorite or smectite, opaque • Titanite, rare, < 0.5 mm, wedge-shaped ◇GROUNDMASS (> 85%) • Carbonate (calcite), ≒ 40 % • Plagioclase, ≒ 40 % • White mica • Apatite			
MR-106	CALCITE-CARBONATITE	• Grayish brown and white	◎ Brown portion: • Carbonate (calcite), ≒ 80 %, fine grains without definite outline ◎ White portion: • Carbonate (calcite), > 98%, 0.2 ~ 10 mm • Apatite, < 1 %, < 0.1 mm, granular	• Limonite, ≒ 20 %, irregular • Magnetite, rare, irregular • Limonite, ≒ 10 %, irregular		
MR-108	SYENITE	• Dark greenish gray • Compact and hard	• Alkali feldspar, ≒ 83 %, 0.2 ~ 0.5 mm, prisimatic ~ granular, dusty, Apatite and magnetite inclusions. • Hornblende, rare, < 1 mm, prismatic ~ granular, pleochroism; grass green ~ pale greenish yellow. • Replacement by limonite is noted along rim and cracks. • Carbonate interstitial, prismatic • Apatite, ≒ 1 %, < 0.5 mm, prismatic ~ granular	• Magnetite, ≒ 15%, intersertal, prismatic		

Microscopic Observation of Rocks in Thin Section (Igneous Rocks) (14)

Sample Number	Rock Name	Macroscopical features and microscopical texture and structure	Identified minerals	Unidentified Minerals		Remarks
				Opaque minerals	Transparent minerals	
(MR-108)			• Plagioclase , rare, < 1.5 mm, prismatic • Titanite , rare, < 1 mm			
MR-111	NEPHELINE SYENITE	• Dark gray • Compact and hard • Granular	•Nepheline , ≒ 80%, 0.2 ~ 5 mm, tabular , inclusions (clinopyroxene , hornblende and titanite altered white mica along rim and cracks) • Alkali feldspar, < 5% , interstitial • Hornblend , ≒ 15 %, 0.05 ~ 2 mm , prismatic ~ granular, pleochroism ; light ~ pale green or yellowish gray (aegirine - aujite ~ aegirine) • Clinopyroxene , ≒ 2%, 1 mm, pleochroism ; pale green (core) or graynish green • Sodalite , < 2%, interstitial • Titanite , ≒ 1 %, < 1 mm • Biotite , < 1 %, < 0.5 mm • Apatite , < 1 %, prismatic ~ granular , pleochroism ; brown ~ pale green	• Magnetite , < 1 % , < 0.5 mm , irregular		
MR-112	NEPHELINE SYENITE	• Light gray with moderate brown spots • Coarse - grained mosaic	• Plagioclase , ≒ 30 %, < 10 mm, prismatic , altered to carbonate partially • Alkali feldspar, ≒ 40 %, < 10 mm , parthite • Hornblende, ≒ 20%, 0.2~4 mm, prismatic~granular, pleochroism; green~pale green • Sodalite , < 1%, < 2 mm, interstitial • Titanite , < 1%, < 2 mm, wedge-shaped • Clino pyroxene (aegirine), pleochroism; light green (core) or dark green (rim) ~ yellowish green	• Magnetite ,< 1 % , < 0.5 mm, irregular		

Microscopic Observation of Rocks in Thin Section (Igneous Rocks) (15)

Sample Number	Rock Name	Macroscopical features and microscopical texture and structure	Identified minerals	Unidentified Minerals		Remarks
				Opaque minerals	Transparent minerals	
(MR-112)			• Biotite , < 1%, < 0.2 mm, pleochloism; dark~ pale brown			
MR-113	LAPILLI TUFF	• Light brownish gray with dark gray, moderate brown, white and very pale orange fragments • Lithic fragments, ≒ 10 % (Sandstone ~ Mudstone, Limestone)	CRYSTALS • Apatite , ≒ 5 %, prismatic • Augite , ≒ 1 %, fragmental • Alkali feldspar (cryptoperthite - microcline), ≒ 2%, granular, fragmental • Plagioclase , ≒ 1 %, granular, fragmental • White mica , rare, < 0.5 mm (Matrix , ≒ 70% Carbonate , ≒ 50 % White mica , rare)	• Magnetite , < 1 % Limonite , ≒ 10%		• "agglomerate" • Partial facies of alkaline igneous rocks
MR-114	PHONOLITE	• Dark greenish gray • Compact and hard • Porphyritic	◇PHENOCRYSTS • Nepheline , ≒ 15 %, < 2 mm, • Plagioclase , ≒ 10 %, < 0.4 mm, prismatic • Hornblende , ≒ 2 %, < 2.5 mm, prismatic ~ fragmental, pleochloism; reddish brown ~ dark yellowish orange • Clinopyroxene , ≒ 2 %, < 2.5 mm, (Ti-augite ~ aegirine-augite) , light brownish gray (core) ~ deep green (rim) • Titanite , < 1 %, < 0.5 mm, wedge - shaped ◇GROUNDMASS (≒70%) • Plagioclase , < 10 % • Nepheline ~ Cancrinite , ≒ 50% • Clinopyroxene, Hornblende , < 5 %	Magnetite , < 1% , irregular, < 0.5 mm		

Microscopic Observation of Rocks in Thin Section (Igneous Rocks) (16)

Sample Number	Rock Name	Macroscopical features and microscopical texture and structure	Identified minerals	Unidentified Minerals		Remarks
				Opaque minerals	Transparent minerals	
(MR-114)			• Apatite • Carbonate			
MR-117	NEPHELINE-SYENITE	• Greenish black and greenish orange (pink) • Compact and hard • Medium ~ coarse-grained • Granular	• Nepheline , ≒ 75 %, < 10 mm, short prismatic • Alkali feldspar, < 10 %, < 10 mm, prismatic • Cancrinite , < 3 %, interstitial • Clinopyroxene , < 5 %, < 2 mm, prismatic , (augite ~ aegirine - augite) • Hornblende , ≒ 2 %, < 2 mm, pleochroism • Sodalite , < 1 %, interstitial • Titanite , < 1 %, < 1 mm, wedge shaped • Biotite , pleochroism ; dark ~ pale brown • Apatite	Magnetite , < 1 % , irregular, < 0.5 mm		
MK-01	CAMPTONITE (carbonatized)	• Dark greenish gray • Compact • With black crystals • Porphyritic	◇PHENOCRYSTS • Clinopyroxene , ≒ 10 %, < 3 mm, long ~ short prismatic, aegirine rim replaced with carbonate, partially along rim and cracks • Plagioclase , ≒ 10 %, < 2 mm, tabular, completely replaced by carbonate and white mica. • Hornblende , < 1 %, < 1 mm, long prismatic , pleochroism ; greenish ~ pale brown • Apatite , < 1 %, < 0.5 mm, Prismatic ◇GROUNDMASS (≒75%) • Carbonate , ≒ 30 % • White mica , ≒ 15 % • Hornblende , prismatic, ≒ 5 % • Clinopyroxene • Biotite	Magnetite , < 1 % Hematite , < 1 %		

Microscopic Observation of Rocks in Thin Section (Igneous Rocks) (17)

Sample Number	Rock Name	Macroscopical features and microscopical texture and structure	Identified minerals	Unidentified Minerals		Remarks
				Opaque minerals	Transparent minerals	
(MK-01)			• Nepheline , bokilitic, < 20 % • Titanite			
MK-26	CAMPTONITE	• Olivine gray • Compact and Hard • Fine-grained • Porphyritic • Hyalopilitic	◇PHENOCRYSTS • Clinopyroxene , ≒ 3 %, < 2 mm, long ~ short prismatic ◇GROUNDMASS (>95 %) • Hornblende , ≒ 10 %, < 1 mm, long prismatic , pleochroism; light ~ pale brown • Glass , 80%, partially to smectite and chrorite • Plagioclase , < 2 % • Apatite , < 1 % • Montronite • Clinopyroxene , ≒ 10 %, long prismatic • Carbonate , ≒ 1 %	• Magnetite , < 1 %, < 0.8 mm , granular or irregular • Magnetite , < 3 % , granular		
MW-03	MONCHI-QUITE	• Dark gray • Compact and hard • Fine-grained • Porphylitic • Hyalopilitic	◇PHENOCRYSTS • Clinopyroxene , ≒ 7 %, < 5 mm, short prismatic • Olivine , ≒ 3 %, < 2 mm, completely replaced, short prismatic ◇GROUNDMASS (>85 %) • Clinopyroxene , ≒ 50 %, < 0.5 mm, prismatic • Carbonate , ≒ 10 %, irregular • White mica , ≒ 2 % • Glass , 20 %, devitrified to smectite or white mica. • Biotite , < 1 %, flaky, < 0.1 mm	• Magnetite , ≒ 1 %, 0.05 mm , altered to limonite		

Photomicrographs of Rocks in Thin Section

(Igneous Rocks)

Abbreviations

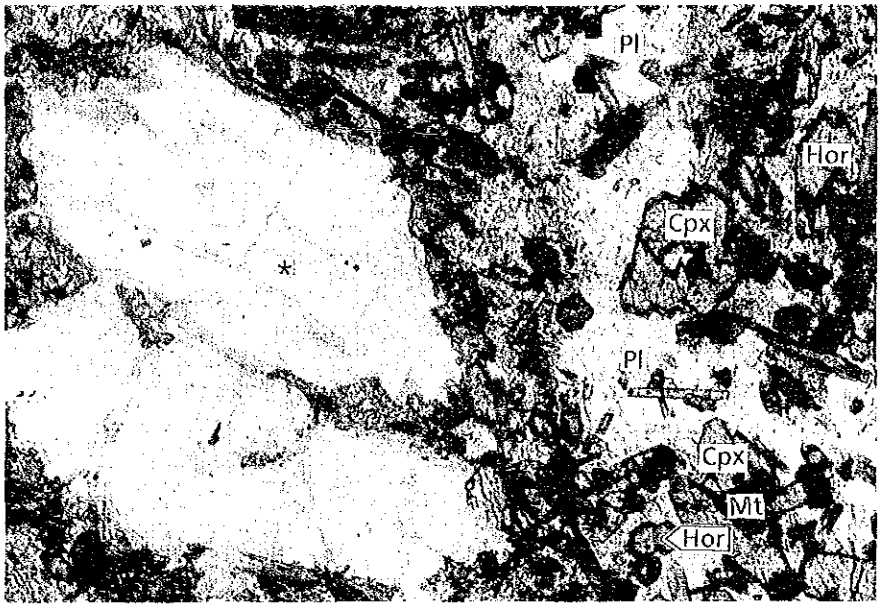
Minerals

Qtz	: quartz	Kf	: potassium feldspar
Pl	: plagioclase	Bi	: biotite
Hor	: hornblende	Cpx	: clinopyroxene
Ne	: nepheline	Ol	: olivine
Cn	: cancrinite	Sd	: sodalite
Ap	: apatite	Ti	: titanite
Gar	: garnet	Tor	: tourmaline
Zir	: zircon	Ru	: rutile
Chl	: chlorite	Serp	: serpentine
Mus	: muscovites	Ca	: calcite

Cr	: cristobalite	Se	: sericite
Non	: nontronite	Sm	: smectite
Anl	: analcime	Lim	: limonite
Mt	: magnetite		

Others

Cly	: clay	Opq	: opaque minerals



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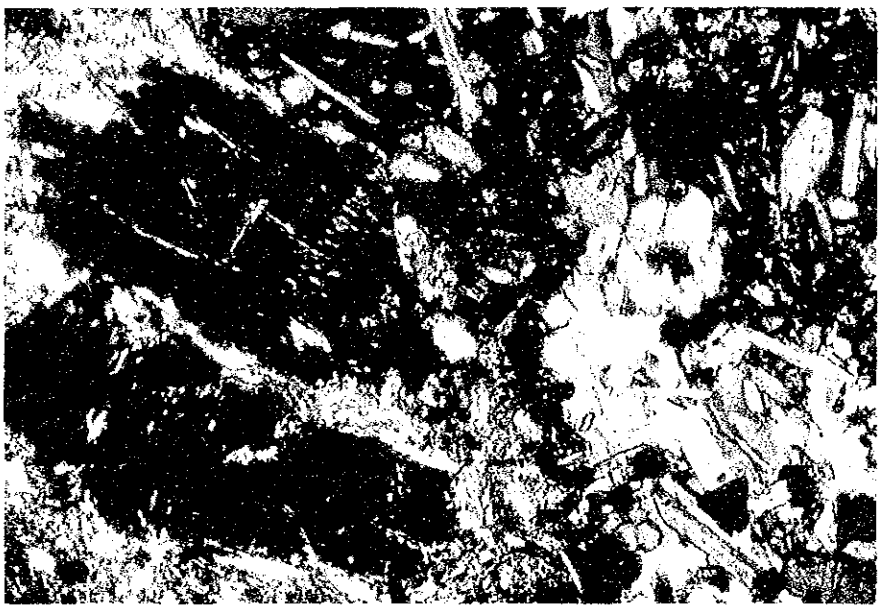


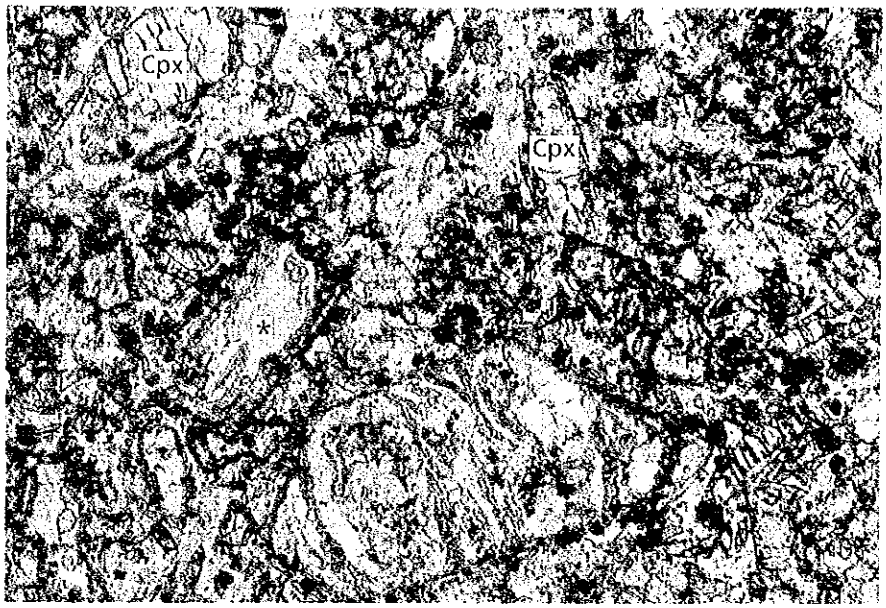
crossed polars

1mm

* Serp + Chl
(Pseudomorph after Ol)

Sample No.: KR-104
Location : Mwangulu
Rock name : Camptonite

Photomicrographs (thin section)



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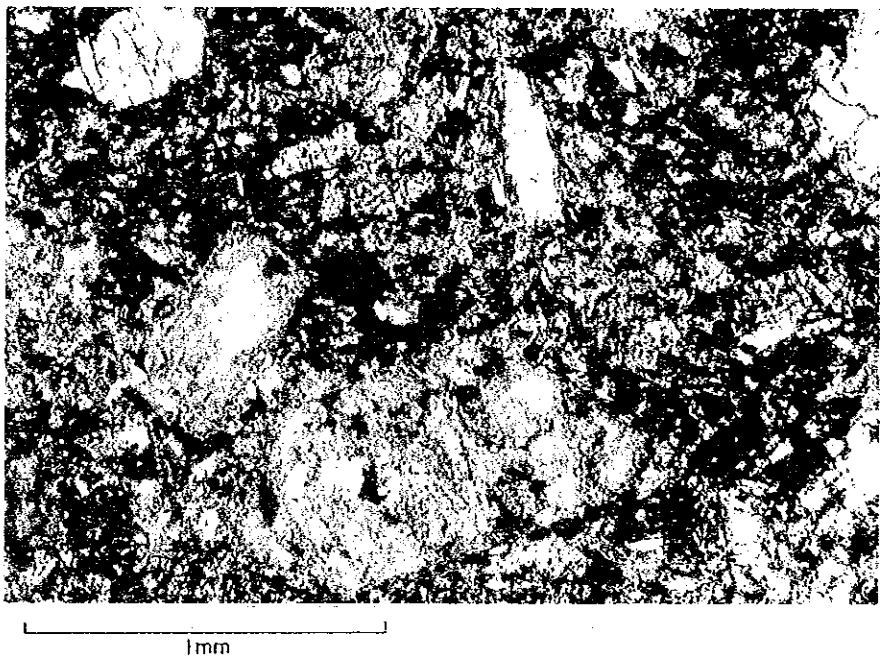
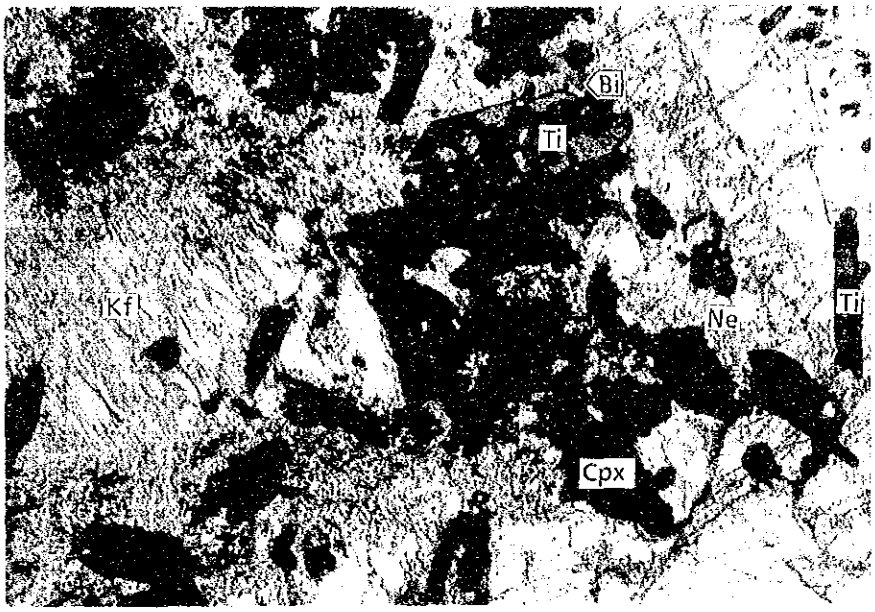


crossed polars

* Ca
(Pseudomorph after Ol)

Sample No.: MW-03
Location : Northwest of Mwena
Rock name : Monchiquite

Photomicrographs (thin section)



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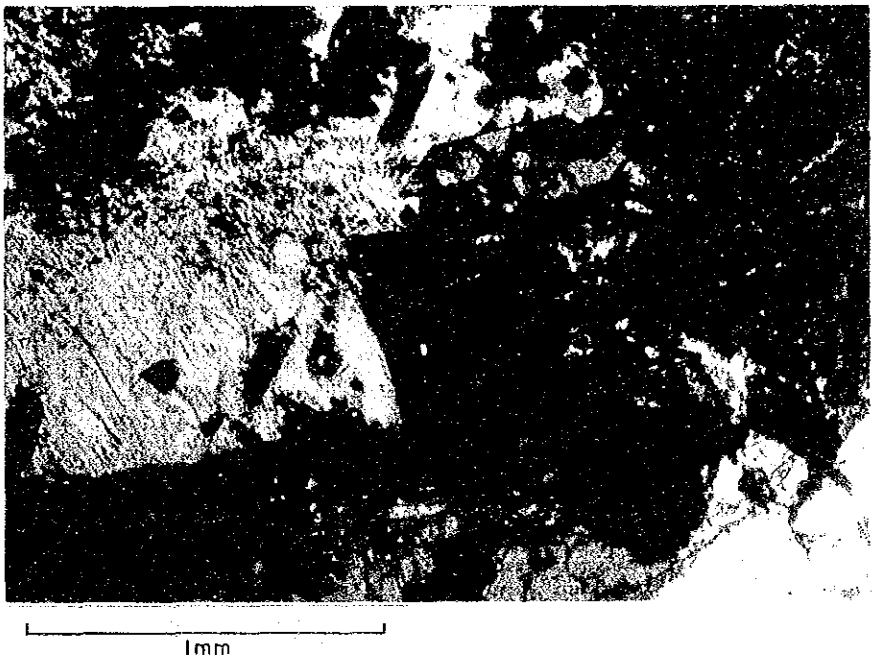
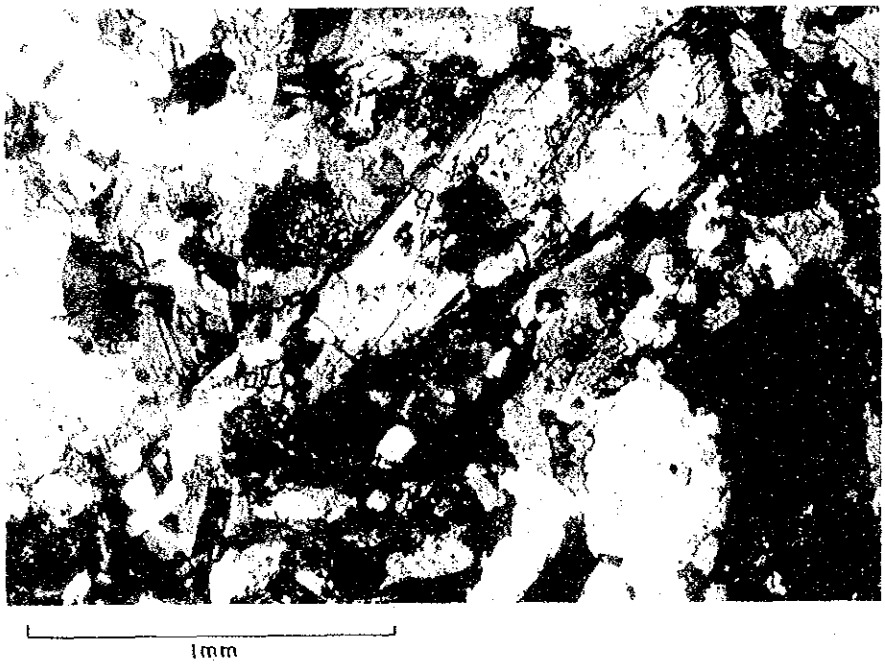


crossed polars

Sample No.: KR-032
Location : Jombo Hill
Rock name : Nepheline Syenite

Photomicrographs (thin section)

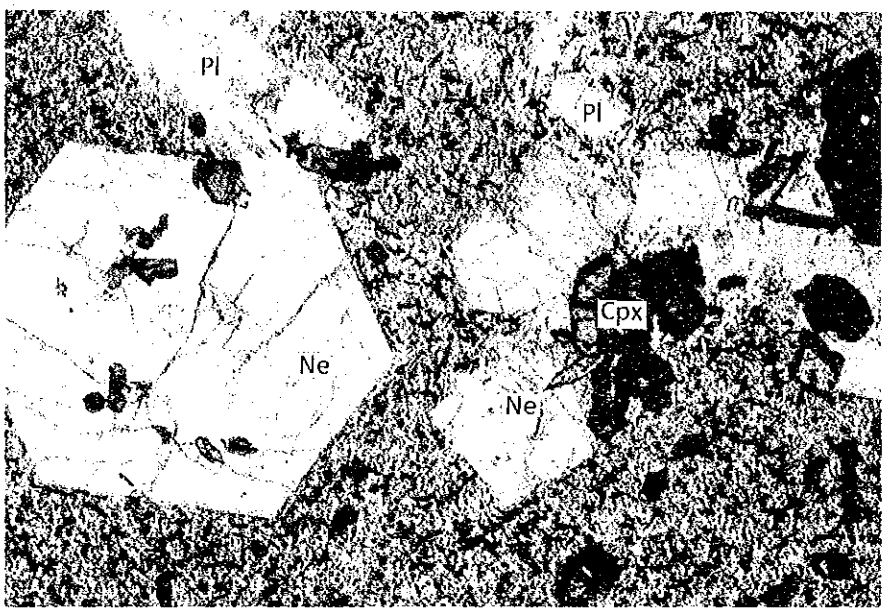
one polar



crossed polars

Sample No.: KR-020C
Location : Dzirihini
Rock name : Syenite

Photomicrographs (thin section)



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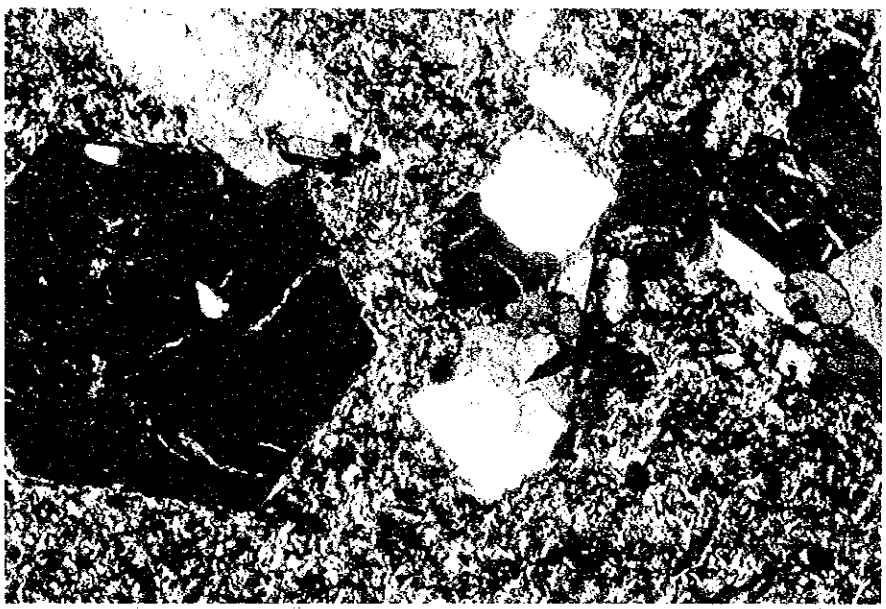
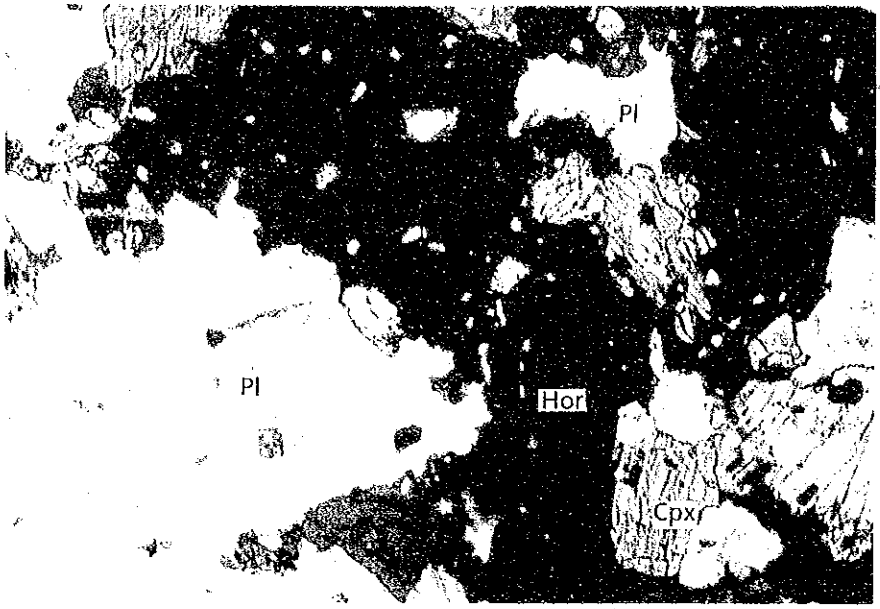


crossed polars

1mm

Sample No.: MR-114
Location : Henzamwenye
Rock name : Phonolite

Photomicrographs (thin section)



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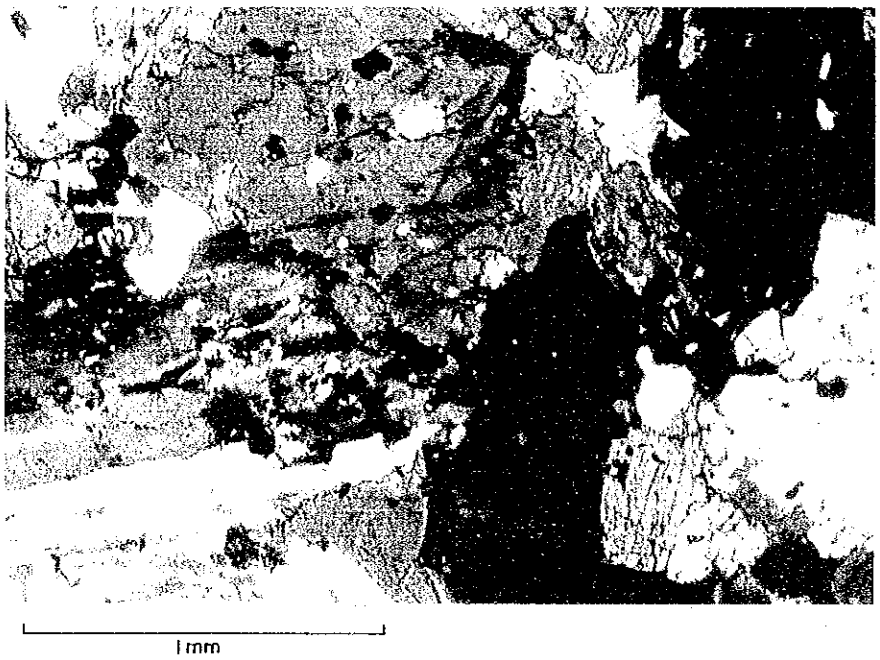
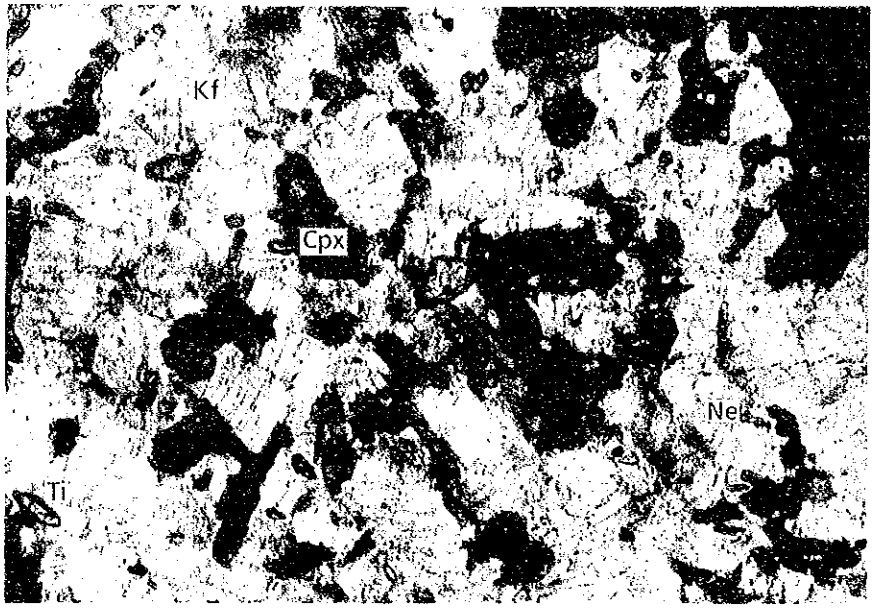


crossed polars

Sample No.: KR-025A
Location : South of Jombo Hill
Rock name : Gabbro

Photomicrographs (thin section)



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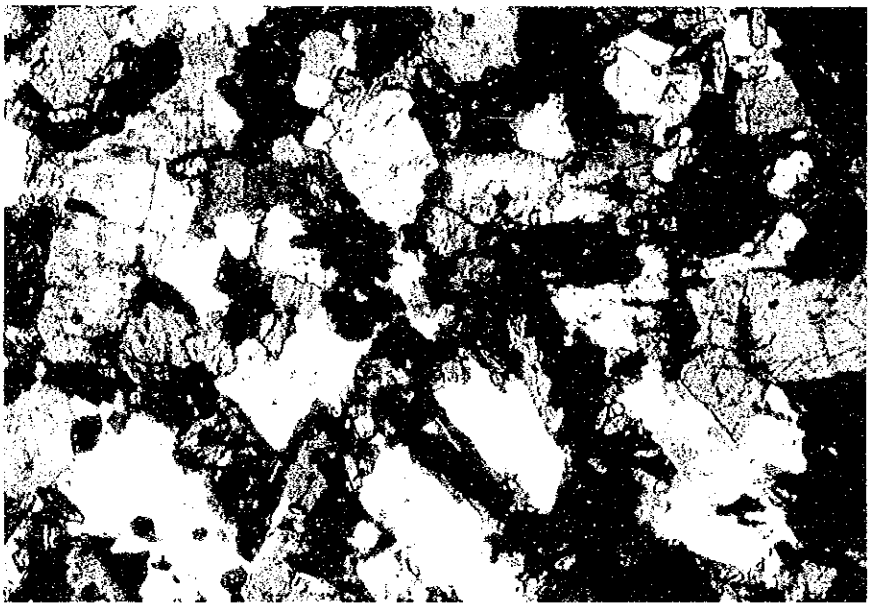

crossed polars

1mm

Sample No.: KR-025B
Location : South of Jombo Hill
Rock name : Nepheline Syenite

Photomicrographs (thin section)