

Bibliography of the Geology and Mineralogy of the Rare Earths and Scandium to 1971

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by JOHN W. ADAMS and ELEANORA R. IBERALL

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ROGERS C. B. MORTON, Secretary

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BIBLIOGRAPHY OF THE GEOLOGY AND MINERALOGY OF THE RARE EARTHS AND SCANDIUM TO 1971

BY JOHN W. ADAMS AND ELEANORA R. IBERALL

INTRODUCTION

PURPOSE AND SCOPE

This bibliography is intended as an aid to researchers interested in the geologic occurrence, geochemistry, and mineralogy of the rare earths and scandium. Although largely restricted to these fields, the bibliography includes some references in areas of analytical chemistry, ore beneficiation, uses, physical properties, and certain artificial rare-earth compounds that resemble minerals.

The compilation is, admittedly, far from complete, particularly in regard to scandium, but an attempt has been made to include at least a sampling of the papers that have been published up to and including early 1971. These papers will themselves contain many additional references that have been omitted from our bibliography.

ARRANGEMENT OF THE BIBLIOGRAPHY

Reports with single authors are arranged alphabetically under the author's last name; those with more than one author are listed under the last name of the first author. The full title of the article follows the name of the author or authors; titles given in the romance languages or German are generally not translated. The source of the article and publication date follow the title. Most of the articles are from journals whose names are abbreviated in the bibliography but which can be identified fully by referring to the list of serial publications.

References to abstracts of the papers are given, where possible, for those papers appearing in journals available only in major libraries, or written in a language not commonly understood by English-speaking readers

USE OF THE INDEX

The index to the bibliography is also arranged alphabetically, and includes both topical and geographic headings. Each first-order heading is followed by second-order and third-order headings. For example, an

abstract by Pabst and Woodhouse about an occurrence of thalenite near Kingman, Arizona, appears under the following headings:

Arizona

Mineral occurrence

Thalenite, near Kingman

Mineral data, RE minerals

Thalenite

Occurrence, Arizona

All references have at least one set of heading entries, and most have several. Complete indexing of references is, of course, impossible. This may be particularly evident when many topics, or data on samples from many localities, are discussed in a single reference. Indexing of references involving various types of rocks was difficult. We used two broad classifications for most igneous rocks: 1) plutonic rocks for those that are apparently intrusive, and 2) volcanic rocks for those considered to be extrusive. Carbonatites and related alkalic rock complexes are listed under carbonatites. Pegmatites are chiefly granitic pegmatites but may include some alkalic types.

ACKNOWLEDGMENTS

This bibliography was developed from references collected by the senior author in the course of a commodity study of the rare earths. He is indebted to many of his colleagues in the Geological Survey for calling attention to references that might otherwise have been overlooked, and to Jane P. Ohl for assistance in the early stages of the work.

MINERALS OF THE RARE EARTHS

The following glossary of minerals has been included in this report for the convenience of the user. The glossary contains the names and chemical formulas of all the more common rare-earth-bearing species and most of the rarer ones. Some of the mineral names shown are no longer accepted, and some represent rather dubious species, but these have nevertheless been included, because they may be met in titles in the bibliography. No attempt has been made to record all the synonyms that may be found for some of the mineral names. A compilation of synonyms is given in the Chemical Index of Minerals, by M. H. Hey (1962, 1963).

The chemical formula for each species is given where possible. The formula shown is not always satisfactory, as many of the species have not been well studied. For some, the formulas are in dispute, whereas other are members of complex substitution series.

Most rare-earth minerals contain detectable amounts of all the 14 naturally occurring members of the group, but commonly the assemblage in any one species is preponderantly rich in either the cerium or yttrium subgroup elements. It will be noted that the rare earths are shown in most of the formulas by the chemical symbol for either cerium (Ce) or yttrium

(Y) ; for example, the formula for calkinsite is given as $\text{Ce}_2 (\text{CO}_3)_3 \cdot 4\text{H}_2\text{O}$. This does not mean that cerium is the only rare-earth element in the mineral, but rather the mineral contains dominantly cerium subgroup elements of which cerium may expectably be the most abundant member. Similarly, the formula for weinschenkite (or churchite) is given as $\text{YPO}_4 \cdot 2\text{H}_2\text{O}$ to indicate that it is a phosphate of the yttrium subgroup of which yttrium is the dominant member. Some formulas, such as that of cordylite $(\text{Ce}, \text{La})_2\text{Ba} (\text{CO}_3)_3\text{F}_2$, are written so as to emphasize the presence of other members of the subgroup. In a few formulas, the symbol RE is used as an abbreviation for rare earths, no distinction being made as to the assemblage.

The names and formulas given in the list have been taken from various sources including Heinrich (1958c), Fleischer (1966), Vlasov (1966), Frondel, Fleischer, and Jones (1967), and more recent entries in the New Mineral Names section by Michael Fleischer that is published regularly in the *American Mineralogist*.

Rare-earth group of elements

[Includes the lanthanide elements and yttrium]

<i>Rare-earth element</i>	<i>Atomic number</i>
Cerium subgroup:	
Lanthanum (La) - - - - -	57
Cerium (Ce) - - - - -	58
Praseodymium (Pr) - - - - -	59
Neodymium (Nd) - - - - -	60
Promethium ¹ (Pm) - - - - -	61
Samarium (Sm)- - - - -	62
Europium (Eu) - - - - -	63
Yttrium subgroup:	
Gadolinium (Gd)- - - - -	64
Terbium (Tb)- - - - -	65
Dysprosium (Dy)- - - - -	66
Holmium (Ho) - - - - -	67
Erbium (Er) - - - - -	68
Thulium (Tm) - - - - -	69
Ytterbium (Yb)- - - - -	70
Lutetium (Lu) - - - - -	71
Yttrium (Y) - - - - -	39

¹Promethium is a radioactive element with a very short half-life. Although traces occur in some natural materials, promethium is best known as a synthetic element (a fission product of uranium) and is not commonly considered as a naturally occurring member of the rare-earth group.

Glossary of rare-earth minerals

Name	Composition	Remarks
Absite - - - - -	Thorian brannerite - - - - -	
Abukumalite - - -	$(\text{Y}, \text{Ce}, \text{Ca})_5 (\text{SiO}_4, \text{PO}_4)_3 (\text{O}, \text{OH}, \text{F})$	
Aeschnite - - - -	$(\text{Ce}, \text{Ca}, \text{Fe}, \text{Th}) (\text{Ti}, \text{Nb})_2\text{O}_6$ - - - - -	Also eschynite
Agardite - - - - -	$(\text{Y}, \text{Ca}, \text{H}) \text{Cu}_6 [(\text{AsO}_4)_3 (\text{OH})_6] \cdot 3\text{H}_2\text{O}$ - - - - -	
Allanite - - - - -	$(\text{Ca}, \text{Ce}, \text{Th})_2 (\text{Al}, \text{Fe}, \text{Mg})_3 \text{Si}_3\text{O}_{12}(\text{OH})$ - - - - -	Synonym: orthite
Alumobriholite - -	Aluminian briholite - - - - -	

Ambatoarinite - - -	$\text{Sr}_5 (\text{La}, \text{Ce}, \text{etc.})_{10} (\text{CO}_3)_{17} \text{O}_3 (?)$ - - - - -	Not well-defined. May be near ancylite or carbocernaite
Ampangabeite - - -	- - - - -	= samarskite
Ancylite - - - - -	$(\text{Ce}, \text{La}) (\text{Sr}, \text{Ca}) (\text{CO}_3)_2 (\text{OH}) \cdot \text{H}_2\text{O}$ - - - - -	
Ashcroftite - - - -	$\text{K Na Ca} [\text{Y}(\text{OH})_2]_2 [\text{Si}_6\text{O}_{12} (\text{OH})_6] \cdot 4\text{H}_2\text{O}$ - - - -	Tentative formula
Barsanovite - - - -	$\text{Na}, \text{Ca}, \text{Zr}, \text{Mn}, \text{Fe}, \text{Nb}, \text{RE silicate}$ - - - - -	May be = eudialite
Bastnaesite - - - -	$(\text{Ce}, \text{La}) \text{F CO}_3$ - - - - -	Also bastnäsite
Beckelite - - - - -	- - - - -	= britholite
Beiynite - - - - -	Rare-earth carbonate (?) - - - - -	Resembles bastnaesite
Belovite - - - - -	$(\text{Sr}, \text{Ce}, \text{Na}, \text{Ca})_5 (\text{PO}_4)_3 (\text{OH})$ - - - - -	Apatite group
Betafite - - - - -	$(\text{U}, \text{Ca})_2 (\text{Nb}, \text{Ti}, \text{Ta})_2 (\text{O}, \text{OH}, \text{F})_7$ - - - - -	RE varieties known
Blomstrandine - - -	- - - - -	= priorite
Braitschite - - - -	$7(\text{Ca}, \text{Na}_2)\text{O} \cdot \text{RE}_2\text{O}_3 \cdot 11\text{B}_2\text{O}_3 \cdot 7\text{H}_2\text{O}$ - - - - -	Tentative formula
Brannerite - - - - -	$(\text{U}, \text{Ca}_2\text{Th}, \text{Y}) (\text{Ti}, \text{Fe})_2 \text{O}_6$ - - - - -	
Britholite - - - - -	$(\text{Ca}, \text{Ce})_5 [(\text{Si}, \text{P}) \text{O}_{13} (\text{OH}, \text{F})]$ - - - - -	
Brockite - - - - -	$(\text{Ca}, \text{Th}, \text{Ce}) \text{PO}_4 \cdot \text{H}_2\text{O}$ - - - - -	
Burbankite - - - - -	$(\text{Na}, \text{Ca}, \text{Sr}, \text{Ba}, \text{Ce})_6 (\text{CO}_3)_5$ - - - - -	
Calciogadolinite - -	Calcian gadolinite - - - - -	
Calkinsite - - - - -	$\text{Ce}_2 (\text{CO}_3)_3 \cdot 4\text{H}_2\text{O}$ - - - - -	
Cappelenite - - - -	$\text{Y}_6 \text{Ba B}_6 \text{Si}_3 \text{O}_{25}$ - - - - -	
Carbocernaite - - -	$(\text{Ca}, \text{Ce}, \text{Na}, \text{Sr}) (\text{CO}_3)$ - - - - -	
Caryocerite - - - -	Borosilicate of Ce, Ca, Y, and Th - - - - -	Near melanocerite; identical with trito-mite (?)
Cenosite - - - - -	$\text{Ca}_2 (\text{Ce}, \text{Y})_2 \text{Si}_4 \text{O}_{12} \text{CO}_3 \cdot \text{H}_2\text{O}$ - - - - -	Also kainosite
Cerianite - - - - -	$(\text{Ce}, \text{Th}) \text{O}_2$ - - - - -	
Cerite - - - - -	Cerium silicate with minor Ca and Mg - - - - -	
Cerotungstite - - -	$(\text{RE})\text{W}_2\text{O}_6 (\text{OH})_3$ - - - - -	Cerian analogue of yttrotungstite
Cerphosphophut-tonite - - - - -	$(\text{Th}, \text{Ce}) (\text{Si}, \text{P}) \text{O}_4 \cdot 1.5\text{H}_2\text{O}$ - - - - -	
Cheralite - - - - -	$(\text{Ca}, \text{Ce}, \text{Th}) (\text{P}, \text{Si}) \text{O}_4$ - - - - -	
Chernovite - - - -	Y As O_4 - - - - -	
Chevkinite - - - - -	$(\text{Ca}, \text{Ce})_4 (\text{Fe}, \text{Mg})_2 (\text{Ti}, \text{Fe})_3 \text{Si}_4 \text{O}_{22}$ - - - - -	Also tscheffkinite
Chukrovite - - - -	$\text{Ca}_3 \text{Al}_2 (\text{Y}, \text{Ce}) (\text{SO}_4) \text{F}_{13} \cdot 10\text{H}_2\text{O}$ - - - - -	
Churchite - - - - -	$\text{Y PO}_4 \cdot 2\text{H}_2\text{O}$ - - - - -	Identical with weinschenkite
Cordylite - - - - -	$(\text{Ce}, \text{La})_2 \text{Ba} (\text{CO}_3)_3 \text{F}_2$ - - - - -	
Davidite - - - - -	$(\text{Fe}^{+2}, \text{La}, \text{U}, \text{Ca})_6 (\text{Ti}, \text{Fe}^{+3})_{15} (\text{O}, \text{OH})_{36}$ - - - -	
Delorenzite - - - -	- - - - -	= tanteuxenite
Doverite - - - - -	$\text{Ca Y} (\text{CO}_3)_2 \text{F}$ - - - - -	Yttrium analogue of synchysite
Dysanalyte - - - -	$(\text{Ca}, \text{Ce}, \text{Na}) (\text{Ti}, \text{Nb}, \text{Ta}) \text{O}_3$ - - - - -	Niobian perovskite
Ellsworthite - - - -	Part of pyrochlore-betafite series - - - - -	
Erikite - - - - -	Probably rhabdophane or monazite - - - - -	
Eschynite - - - - -	$(\text{Ce}, \text{Ca}, \text{Fe}, \text{Th}) (\text{Ti}, \text{Nb})_2 \text{O}_6$ - - - - -	Also aeschynite
Eucrasite - - - - -	May be a high RE thorite or thorogummite - - - -	Poorly defined species

Ewaldite	- - - - Ba (Y, Na, Ca) (CO ₃) ₂	- - - - -	Proposed name for mineral intergrown with mackelveyite
Fenghuanglite	- - - Thorian britholite	- - - - -	Synonym: fynchénite
Fergusonite	- - - (Y, Er, Ce, Fe) (Nb, Ta, Ti)O ₄	- - - - -	Part of fergusonite-formanite series
Fersmite	- - - - (Ca, Ce, Na) (Nb, Ti, Fe, Al) ₂ (O, OH, F) ₆	- - - - -	High RE variety reported
Florencite	- - - - Ce Al ₃ (PO ₄) ₂ (OH) ₆	- - - - -	
Fluocerite	- - - - (Ce, La) F ₃	- - - - -	Synonym: tysonite
Formanite	- - - - (Y, U, Th, Ca) (Ta, Nb, Ti)O ₄	- - - - -	Part of fergusonite-formanite series
Gadolinite	- - - - Be ₂ Fe Y ₂ Si ₂ O ₁₀	- - - - -	Calcian variety described
Gagarinite	- - - - Na Ca Y (F, Cl) ₆	- - - - -	
Hatchettolite	- - - Uranian pyrochlore	- - - - -	May be high in RE's
Hellandite	- - - near Ca ₃ Y ₄ B ₄ Si ₆ O ₂₇ · 3H ₂ O	- - - - -	
Hibonite	- - - - (Ca, Ce) (Al, Ti, Mg) ₁₂ O ₁₈	- - - - -	
Hjelmite	- - - - Possibly a variety of yttrotantalite	- - - - -	
Huanghoite	- - - Ba Ce (CO ₃) ₂ F	- - - - -	
Hydrocerite	- - - (La, Ce, Th) ₂ (Si, P) ₂ O ₇ · 5H ₂ O	- - - - -	May be a variety of rhabdophane
Hydroxyl-bastnaesite	- - - (Ce, La) (CO ₃) (OH, F)	- - - - -	
Ilimaussite	- - - Na ₄ Ba ₂ Ce Fe Nb ₂ Si ₈ O ₂₈ · 5H ₂ O	- - - - -	
Irinite	- - - Thorian loparite	- - - - -	
Ishikawaite	- - - (U, Fe, Y, Ce) (Nb, Ta)O ₄	- - - - -	
Joaquinite	- - - Ba ₂ Na Ce ₂ Fe (Ti, Nb) ₂ Si ₈ O ₂₆ (OH, F) ₂	- - - - -	
Johnstrupite	- - - - -	- - - - -	= mosandrite
Karnasurtite	- - - (La, Ce, Th) (Ti, Nb) (Al, Fe) (Si, P) ₂ O ₇ (OH) ₄ · 3H ₂ O	- - - - -	Also karnasurtite
Keilhauite	- - - RE-bearing variety of titanite	- - - - -	Synonym: yttrotitanite
Kemmlitzite	- - - (Sr, Ce) Al ₃ (AsO ₄) [(P, S)O ₄] (OH) ₆	- - - - -	Cerian variety
Khlopinite	- - - Titanium-rich samarskite (?)	- - - - -	Also chlopinite
Knopite	- - - (Ca, Ce) Ti O ₃	- - - - -	Cerian perovskite
Kobeite	- - - (Y, U) (Ti, Zr, Fe, Nb) ₂ (O, OH) ₆	- - - - -	
Koppite	- - - Cerian ferrian pyrochlore	- - - - -	
Lanthanite	- - - (La, Ce) ₂ (CO ₃) ₃ · 8H ₂ O	- - - - -	
Lermontovite	- - - (U, Ca, Ce) ₃ (PO ₄) ₄ · 6H ₂ O (?)	- - - - -	
Lessingite	- - - - -	- - - - -	= britholite
Llallaguaite	- - - Probably monazite	- - - - -	
Lombaardite	- - - May be allanite	- - - - -	
Loparite	- - - (Ce, Na, Ca) ₂ (Ti, Nb) ₂ O ₆	- - - - -	
Loranskite	- - - May be euxenite or polymignite	- - - - -	
Lovchorritite	- - - - -	- - - - -	See mosandrite

Lyndochite	- - - -	May belong in eschynite-priorite series	- - - - -
Mackelveyite	- - -	$\text{Na}_2 \text{Ba}_4 \text{Ca Y}_2 (\text{CO}_3)_9 \cdot 2\text{H}_2\text{O}$	- - - - - Also Mc Kelveyite
Magnesium-orthite	- - -	Magnesian allanite	- - - - -
Mangano-orthite	- - -	Manganoan allanite	- - - - -
Marignacite	- - -	Cerian pyrochlore	- - - - -
Melanocerite	- - -	Borosilicate of Ce, Ca, and Y	- - - - -
Mendeleyevite	- - -	Titanian betafite	- - - - -
Monazite	- - - -	$(\text{Ce, La, Nd})\text{PO}_4$	- - - - - Normally contains Th
Mosandrite	- - - -	$\text{Na}_2 \text{Ca}_4 \text{Ce Ti Si}_4 \text{O}_{10} (\text{F, OH})_3$	- - - - -
Muromontite	- - -	Beryllian allanite	- - - - -
Nagatelite	- - - -	Phosphatian allanite	- - - - -
Ningyoite	- - - -	$(\text{U, Ca, Ce}) (\text{PO}_4)_2 \cdot 1-2\text{H}_2\text{O}$	- - - - -
Niobo-eschynite	- - -	$(\text{Ce, Ca, Th}) (\text{Nb, Ti})_2 \text{O}_6$	- - - - -
Nioboloparite	- - -	Niobian loparite	- - - - -
Nordite	- - - -	$\text{Na}_3 (\text{Sr, Ca}) \text{Ce Mn}_2 \text{Si}_6 \text{O}_{18} (?)$	- - - - -
Oborite	- - - -	Reported to be like monazite	- - - - - Associated with beienite
Obruchevite	- - -	$(\text{Y, Na, Ca, U}) (\text{Nb, Ta, Ti, Fe})_2 (\text{O, OH})_6$	- - - - -
Orthite	- - - -	- - - - -	- - - - - = allanite
Parisite	- - - -	$(\text{Ce, La})_2 \text{Ca} (\text{CO}_3)_3 \text{F}_2$	- - - - -
Perrierite	- - - -	$(\text{Ca, Ce, Th})_4 (\text{Mg, Fe})_2 (\text{Ti, Fe})_3 \text{Si}_4 \text{O}_{22}$	- - - - - Dimorph of chevkinite
Pisekite	- - - -	Complex multiple oxide of Nb, Ta, Ti, U, and RE's	- - - - - Poorly defined species
Plumbopyrochlore	- - -	$(\text{Pb, Y, U, Ca})_2 \cdot x \text{Nb}_2 \text{O}_6 (\text{OH})$	- - - - -
Polycrase	- - - -	$(\text{Y, Ca, Ce, U, Th}) (\text{Ti, Nb, Ta})_2 \text{O}_6$	- - - - - Part of euxenite-polycrase series
Polymignite	- - -	$(\text{Ca, Fe, Ce}) (\text{Zr, Ti, Nb, Ta})_2 \text{O}_6$	- - - - - Possible formula
Pravdite	- - - -	Altered britholite	- - - - -
Priorite	- - - -	$(\text{Y, Er, Ca, U, Th}) (\text{Ti, Nb})_2 \text{O}_6$	- - - - - Part of eschynite-priorite series
Pyrochlore	- - - -	$(\text{Na, Ca, Ce})_2 (\text{Nb, Ti, Ta})_2 (\text{O, OH, F})_7$	- - - - - Part of pyrochlore-microlite series
Retzian	- - - -	$\text{Mn}_2 \text{Y} (\text{OH})_4 (\text{AsO}_4)$	- - - - -
Rhabdophane	- - -	$(\text{Ce, La}) \text{PO}_4 \cdot \text{H}_2\text{O}$	- - - - -
Rinkite	- - - -	May be mosandrite	- - - - -
Rinkolite	- - - -	May be mosandrite	- - - - -
Risörite	- - - -	- - - - -	- - - - - = fergusonite
Röntgenite	- - -	$\text{Ca}_2 \text{Ce}_3 (\text{CO}_3)_5 \text{F}_3$	- - - - -
Rowlandite	- - -	near $(\text{Y, Fe, Ce})_3 (\text{Si O}_4)_2 (\text{F, OH})$	- - - - -
Sahamalite	- - - -	$(\text{Mg, Fe}) \text{Ce}_2 (\text{CO}_3)_4$	- - - - -
Samarskite	- - -	$(\text{Y, Fe, U}) (\text{Nb, Ti, Ta}) (\text{O, OH})_6$	- - - - -
Samiresite	- - - -	Plumboan betafite	- - - - - Not well defined species
Saryarkite	- - - -	$(\text{Ca, Y, Th})_2 \text{Al}_4 (\text{Si O}_4, \text{PO}_4)_4 (\text{OH}) \cdot 9\text{H}_2\text{O}$	- - - - -
Scheteligite	- - - -	$(\text{Ca, Mn, Sb, Y})_2 (\text{Ti, Ta, Nb, W})_2 (\text{O, OH})_7$	- - - - - May be a form of pyrochlore

Silicorhabdophane-	Silicatian rhabdophane or monazite - - - - -	
Sinicite - - - - -	Uranium-rich eschynite- - - - -	
Smirnovskite - - -	(Th, Ce, Ca) (PO ₄ , Si O ₄) (OH, F) - - - - -	
Spencite- - - - -	Borosilicate of Y, Th, and Ca - - - - -	
Steenstrupine - - -	Ce ₄ Ca Na Si ₃ O ₁₂ (OH, F) - - - - -	
Stiepelmannite-	- - - - -	= florencite
Stillwellite- - - -	(Ce, La, Ca) B Si O ₅ - - - - -	
Sulfate-monazite-	Sulfatian monazite - - - - -	
Synchysite- - - - -	(Ce, La) Ca (CO ₃) ₂ F - - - - -	
Tantalopolycrase -	Tantalum-rich polycrase - - - - -	
Tanteuxenite - - -	Tantalum analogue of euxenite - - - - -	
Tengerite - - - - -	Y ₂ (CO ₃) ₃ · nH ₂ O- - - - -	
Thalenite - - - - -	Y ₂ Si ₂ O ₇ - - - - -	
Thorbastnaesite - -	Th (Ca, Ce) (CO ₃) ₂ F ₂ · 3H ₂ O - - - - -	
Thorsteensrupine	(Ca, Th, Mn) ₃ Si ₄ O ₁₁ F · 6H ₂ O - - - - -	
Thortveitite - - -	(Sc, Y) Si ₂ O ₇ - - - - -	
Titanorhabdophane	- - - - -	= tundrite
Tombarthite- - - -	Water-rich silicate of RE's - - - - -	Y is dominant RE
Törnebohmite - - -	Ce ₃ Si ₂ O ₈ (OH) - - - - -	
Treanorite- - - - -	- - - - -	= allanite
Tritomite - - - - -	Borosilicate of Ce, Ca, and Th - - - - -	May be identical with caryocerite
Tundrite - - - - -	Ce ₂ Ti (Si, P) (O, OH) ₇ · 4H ₂ O - - - - -	Also titanorhabdophane
Tysonite- - - - -	(Ce, La) F ₃ - - - - -	= fluocerite
Ufertite - - - - -	- - - - -	Synonym: davidite
Vudyavrite - - - -	Near Ce ₂ Ti ₂ Si ₄ O ₁₅ · 14H ₂ O - - - - -	May be altered mosandrite
Wakefieldite- - - -	Y VO ₄ - - - - -	
Weibyte - - - - -	Mixture bastnaesite and ancylite - - - - -	Discredited species
Weinschenkite- - -	Y PO ₄ · 2H ₂ O - - - - -	= churchite
Wiikite - - - - -	May be euxenite or obruchevite - - - - -	
Xenotime - - - - -	Y PO ₄ - - - - -	
Yttrialite - - - - -	(Y, Th) ₂ Si ₂ O ₇ - - - - -	
Yttrobetafite - - -	Cerian uranoan obruchevite - - - - -	
Yttrocerite - - - -	Cerian yttrian fluorite - - - - -	Also cerfluorite if Ce is dominant. Poorly defined names.
Yttrocolumbite - - -	(Y, U, Fe) (Nb, Ta) O ₄ - - - - -	
Yttrocrasite - - - -	(Y, Th, U, Ca) ₂ Ti ₄ O ₁₁ (?) - - - - -	
Yttrofluorite- - - -	4[(Ca, Y) F ₂₋₃] or (Ca, Y) (F, O) ₂ - - - - -	Also yttrian fluorite. YF ₃ may be 15-20 percent. Poorly defined.
Ytтроilmenite - - -	- - - - -	Synonym: samarskite
Yttroparisite - - -	Yttrian analogue of parisite- - - - -	Not well studied
Yttrotantalite - - -	(Fe, Y, U) (Nb, Ta) O ₄ - - - - -	
Yttrotitanite- - - -	- - - - -	Synonym: keihauite

Yttritungstite - - - $Y_2 W_5 O_{18} \cdot 4H_2O$ - - - - -

Zirconolite - - - $(Ca, Ce) Zr (Ti Nb)_2 O_7$ - - - - -

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 Xenotime, granodiorite, Pico de Itabirito: Wallace, R.
 M., 1976
 Xenotime, pyrometamorphic deposits, S. Amazonia:
 Kloosterman, J. B., 0976

Pegmatites

- Eschynite, Raposa deposit, Paraíba State: Adusumilli,
 M. S., 0023
 Florentinite, gorceixite: Bhaskara Rao, A., 0153
 Phosphate minerals: Bhaskara Rao, A., 0154

Placers

- Heavy minerals, coast: Gillson, J. L., 0595
 Monazite, Espírito Santo: Rocha, E. F., 1560
 Monazite production: Mining Journal, 1239

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- Heavy minerals, moraines, Rila Mts.: Tsvetkova-
 Goleva, V., 1869

Mineral occurrence

- Fluorite deposits: Aleksiev, E., 0036
 Monazite, allanite, Rila granite: Tsvetkova-Goleva, V.,
 1870

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- Accessory minerals, granites, Central: Spotts, J. H.,
 1760
 Accessory minerals in granites: Lee, D. E., 1070
 Airborne radioactivity studies: Moxham, R. M., 1276
 Allanite, brannerite, euxenite, localities: Murdoch,
 Joseph, 1294
 Allanite, monazite, xenotime: Melhase, John, 1202
 Kern River U deposit: MacKevett, E. M., Jr., 1142
 Mineral localities: Murdoch, Joseph, 1293
 Monazite, zircon, Rattlesnake granite, S.: Zimmerle,
 Winfried, 2082
 Radioactive deposits: Walker, G. W., 1974
 RE deposits: Pray, L. C., 1502
 RE distribution, batholith of S.: Towell, D. G., 1856
 RE resources: Adams, J. W., 0010

Mineral occurrence

- Allanite, Crestmore: Woodford, A. O., 2034
 Allanite, Crestmore: Woodford, A. O., 2036
 Allanite, Crestmore: Woodford, A. O., 2035
 Allanite, Forest Home: Hewett, D. F., 0765
 Brannerite, gneiss, Blankenship-Sykes prospect:
 Hewett, D. F., 0766
 Brannerite, monazite, Old Woman Springs quadrangle:
 Dibblee, T. W., Jr., 0408
 Brannerite, quartz veins, Mono County: Pabst, 1403
 Brannerite, with gold, Plumas County: Pabst, Adolf,
 1404
 Cerianite, vesuvianite, San Benito County: Murdoch,
 Joseph, 1292
 "Nuevite", Riverside County: Murdoch, Joseph, 1291
 Thorite, black sand concentrate, La Grange: George, D.
 R., 0577
 Xenotime, S. Music Valley: Evans, J. R., 0472

California*Mountain Pass, San Bernardino County*

- Age of alkalic rocks: Lanphere, M. A., 1060
 Association RE with alkalic rocks: Olson, J. C., 1360
 Bastnaesite, cerite: Glass, J. J., 0603
 Bastnaesite, cerite, monazite, sahalmalite: Olson, J. C., 1365
 Bastnaesite deposits, Birthday claims: Sharp, W. N., 1688
 Bastnaesite discoveries: Pray, L. C., 1503
 Bastnaesite, monazite: Jaffe, H. W., 0881
 Bastnaesite processing: Shaw, V. E., 1693
 Bastnaesite, uses of RE: Cannon, 0285
 Eu oxide production: Evans, J. R., 0473
 Milling RE ore: Dayton, S. H., 0387
 Production of RE chloride: Kruesi, P. R., 1026
 RE deposits: Olson, J. C., 1364
 Sahamalit: Jaffe, H. W., 0884

Pegmatites

- Allanite, New York Mts.: Volborth, Alexis, 1954
 Allanite, San Gabriel Mts., Los Angeles County: Neuerburg, G. J., 1319
 Allanite, Yosemite: Hutton, C. O., 0840
 Euxenite, betafite, San Bernardino County: Hewett, D. F., 0764
 Monazite, granodiorite, Riverside County: Dykes, L. H., 0433
 Yttrialite, monazite, cyrtolite, samarskite, near Nuevo: Patchick, P. F., 1431

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- Beach sand mineralogy: Hutton, C. O., 0842
 Beach sands, Halfmoon to Monterey Bays: Hutton, C. O., 0844
 Monazite, thorite, San Mateo County: Hutton, C. O., 0841

Cameroon*General*

- Distribution of RE in granites: Aleksiev, E., 0034

Canada*Bancroft, Ontario*

- Allanite, cyrolite, apatite: Satterly, J., 1621
 Allanite, cyrtolite, euxenite, fergusonite: Satterly, J., 1620
 Cenosite, Bicroft mine: Pouliot, G., 1494

Blind River area, Ontario

- Brannerite: Traill, R. J., 1859
 Elliot Lake ores, brannerite: Honeywell, W. R., 0807
 Monazite, Elliot Lake U ores: Roscoe, S. M., 1565
 Radioactive deposits: Roscoe, S. M., 1567
 Th, U, Elliot Lake: Griffith, J. W., 0655
 U in conglomerates, monazite, euxenite: Davidson, C. F., 0379
 U, Th resources, Elliot Lake: Griffith, J. W., 0657
 U, Th resources, Elliot Lake: Griffith, J. W., 0658

British Columbia

- Bastnaesite, Rexspar fluorite mine: British Columbia Department of Mines 0243
 Minerals in fluorite-celestite, Birch Island: Buchanan, R. M., 0258
 Trace elements, carbonates, limestones, Ice River: Deans, Thomas, 0390
 U mineralization, allanite, monazite: Stevenson, J. S., 1777

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- Analyses of rocks, minerals, ores: Maxwell, J. A., 1198
 Beryllium deposits: Mulligan, Robert, 1284
 CAAS syenite, Bancroft area: Webber, G. R., 1992
 Deposits of U, Th: Lang, A. H., 1057
 Eudialyte, Labrador; euclolite, Quebec: Hicks, W. D., 0771
 Huronian rocks, U conglomerates, Shield: Roscoe, S. M., 1566
 Mineral localities: Ellsworth, H. V., 0455
 Mineral occurrences: Traill, R. J., 1860
 Nb deposits, Bugaboo Placer, B.C., Oka, Quebec: Rowe, R. B., 1581
 Nb, Ta deposits: Jones, R. A., 0904
 Raw materials, RE occurrences: McCartney, W. D., 1124
 Reserves, radioactive deposits: Griffith, J. W., 0656
 U resources, bastnaesite, brannerite: Lang, A. H., 1058
 U, Th deposits: Lang, A. H., 1059

Labrador

- Geochemical survey of Seal Lake area: Brummer, J. J., 0254

Manitoba

- Euxenite, polycrase, monazite, pegmatites, Winnipeg Lake area: Davies, J. F., 0382

Mineral occurrence

- Allanite, columbite: Walker, T. L., 1975

Northwest Territories

- Monazite, beach concentrates, Yellowknife district: Folinsbee, R. E., 0519

Oka, Quebec

- Apatite, britholite: Hughson, M. R., 0822
 Betafite, pyrochlore: Hogarth, D. D., 0798
 Classification of perovskite group: Nickel, E. H., 1333
 Mineralogy: Gold, D. P., 0610
 Nb-RE-Ti minerals: Sclar, C. B., 1654
 Pyrochlore, Nb-perovskite: Nickel, E. H., 1332
 Pyrochlore: Perrault, Guy, 1459
 Pyrochlore: Perrault, Guy, 1458
 Pyrochlore production: Carboneau, C., 0287
 Treatment of pyrochlore ore: Fancher, J. A. R., 478a

Ontario

- Bastnaesite, parisite, syenite pegmatites, Marathon area: Mandarino, J. A., 1161
 Betafite, apatite, carbonate rocks, Faraday township: Gulbrandsen, R. A., 0674
 Brannerite: Nuffield, E. W., 1347
 Calciosamaraskite, Parry Sound: Ellsworth, H. V., 0453
 Calciosamaraskite, Woodcox mine, Hybla: Ellsworth, H. V., 0452
 Cenosite, calcite-apatite veins, North Burgess township: Graham, R. P. D., 0648
 Cenosite, N. Burgess township: Berry, L. G., 0146
 Cenosite: Volodina, G. F., 1959
 Cerianite, nepheline gneiss, Lackner township: Graham, A. R., 0647
 Euxenite, pyrochlore, pegmatites, Eau Claire: Heinrich, E. W., 0741
 Mining, Elliot Lake, Stanrock U Mines: Ontario Department of Mines, 1377
 Monazite, black, Dickens township: Ellsworth, H. V., 0451
 Possible carbonatite, Newman deposit, mineralogy: Rowe, R. B., 1580

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- Radioactive minerals: Watts, S. H., 1991
 RE of Grenville region: Rose, E. R., 1568
 Spencite, pegmatite, Cardiff township: Frondel, Clifford, 0534
 U, Th deposits, Sudbury: Thomson, J. E., 1841

Quebec

- Allanite, Huddersfield township: Marble, J. P., 1166
 Ancylicite, bastnaesite, burbankite, rinkite, Mont St. Hilaire: Chao, G. Y., 0301
 Euclite, pegmatites, St. Hilaire: Boissonault, Jean, 0184
 Euxenite, Grenville pegmatite: Robinson, S. C., 1555
 Evans-Lou pegmatite: Hogarth, D. D., 0800
 Monazite, tengerite, pegmatite, W. Portland township: Spence, H. S., 1756
 Oka carbonatite: Gold, D. P., 0611
 Radioactive minerals: Shaw, D. M., 1692
 RE of Grenville region: Rose, E. R., 1568
 Unnamed RE carbonate, Mt. St. Hilaire: Mandarino, J. A., 1160
 Wakefieldite, pegmatite: Miles, N. M., 1216
 Wakefieldite, pegmatite, Wakefield: Hogarth, D. D., 0801
 Xenotime, metamorphic rocks: Shaw, D. M., 1691
 Y-andradite, Gatinneau Park: Kasowski, M. A., 0928

Renfrew County, Ontario

- Lyndochite, Lyndoch township: Butler, J. R., 0273
 Lyndochite, Lyndoch township: Ellsworth, H. V., 0451
 Sphene-allanite pegmatites: Heinrich, E. W., 0737

Saskatchewan

- Allanite, monazite, Goldfields: Robinson, S. C., 1554
 Apatite veins, Nisikitch Lake: Hogarth, D. D., 0797

Central America*General*

- RE deposits: Kogan, B. I., 0984

Ceylon*General*

- RE minerals, eschynite, chevkinite, samarskite: Wadia, D. N., 1968

Chemistry*General*

- Basicity characteristics, Sc, Y, RE: Moeller, Therald, 1257
 Bibliography of RE: Bertrand, C. C., 0148
 Bibliography of RE: Mironov, K. E., 1242
 Chlorides, fluorides in nature, position on periodic table: Shcherbina, V. V., 1698
 Complex ions, element transfer: Shcherbina, V. V., 1697
 Composition of RE minerals: Borovskii, I. B., 0217
 Europium: McCoy, H. N., 1129
 Fractionation of RE bromates: Marsh, J. K., 1177
 Gd in aqueous and silicate phases: Cullers, R. L., 0363
 Lanthanide, actinide elements: Cunningham, B. B., 0364
 Migration Nb, Be, RE, alkaline waters: Kraynov, S. R., 1014
 Migration of RE as alkali fluorides: Mineev, D. A., 1226
 Periodic classification: Yagoda, Herman, 2042
 RE and Sc: Pascal, Paul, 1429
 RE electronegativities: Montgomery, R. L., 1262
 RE fractionation by zeolite action: Russell, R. G., 1592
 RE mixtures, transfer of RE: Mineev, D. A., 1229
 RE sedimentary deposits: Krauskopf, K. B., 1012
 Separating techniques for RE: Topp, N. E., 1851

Chemistry*General*

- Solutions of RE, Ca, Sr, Ba, Pb: Zambonini, Ferruccio, 2068
 Subgrouping Y group elements: Vagina, N. S., 1899
 Transportation of RE, hydrothermal solutions: Kosterin, A. V., 0999
 Trivalent lanthanides, actinides: Choppin, G. R., 0322
 Yttrium, fluoride complexing: Paul, A. D., 1433
Textbooks
 Analytical: Vickery, R. C., 1940
 General: Yost, D. M., 2051
 Lanthanide group: Gschneidner, K. A., Jr., 0671
 Lanthanides: Moeller, Therald, 1255
 Lanthanons: Vickery, R. C., 1936
 Rare earths: Levy, S. I., 1094
 Rare earths: Spedding, F. H., 1755
 Rare earths: Topp, N. E., 1852
 Rare earths: Trifonov, 1861
 RE research: Nachman, J. F., 1304
 RE research: Vorres, 1967
 Science, technology of RE: Eyring, LeRoy, 0475
 Science, technology of RE: Eyring, LeRoy, 0476
 Study of RE: Trifonov, D. N., 1862
 Y and Sc: Vickery, R. C., 1939

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- RE distribution in minerals, N.E: Fujii, Isao, 0547
 RE mineral deposits: Lee, K. Y., 1072

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- Betafite, Kaijo: Kawai, Teikichi, 0935
 Samarskite, pegmatite: Takubo, Jitsutaro, 1811

Mineral occurrence

- Bastnaesite, beiyinite, oborite, Beiyin Obo: Ho, T. L., 0792
 Eschynite, magnetite, North: Chang, Pei-Shan, 0297
 Fenghuangite (britholite), Feng-huang: Peng, Chi-Jui, 1454
 Fergusonite, granite, Nan-ling: Wang, T. F., 1979
 Fluorites: Chang, Ting-Chao, 0300
 Lyndochite: Gorzhevskaya, S. A., 0638
 Samarskite, albitized granite: Chen, T.-C., 0314

Mongolia

- Eschynite, Inner: Chang, Pei-Shan, 0295
 Monazite, carbonate veins, Yin Shan Range: Chang, Pei-Shan, 0298

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- Monazite, tin sands, northeastern Kuangsi: Peng'Ch'i-Jui, 1452

Colombia*General*

- Parasite, codazzite, monazite: Wokittel, Roberto, 2030

Colorado*General*

- Alkaline granites, pegmatites, Mt. Rosa area: Gross, E. B., 0668
 Distribution of RE, Tertiary dikes, Front Range: Bray, J. M., 0240
 Geochemistry of pegmatites, Mt. Rosa, Pikes Peak: Gross, E. B., 0670
 Mineral localities: Eckel, E. B., 0436
 Monazite, brannerite, Climax: Vanderwilt, J. W., 1912
 Pyrochlore, monazite, bastnaesite, Mt. Rosa area: Gross, E. B., 0669
 RE content, Pikes Peak batholith: Hutchinson, R. M., 0834
 RE resources: Adams, J. W., 0007
 Th, RE resources: Kelly, F. J., 0941

Colorado*Mineral occurrence*

- Allanite, biotite porphyry, Ten Mile district: Iddings, J. P., 0848
- Allanite, Boulder Creek Batholith: Hickling, N. L., 0769
- Allanite, Boulder Creek batholith: Hickling, N. L., 0770
- Ancylite, monazite, apatite, Gem Park: Parker, Raymond L., 1421
- Bastnaesite, Pikes Peak granite: Adams, J. W., 0020
- Bastnaesite, tysonite, Cheyenne Mt.: Hillebrand, W. F., 0787
- Brannerite, Mt. Antero, Chaffee County: Adams, J. W., 0005
- Calcite, phosphorescent, Fort Collins: Headden, W. P., 0726
- Cerite, Jamestown: Hanson, R. A., 0695
- Cerite, tornebohmite, Jamestown: Goddard, E. N., 0607
- Doverite, Cotopaxi: Levinson, A. A., 1093
- Euxenite, Chaffee County: Muench, O. B., 1283
- Euxenite, Trout Creek: Marble, J. P., 1166
- Fluorite, Jamestown: Bray, J. M., 0241
- Monazite, xenotime, Central City: Young, E. J., 2057
- Monazite, xenotime, metamorphic rocks, Gilpin County: Young, E. J., 2056
- Rhabdophane-type: Dooley, J. R., Jr., 0419
- Spessartite, Sc content, Nathrop: Frondel, Clifford, 0537
- Tengerite, Roscoe, Cotopaxi: Haynes, C. V., Jr., 0722
- Yttrium in uraninite: Gross, E. B., 0667

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- Allanite, gadolinite, Devils Head Mt.: Eakins, L. G., 0434
- Apatite, sphene, Eagle: Young, E. J., 2053
- Bastnaesite, tysonite: Hidden, W. E., 0775
- Bastnaesite, tysonite, Pikes Peak: Allen, O. D., 0046
- Cenosite, Cotopaxi: Heinrich, E. W., 0748
- Fluocerite, samarskite, gadolinite, Black Cloud: Heinrich, E. W., 0750
- Fluorite-RE minerals, Chaffee, Fremont Counties: Heinrich, E. W., 0730
- Investigations: Hanley, J. B., 0692
- Monazite, Brown Derby: Heinrich, E. W., 0746
- Monazite, Jefferson County: Waldschmidt, W. A., 1973
- Monazite, Quartz Creek district: Staatz, M. H., 1766
- Mt. Rosa, Pikes Peak, RE minerals: Gross, E. B., 0670
- Occurrences: Heinrich, E. W., 0745
- RE-fluorine, South Platte district: Simmons, W. B., Jr., 1714
- South Platte—Lake George area: Heinrich, E. W., 0736
- Thalenite, South Platte district: Adams, J. W., 0017
- Thalenite, Teller County: Adams, J. W., 0015
- White Cloud, gadolinite, doverite, yttriofluorite: Haynes, C. V., Jr., 0723
- White Cloud mine, South Platte: Haynes, C. V., Jr., 0721
- Y-minerals, Lake George: Glass, J. J., 0605

Placers

- San Juan Basin: Chenoweth, W. L., 0315

Powderhorn district, Gunnison County

- Association RE with alkalic rocks: Olson, J. C., 1360
- Carbonatite and alkalic rocks: Temple, A. K., 1834
- Monazite, synchesite, bastnaesite: Hedlund, D. C., 0727
- Processing RE from siliceous ores: Borrowman, S. R., 0219
- Th and RE minerals, bastnaesite, synchesite: Olson, J. C., 1366

Colorado*Wei Mts., Custer and Fremont Counties*

- Brookite: Fisher, F. G., 0500
- Geology and thorium deposits: Christman, R. A., 0323
- RE-Th carbonate veins: Staatz, M. H., 1765
- Th deposits: Christman, R. A., 0324

Congo, Republic of*General*

- Absorption spectra of minerals: Corin, François, 0347
- Bastnaesite production: Mining Journal, 1236
- Lueshe carbonatite, Kivu: Van Wambeke, L., 1920
- Trace elements, carbonatites, limestones: Higazy, R. A., 0781

Mineral occurrence

- Davidite, Kirumba syenite massif: Van Wambeke, L., 1922
- Monazite, Shinkolobwe U deposit: Derriks, J. J., 0404
- Monazite, vein deposits, Shinkolobwe: Thoreau, J., 1843
- Tanteuxenite, Ituri: Van Wambeke, L., 1918

Connecticut*General*

- Allanite, fluorite, accessory in granites: Dale, T. N., 0370
- Mineral localities: monazite, samarskite, eschynite: Sohon, J. A., 1742

Mineral occurrence

- Eschynite, monazite, others: Schairer, J. F., 1625
- Monazite, Hale quarry; eschynite, Flatrock quarry: Foye, W. G., 0524
- Rhabdophane, Salisbury: Hildebrand, F. A., 0783
- Rhabdophane, Scoville pit: Hobbs, W. H., 0794
- Sphene, granitic gneiss, S.E.: Goldsmith, Richard, 0624

Crystal chemistry*General*

- Aluminates, sesquioxides, silicates: Warsaw, Israel, 1985
- Apatite (Synthetic): Grisafe, D. A., 0665
- Arsenates, phosphates, vanadates: Schwarz, H., 1652
- CaF₂-YF₃ crystals: Short, James, 1711
- Double oxides, trivalent elements: Keith, M. L., 0939
- Fluorides, LaF₃ type: Schlyter, Kurt, 1636
- La-trifluoride: Mansmann, M., 1164
- Metamict euxenite-eschynite group: Serfert, M., 1680
- Na-Y orthosilicates: Maksimov, B. A., 1157
- Polymorphism of orthoniobates: Godina, N. A., 0608
- Preparation, structure, RE titanates: McCarthy, G. J., 1123
- RE in fluorite structure: Roy, D. M., 1586
- Relation, coordination number, RE distribution: Khomyakov, A. P., 0949
- RE pyrosilicates: Lazarev, A. N., 1067
- Spessartite-yttrogarnet: Yoder, H. S., Jr. 2046
- Structural relations, RE phosphates: Ivanov, V. I., 0874
- Structure of retzian: Moore, P. B., 1264
- Structure of Y:TiO₃: Mumme, W. G., 1285
- YF₃, crystal structure: Zalkin, Allan, 2065

Crystal chemistry*Individual minerals*

- Allanite: Ueda, Tateo, 1881
 Apatite: Cockbain, A. G., 0334
 Apatite: McConnell, Duncan, 1128
 Bazzite, structure: Peyronel, Giorgio, 1466
 Burbankite: Voronkov, A. A., 1965
 Cenosite, structure: Rumanova, I. M., 1590
 Cenosite: Volodina, G. F., 1959
 Cerite: Keppler, Ulrich, 0944
 Cheralite, structure: Finney, J. J., 0498
 Chevkinitite: Bonatti, Stefano 0190
 Datolite, gadolinite: Ito, Teichi, 0871
 Eschynite: Alexandrov, V. B., 0041
 Fergusonite polymorph: Wolten, G. M., 2032
 Gadolinite, structure: Pavlov, P. V., 1439
 Loparite, pyrochlore: Gaertner, H. R., 0549
 Monazite: Kokkoros, Peter, 0986
 Monazite: Krstanovic, I. R., 1024
 Monazite, structure: Ghouse, K. M., 0591
 Monazite, structure: Ghouse, K. M., 0592
 Monazite: Ueda, Tateo, 1883
 Monazite: Ueda, Tateo, 1880
 Perrierite: Bonatti, Stefano 0190
 Perrierite, structure: Gottardi, Glauco, 0643
 Pyrochlore: Aleshin, Eugene, 0037
 Pyrochlore, structure: Perrault, Guy, 1459
 Rinkite: Kheirov, M. B., 0947
 Samarskite: Komkov, A. I., 0992
 Stillwellite: Voronkov, A. A., 1964
 Thorveitite structure: Cruickshank, D. W. J., 0361
 Xenotime: Krstanovic, Ilija, 1025
 Yttrialite: Ueda, Tateo, 1886

Thorveitite

- Crystal structure: Zachariasen, W. H., 2063

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- Metamict orthites: Bouska, 0231
 Mineral localities, fluorite: Kratchvil, 1011

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- Fergusonite, Zulová: Bouska, Vladimir, 0230

Deposits, geologic types*Alkalic rock complexes*

- Arkansas, Magnet Cove: Erickson, R. E., 0464
 Arkansas, Magnet Cove: Rose, H. J., Jr., 1571
 Associated minerals: Agard, Jules, 0026
 Brazil, allanite, Poços de Caldas: Wedow, Helmuth, Jr., 1994
 Brazil, Morro Ferro: Moraes, L. J. de, 1267
 Brazil, Poços de Caldas, Araxá, Tapira, reserves: Roser, F. X., 1575
 Brazil, Poços de Caldas massif: Ellert, Reinhold, 0450
 Brazil, Poços de Caldas: Tolbert, G. E., 1848
 Brazil, Poços de Caldas: Tolbert, G. E., 1849
 Brazil, Poços de Caldas: Wedow, Helmuth, Jr., 1993
 California, Mountain Pass, Colorado, Powderhorn: Olson, J. C., 1360
 California, Mountain Pass district: Olson, J. C., 1365
 California, Mountain Pass: Evans, J. R., 0473
 California, Mountain Pass: Jaffe, H. W., 0881
 California, Mountain Pass, sahalamite: Jaffe, H. W., 0884
 China, RE deposits: Lee, K. Y., 1072
 Colorado, Powderhorn district, Th and RE minerals: Olson, J. C., 1366
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 Ghana, nepheline syenite gneisses: Bates, D. A., 0117

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- Greenland, Ilmaussaq: Hansen, John, 0694
 Greenland, Ilmaussaq: Sorensen, Henning, 1749
 Greenland, Julianhaab, nepheline syenites: Bondam, J., 0191
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 Idaho, syenite complex: Leonard, B. F., 1078
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 North Vietnam, carbocernaite: Bulakh, 0261
 Ontario, Marathon area syenite pegmatites: Mandarino, J. A., 1161
 Possible carbonatite, Brazil: Mau, Henry, 1195
 Possible carbonatite, monazite, China: Chang, Pei-Shan, 0298
 Possible carbonatite, monazite in calcareous rocks, Idaho: Abbott, A. T.: Abbott, A. T., 0002
 Possible carbonatite, Newman deposit, Ontario: Rowe, R. B., 1580
 Possible carbonatite, N. Lemhi County, Idaho: Anderson, A. L., 0050
 Possible carbonatite, paragenesis, Ravalli County, Montana: Heinrich, E. W., 0751
 Possible carbonatite, S. Ravalli County, Montana: Crowley, F. A., 0355
 Possible carbonatites, Ravalli County, Montana: Heinrich, E. W., 0752
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 Quebec, Oka deposit: Perrault, Guy, 1459
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 Quebec, Oka, reserves Nb: Rowe, R. B., 1581
 RE minerals, Seal Lake area, Labrador: Brummer, J. J., 0254
 Sierra Leone, allanite, bastnaesite: Wilson, N. W., 2028
 Sweden, Alnö Island dikes: Eckermann, Harry von, 0438
 Sweden, Alnö Island: Eckermann, Harry von, 0437
 Sweden, genesis Norra Kärr body: Eckermann, Harry von, 0439
 Ural Mts., miaskite intrusion: Zhabin, A. G., 2076
 Ural Mts., nepheline syenite massif: Svyazhin, N. V., 1806
 U.S.S.R., alkalic granites, Ognitsk: Kovalenko, V. I., 1005
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 U.S.S.R., bastnaesite, cordylite, Pamir: Dmetriev, E. D., 0413
 U.S.S.R., bastnaesite: Kirillov, A. S., 0966
 U.S.S.R., carbonate veins, parsite: Kuz'menko, V. I., 1044
 U.S.S.R., fenites, rhabdophane, Vishnevye Mts.: Khalezova, E. B., 0946
 U.S.S.R., genetic types of deposits: Murmin, Yu. A., 1296
 U.S.S.R., geochemistry of Vishnevye Mts.: Es'kova, E. M., 0469
 U.S.S.R., granosyenite, RE fluoro-carbonates: Khomyakov, A. P., 0951
 U.S.S.R., ilimaussite, nepheline pegmatite: Sokolova, M. N., 1744
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 Perrierite, thortveitite, Kobe, Omiya: Sakurai, Kinichi, 1609

Japan

Mineral occurrence

- Allanite, fluorite, near Naegi: Takimoto, Kiyosi, 1810
 Allanite, Fukuoka Prefecture: Misumi, Seizo, 1244
 Allanite, Fukushima, Kagawa Prefectures: Hasegawa, Shuzo, 0700
 Allanite, variety nagatelite: Iimori, Satoyasu, 0851
 Apatite, yttrian, Naegi, Gifu Prefecture: Omori, Keiichi, 1375
 Calciogadolinite, Tadati, Nagano Prefecture: Nakai, Toshio, 1311
 Euxenite-polycrase-type, Toyama Prefecture: Takubo, Jitsutaro, 1814
 Fergusonite, gadolinite, allanite: Kawai, Teikichi, 0935
 Fergusonite, monazite, Takehara, Mie Prefecture: Sakurai, Kinichi, 1611
 Fergusonite, naegite, monazite, Naegi: Shibata, Yuji, 1703
 Gadolinite, Yamanashi Prefecture: Sakurai, Kinichi, 1608
 Ishikawaite, Ishikawa Prefecture: Kimura, Kenjiro, 1922, On ishikawaite, a new mineral f0962
 Ishikawaite, Iwaki: Shibata, Yuji, 1704
 Monazite, accessory in Saware granite: Karakida, Yoshifumi, 0924
 Monazite, Ebisu mine, Gifu Prefecture: Kato, Toshio, 0929
 Ningyoite: Muto, Tadashi, 1301
 Tengerite, Far East district: Nagashima, Kozo, 1310
 Thalenite, Suishoyama, Fukushima Prefecture: Nagashima, Kozo, 1308
 Xenotime, Takehara, Mie Prefecture: Sakurai, Kinichi, 1610
 Yttriofluorite, Suishoyama: Uetani, Keiji, 1887

Pegmatites

- Allanite, fergusonite, Osaka, Etrime Prefectures: Takubo, Jitsutaro, 1816
 Allanite, Osaka, Nara, Kagawa, Ehime Prefectures: Hasegawa, Shuzo, 0701
 Fergusonite, allanite, Shimo-ono, Ibaraki Prefecture: Nagashima, Kozo, 1309
 Thalenite, allanite, fergusonite: Japan Geological Survey, 0893
 Yttrilite, Komenono: Ueda, Tateo, 1886

Placers

- Monazite, Itoshima Peninsula: Yoshimura, Jun, 2050

Yugoslavia

Pegmatites

- RE minerals: Pavlović, S., 1440

Kansas

General

- RE content, shales, coal: Hyden, H. J. 0847

Kentucky

General

- La, Y, Sc, black shale, Tradewater, Carbondale formations: Vine, J. D., 1942
 RE in rocks, fluorite, zinc-lead districts: Hall, W. E., 0689

Kenya

General

- Geology and mineral resources: Pulfrey, William, 1513
 South Ruri carbonatite: Jaffé, F. C., 0878

Kenya*Mineral occurrence*

- Lyndochite, eschynite, near Nanyuki: Horne, J. E. T., 0810
 Monazite, pyrochlore, gorceixite, Mrima Hill: Binge, F. W., 0161
 Monazite, pyrochlore, Mrima Hill carbonatite: Coetzee, G. L., 0337
 Pandaite, Mrima Hill carbonatite: Harris, P. M., 0696

Lutetium*General*

- Activation analysis of gadolinite: Boudin, André, and Dehon, M., 1969, Métho 0226
 Fission rate: Science News Letter, 1653

Madagascar*General*

- Monazite production: U.S. Bureau Mines, 1894
 Pegmatites, placers, monazite: Murdock, T. G., 1295
 Radioactive minerals: Turner, H. W., 1875

Mineral occurrence

- Ambatoarinite, lime-silicate assemblage: Lacroix, Alfred, 1049
 Ampangabeite (samarските), Ambatofotskely: Boüska, 0232
 Bastnaesite, chevkinite: Lacroix, Alfred, 1048
 Bastnaesite, fergusonite, pegmatites, Maroseranana: Giraudon, Robert, 600a
 Bastnaesite, description, tests: Koechlin, R., 0982
 Hibonite, metamorphosed limestone: Curien, Hubert, 0365
 Thortveitite, Befanamo: Phan, K. D., 1469
 Thortveitite: Boulanger, C., 0228
 Thortveitite: Lacroix, Alfred, 1050
 Xenotime, Betsiboka: Boubee, N., 0224

Pegmatites

- Bastnaesite: Béhier, Jean, 0130
 Bastnaesite: Lacroix, Alfred, 1046
 Beryl, RE, Sc: U.S. Bureau Mines, 1892
 Localities: Guigues, Jean, 0677
 Samiresite, blomstandite, betafite: Lacroix, Alfred, 1047
 Scandium in minerals and host rocks: Phan, K. D., 1471

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- Stream samples, Y distribution: Borucki, Jerzy, 0222

Maine*Mineral occurrence*

- Allanite, granite, Topham: Robinson, F. C., 1553

Malawi*General*

- Chilwa Island carbonatite: Garson, M. S., 0559
 Monazite reserves: Metal, 1214
 Tundulu carbonatite: Garson, M. S., 0557

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- Bastnaesite, florencite, Kangankunde Hill: Holt, D. N., 0806
 Bastnaesite, florencite, Kangankunde Hill: McKie, Duncan, 1144
 Betafite, davidite, samarskite, southern: Bosazza, V. L., 0223
 Florencite, synchysite, Tundulu: Smith, W. C., 1732
 Monazite: Great Britain Overseas Geological Surveys 0651
 Monazite, Kangankunde Hill: Mining 1233

Malaysia*General*

- Alluvial minerals, Malaya: Flinter, B. H., 0512
 Chemical analysis, rocks, ores, concentrates: Alexander, J. B., 0039
 Monazite, alluvial, Malaya: Flinter, B. H., 0514
 Processing alluvial tin-ores, West: Ng, W. K., 1329

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- Monazite, Malaya: Davidson, C. F., 0376
 Yttritungstite, Kramat Pulai, Perak: Butler, J. R., 0272
 Yttritungstite, Perak: Scrivenor, J. B., 1655

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- Reconnaissance, heavy minerals, Perak: Singh, D. S., 1717
 Resources, Bentong area, Pahang: Alexander, J. B., 0038

Maryland*Mineral occurrence*

- Allanite-epidote, Ilchester granite: Hobbs, W. H., 0793
 Hatchettolite, Kensington mica mine: Shannon, E. V., 1686

Massachusetts*Mineral occurrence*

- Allanite, fluorite, Milford and Rockport granite: Dale, T. N., 0369
 Allanite, gneiss, Pelham: Emerson, B. K., 0456
 Allanite, paragenesis, Blueberry Mt., Woburn: Richmond, W. E., Jr., 1546
 Parosite, pegmatites, Quincy: Palache, Charles, 1412

Pegmatites

- Allanite, Greenwich: Marble, J. P., 1167
 Fitchburg granite, allanite: Hitchcock, C. S., 0789
 Mineralogy, Cape Ann: Warren, C. H., 1983
 Quincy: Warren, C. H., 1984

Mauritania*General*

- Bou Naga ore body: Industrial, 0859

Metamict state*General*

- Age determination, metamict minerals: Kulp, J. L., 1037
 Allanite, age determination: Pellas, Paul, 1447
 Allanite: Mitchell, R. S., 1248
 Betafite: Gasparin, M., 0560
 Decomposition of silicates: Akhmanova, M. V., 0030
 DTA of Brazilian minerals: Adusumilli, M. S., 0024
 DTA of minerals: Orcel, Jean, 1379
 Effect on age determination: Robinson, S. C., 1555
 Energy storage: Kurtha, S. F., 1042
 Fergusonite: Mitchell, R. S., 1249
 Fracture patterns: Haynes, C. V., Jr., 0724
 Gadolinite, energy balance: Pellas, Paul, 1445
 Gadolinite, Texas: Gibson, S. J., 0593
 Identification by x-ray diffraction: Berman, Joseph, 0143
 Kinetics of thermal treatment: Srivastava, S. B., 1761
 List of minerals: Faessler, A., 0477
 Metamictization: Ueda, Tateo, 1882
 Metamictization: Ueda, Tateo, 1884
 Metamict state: Orcel, 1380
 Metamict state: Pabst, 1402
 Methods, procedure of study: Berman, Joseph, 0141
 Mineral identification, x-ray powder photographs: Lima de Faria, J., 1098
 Nonoxidizing heating method: Adams, J. W., 0016
 Origin Ti oxides in betafite, euxenite: Orcel, Jean, 1381
 Oxide minerals, x-ray data: Arnott, R. J., 0064

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- Physiochemical cause: Makarov, E. S., 1156
 Pyrochlore-microlite: Mitchell, R. S., 1254
 Samarskite: Mitchell, R. S., 1251
 Samarskite, heat-produced phases: Nilssen, Borghild, 1335
 Stability of minerals: Ueda, Tateo, 1885
 Thermal treatment, x-ray powder identification: Lima de Faria, J., 1095
 X-ray identification of Virginia minerals: Fitzgerald, F. B., III, 0503
 X-ray studies, titanoniobates: Alexandrov, V. B., 0042

Mexico*Mineral occurrence*

- Apatite, Cerro de Mercado, Durango: Paulick, J., 1434
 Apatite, Cerro de Mercado: Young, E. J., 2054

Pegmatites

- Allanite, fergusonite, Santa Ana: Gonzales-Reyna, Jenaro, 0630

Michigan*General*

- Bastnaesite, synchesite, Nonesuch shale: White, W. S., 2010

Mineral occurrence

- Monazite, ancient placer, Goodrich quartzite: Vickers, R. C., 1934

Mineral data, RE in other minerals*Amphiboles*

- Analysis, hornblende: Hagner, A. F., 0687
 RE distribution: Kovalenko, V. I., 1004
 RE distribution, riebeckite: Kovalenko, V. I., 1006
 Y, Sc distribution: Kretz, R., 1019

Ankerite

- Analysis: Khomyakov, A. P., 0950
 Occurrence, emerald deposits, Colombia: Wokittel, Roberto, 2030

Apatite

- Absorption colors: Wherry, E. T., 2006
 Accessory, gneisses, U.S.S.R.: Zayats, A. P., 2071
 Analyses: Carmichael, I. S. E., 0288
 Analyses, elastic properties: Yoon, H. S., 2047
 Analyses: Lyakhovich, V. V., 1114
 Analyses, occurrence, South Africa: Janisch, E. P., 0890
 Analyses, RE distribution: Staryrkevich-Borneman, I. D., 1771
 Analyses, x-ray data: Clark, A. H., 0330
 Analysis: Borodin, L. S., 0205
 Analysis: Borovskii, I. B., 0218
 Analysis, geochemistry: Gulbrandsen, R. A., 0674
 Analysis: Khomyakov, A. P., 0950
 Analysis, Magnet Cove, Arkansas: Rose, H. J., Jr., 1571
 Analysis, optical data, fluapatite: Bellucci, I., 0133
 Analysis, optical data, yttrian: Omori, Keiichi, 1375
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 Analysis (partial), occurrence, Quebec: Hughson, M. R., 0822
 Analysis (partial), optical data, properties: Hogarth, D. D., 0797
 Analysis: Pecora, W. T., 1442
 Analysis, RE distribution: Kornetova, V. A., 0998
 Analysis, RE distribution: Lindberg, M. L., 1099
 Analysis, RE distribution: Rass, I. T., 1532
 Analysis, RE distribution: Vainshtein, E. E., 1904
 Analysis, stoichiometry: Cruft, E. F., 0360
 Analysis, x-ray data: Mitchell, R. S., 1253
 Analysis, x-ray data: Vlasov, K. A., 1951

Mineral data, RE in other minerals*Apatite*

- Atomic, ionic coloration: Hoffman, Josef, 0795
 Comparison with sphene: Khomyakov, A. P., 0954
 Composition, properties: Kind, Alfred, 0963
 Composition: Volkova, M. I., 1957
 Crystal chemistry: Cockbain, A. G., 0334
 Crystal chemistry, color: Grisafe, D. A., 0665
 Description deposit, U.S.S.R.: Polkanov, A. A., 1487
 Description of Ykspor deposit: Eliseev, N. A., 0449
 Geochemistry: Cruft, E. F., 0356
 Geochemistry: Tugarinov, A. I., 1871
 Luminescence: Tarashchan, A. N., 1821
 Occurrence, alkaline complex, Colorado: Olson, J. C., 1366
 Occurrence, Greenland: Flink, Gustav, 0511
 Occurrence, iron deposit, New York: McKeown, F. A., 1139
 Occurrence, iron deposits, Mexico: Young, E. J., 2054
 Occurrence, Mexico: Paulick, J., 1434
 Occurrence, pegmatites, Colorado: Young, E. J., 2053
 Occurrence, reserves, U.S.S.R.: Granigg, B., 0650
 Occurrence, Spain: de Luna, R., 0394
 Phosphorite geochemistry, recovery of RE: Altschuler, Z. S., 0048
 Processing: Erämettä, Olavi, 0461
 Processing for RE: Richter, Herfried, 1547
 Processing: Goldstein, I. J., 0625
 Processing: Wolfkovich, S. I., 2031
 Properties dependant on composition: Denisov, A. P., 0396
 RE distribution: Balashov, Yu. A., 0097
 RE distribution: Balashov, Yu. A., 0092
 RE distribution, biogenic: Arrhenius, G. O. S., 0065
 RE distribution: Cruft, E. F., 0357
 RE distribution: Cruft, E. F., 0358
 RE distribution: Fersman, A. E., 0494
 RE distribution, geochemistry: Cruft, E. F., 0359
 RE distribution, geochemistry: Ganzeev, A. A., 0555
 RE distribution, geochemistry: Shmakin, B. M., 1709
 RE distribution: Khvostova, V. A., 0958
 RE distribution, luminescence: Portnov, A. M., 1491
 RE distribution: Lyakhovich, V. V., 1111
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 RE distribution: Meliksetyan, B. M., 1203
 RE distribution: Michelsen, O. B., 1215
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 RE distribution, pegmatites, U.S.S.R.: Leonova, V. A., 1084
 RE distribution: Portnov, A. M., 1490
 RE distribution: Rass, I. T., 1533
 RE distribution: Sahama, T. G., 1605
 Refraction index change by RE content: Young, E. J., 2052
 RE incorporation: Sin'kova, L. A., 1719
 RE-Sr oxy-apatite, analysis, optical data: Portnov, A. M., 1489
 Specific gravity variations: Volkova, M. L., 1958
 Structural investigation: McConnell, Duncan, 1128
 Synthesis: Cockbain, A. G., 0335
 Synthesis: Trömel, Gerhard, 1866
 Synthesis: Zambonini, Ferruccio, 2067
 Variety Sr, RE distribution: Efimov, A. S., 0444
 X-ray data, silicate and oxy-: Ito, Jun, 0868

Apophyllite

- Analysis, RE distribution: Litvin, A. L., 1101

Mineral data, RE in other minerals*Astrophyllite*

- RE distribution: Kovalenko, V. I., 1006
RE distribution: Portnov, A. M., 1490

Axinite

- Analysis, optical, x-ray data: Bondesen, Erling, 0195

Barite

- Analysis: Khomyakov, A. P., 0950

Barytocelestite

- Analysis: Khomyakov, A. P., 0950

Biotite

- Analysis: Hagner, A. F., 0687
Y, Sc distribution: Kretz, R., 1019

Calcite

- Absorption colors: Wherry, E. T., 2006
Analysis, carbonatite: Vainshtein, E. E., 1901
Analysis: Khomyakov, A. P., 0950
Analysis, luminescence: Headden, W. P., 0726
Analysis: Pecora, W. T., 1442
Analysis, RE distribution: Leeder, Otto, 1073
RE distribution: Balashov, Yu. A., 0092
Thermoluminescence: Northup, M. A., 1342

Cataphorite

- RE distribution: Kovalenko, V. I., 1006

Catapleite

- Analysis, RE distribution: Vainshtein, E. E., 1904
RE distribution: Portnov, A. M., 1490

Celestite

- Analysis: Khomyakov, A. P., 0950

Chinglusuite

- Analysis, properties: Gerasimovskii, V. I., 0579

Crandallite

- Analysis, occurrence, Bavaria: Frondel, Clifford, 0540

Cyrtolite

- Occurrences, x-ray data: Norton, D. A., 1343
RE distribution: Meliksetyan, B. M., 1203

Datolite

- Optical, x-ray data: Emiliani, Francesco, 0457
RE distribution: Semenov, E. I., 1668

Ekanite

- Analysis, RE distribution, optical data: Ginsbrug, I. V., 0598

Epidote

- Analysis, isomorphism: Khvostova, V. A., 0959
Analysis, optical data: Myer, G. H., 1302
Analysis, RE distribution: Mineev, D. A., 1225
Geochemistry: Khvostova, V. A., 0957
Geochemistry, optical data, properties: Horst, G. T. Von, 0811
Isomorph substitution in group: Ploshko, V. V., 1483
RE determination: Myer, G. H., 1303
RE distribution: Lyakhovich, V. V., 1111
RE distribution: Lyakhovich, V. V., 1113
Relation content to refractive index: Tempel, Horst-Günter, 1833

Eucolite

- Analysis, properties, optical, x-ray data: Annenkova, G. A., 0057
Occurrence, New Mexico: Clabaugh, S. E., 0327
Occurrence, pegmatites, Quebec: Boissonault, Jean, 0184
Occurrence, syenite, Quebec: Hicks, W. D., 0771
Occurrence, Texas: Huang, W. T., 0818

Mineral data, RE in other minerals*Eudialyte*

- Analysis, occurrence, Greenland: Hamilton, E. I., 0690
Analysis, occurrence, Sweden: Eckermann, Harry von, 0439
Analysis, RE distribution: Vainshtein, E. E., 1904
Analysis, x-ray data: Gerasimovskii, V. I., 0587
Geochemistry, separation of Ce in weathering: Balashov, Yu. A., 0084
Occurrence, Labrador: Hicks, W. D., 0771
Occurrence, New Mexico: Clabaugh, S. E., 0327
Occurrence, New Mexico: Warner, L. A., 1982
Occurrence, phosphate deposits, Florida: Hunter, F. R., 0827
RE distribution: Balashov, Yu. A., 0096
RE distribution: Portnov, A. M., 1488
RE distribution: Portnov, A. M., 1490

Feldspars

- Analyses for Y and Yb: Majmundar, H. H., 1150
Luminescence: Haberlandt, Herbert, 0685
RE distribution, lunar rocks, plagioclase: Philpotts, J. A., 1474

Fluorite

- Absorption and luminescence spectra: Recker, K., 1538
Absorption bands: Yoshimura, Jun, 2049
Absorption spectra, electron transitions: Przibram, Karl, 1511
Analyses, occurrence, Norway: Sverdrup, T. L., 1802
Analyses, RE distribution: Leeder, Otto, 1073
Analyses, RE distribution, properties: Allen, R. D., 0047
Analyses, x-ray data: Steyn, J. G. D., 1780
Analyses, x-ray data: Sverdrup, T. L., 1801
Analysis, geochemistry, luminescence: Barbanov, V. F., 0105
Analysis, geochemistry: Yakubovich, K. I., 2043
Analysis: Herget, Gerhard, 0757
Analysis: Khomyakov, A. P., 0950
Analysis, occurrence, Colorado: Bray, J. M., 0241
Analysis, occurrence, Hicks Dome: Hall, W. E., 0689
Distribution of colors, Great Britain: Mueller, George, 1281
EPR, analysis for Eu, Gd: Vinokurov, V. M., 1945A
Fluorescence, composition: Vasil'kova, N. N., 1927
Fluorescence: Przibram, Karl, 1509
General, group characteristics: Vogt, Thorolf, 1952
Geochemistry, isomorphism: Shcherbina, V. V., 1699
Geochemistry, properties: Bill, H., 0159
Investigation CaF₂-YF₃ system: Zintl, E., 2084
Luminescence spectra: Iwase, Eiichi, 0876
Occurrence, Mo-W deposits, U.S.S.R.: Ermilova, L. P., 0467
Properties, occurrence, U.S.S.R.: Goldberg, I. S., 0616
RE content, green: Jeffery, P. G., 0895
RE distribution: Aleksiev, E., 0036
RE distribution: Chang, Ting-Chao, 0300
RE distribution: Dopott, Z. M., 0420
RE distribution, 44 fluorites: Fleischer, Michael, 0509
RE distribution, geochemistry: Kozlova, O. G., 1007
RE distribution: Kovalenko, V. I., 1006
RE distribution: Kozlova, O. G., 1008
RE distribution, luminescence: Huber-Schausbeiger, Ingeborg, 0819
RE distribution: Lyakhovich, V. V., 1113
RE distribution: Lyakhovich, V. V., 1111
RE distribution: Portnov, A. M., 1490

Mineral data, RE in other minerals*Fluorite*

- RE distribution, thermoluminescence: Blanchard, F. N., 0170
 RE in synthetic fluorite structure: Roy, D. M., 1586
 Synthesis, blue fluorescence: Haberlandt, Herbert, 0684
 Synthetic, luminescence spectra: Stepanov, I. V., 1774
 Thermoluminescence: Northup, M. A., 1342
 Thermoluminescence: Steinmetz, H., 1773

Garnets

- Analysis (partial), andradite: Kasowski, M. A., 0928
 Analysis, RE distribution, Y-spessartine: Wakita, Hisanobu, 1972
 Analysis, Y-Spessartite: Vorma, Atso, 1962
 Chemical structure: Masuda, Akimasa, 1188
 Ferrimagnetism, structure: Geller, S., 0573
 RE content: Jaffe, H. W., 0880
 RE distribution: Khvostova, V. A., 0958
 RE distribution: Lyakhovich, V. V., 1111
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General

- Abundance patterns, uranium minerals: Rao, M. N., 1529
 Abundance values in various minerals: Sarcia, J. A., 1618
 Accessory minerals analyses: Mineev, D. A., 1227
 Ca minerals, influence electronegativity on RE distribution: Ringwood, A. E., 1550
 Diadochic substitution of RE, Be: Beus, 0151
 Distribution in successively crystallizing minerals: Turovskii, S. D., 1877
 Distribution of RE in granites: Gavrilova, L. K., 0563
 Isomorphism, camouflage: Semenov, E. I., 1660
 RE distribution in basic magma fractionation: Wager, L. R., 1970
 RE in gangue and ore minerals, PbMnZn deposit: Saito, Tadao, 1607
 Sm bands, scheelite, fluorite, apatite: Iwase, Eiichi, 0875
 Terrestrial RE distribution: Haskin, L. A., 0705

Glaucanite

- Geochemistry, RE fractionation: Balashov, Yu. A., 0087
 Geochemistry, source of RE in Ocean: Balashov, Yu. A., 086a

Gorceixite

- Analysis, RE distribution: Milton, Charles, 1218
 Analysis, RE distribution: Murata, K. J., 1290
 Mrima Hill carbonatite, Kenya: Binge, F. W., 0161

Goyazite

- X-ray data, carbonatite, Tanzania: McKie, Duncan, 1144
 X-ray data, pegmatite: Fisher, D. J., 0499

Gummite

- Analysis: Zhiron, K. K., 2080

Hibonite

- Occurrence, placers, metamorphosed limestone, Madagascar: Curien, Hubert, 0365

Homilite

- RE distribution: Semenov, E. I., 1668

Huttonite

- RE content: Pabst, Adolf, 1401

Ilmenite

- RE distribution: Kovalenko, V. I., 1006

Joacquinite

- Analysis, formula, infra red, x-ray data: Semenov, E. I., 1667

Mineral data, RE in other minerals*Lamprophyllite*

- RE distribution: Balashov, Yu. A., 0097

Latrappite

- Analysis, Oka: Gold, D. P., 0611

Lávenite

- Analysis, formula, optical data: Kudrina, M. A., 1030
 Properties: Portnov, A. M., 1493
 RE distribution: Portnov, A. M., 1490

Leucophane

- RE distribution: Portnov, A. M., 1490

Lueshite

- Analyses, optical, x-ray data: Bagdasarov, Yu. A., 0077
 Analysis, Colorado: Parker, Raymond L., 1418
 Geochemistry, mineralogy: Van Wambeke, L., 1920

Magnetite

- RE distribution: Balashov, Yu. A., 0095

Malacón

- Occurrence, albitites, Siberia: Petrova, E. A., 1462

Manganese nodules

- RE distribution: Ehrlich, A. M., 0446

Milarite

- RE distribution: Oftedal, Ivar, 1357

Miserite

- Analysis, optical data: Kupriyanova, I. I., 1041

Muscovite

- Analysis: Pecora, W. T., 1442

Naegite

- Analyses: Shibata, Yuji, 1703

Pectolite

- Analysis (partial): Winther, C., 2029

Perovskite

- Analysis, chemistry of group: Nickel, E. H., 1333
 Analysis, Oka: Gold, D. P., 0611
 RE distribution: Carmichael, I. S. E., 0288
 RE distribution: Nickel, E. H., 1332

Pitchblende

- Analysis, fission: Kenna, B. T., 0943
 Promethium analysis: Attrep, M., Jr., 0068

Pyroxenes

- Analysis, ortho-, augite: Hagner, A. F., 0687
 Chemical structure: Masuda, Akimasa, 1188
 RE distribution, aegirine: Kovalenko, V. I., 1006
 RE distribution, lunar rocks: Philpotts, J. A., 1474
 RE distribution: Rass, I. T., 1533
 Y, Sc distribution: Kretz, R., 1019

Rosenbuschite

- Analysis, occurrence, Sweden: Eckermann, Harry von, 0439

- Analysis, RE distribution, x-ray data: Neumann, Henrich, 1321

Saamite

- Composition: Volkova, M. I., 1957

Scheelite

- Absorption bands, RE distribution: Marsh, J. K., 1179
 Analyses, RE distribution: Pokrovskii, P. V., 1484
 Analysis: Grip, Erland, 0664
 Analysis, RE distribution: Fenoglio, Massimo, 0490
 Analysis: Vickery, R. C., 1938
 Fluorescence: Van Horn, F. R., 1913
 Luminescence and phosphorescence: DeRhoden, C., 0403
 RE distribution: Servigne, Marcel, 1682
 Substitution of RE: Chang, L. L. Y., 0294

Siderite

- Analysis: Khomyakov, A. P., 0950

Mineral data, RE in other minerals*Sphene*

- Analyses, formula: Jaffe, 0879
 Analyses, RE distribution, substitution: Zabavnikova, N. I., 2062
 Analysis: Borodin, L. S., 0205
 Analysis, keilhauite: Goldsmith, Richard, 0624
 Analysis: Morgante, S., 1269
 Analysis, RE distribution: Rass, I. T., 1532
 Analysis: Usoni, Luigi, 1898
 Chemistry, spectrographic data: Sahama, T. G., 1601
 Comparison with apatite: Khomyakov, A. P., 0954
 Occurrence, Keilhauite, Norway: Schmidt, Arthur, 1637
 Occurrence, pegmatites, Colorado: Young, E. J., 2053
 RE distribution, geochemistry: Uskov, M. N., 1897
 RE distribution: Khvostova, V. A., 0958
 RE distribution: Lee, D. E., 1071
 RE distribution: Lyakhovich, V. V., 1113
 RE distribution: Lyakhovich, V. V., 1111
 RE distribution: Meliksetyan, B. M., 1203
 RE distribution: Portnov, A. M., 1490
 RE distribution: Sahama, T. G., 1605
 Variety Keilhauite, analysis, optical data: Young, J. A., Jr., 2058
 Variety Keilhauite, analysis, x-ray data: Suryanarayana, K., 1799
 Variety ytrotitanite, RE distribution, DTA, x-ray data: Marchenko, E. Ya., 1170

Strontianite

- Analysis: Khomyakov, A. P., 0950

Svanbergite

- Analysis, RE distribution: Nikitina, E. I., 1334

Thorite

- Analysis, occurrence, California: George, D. R., 0577
 Analysis, x-ray data: Heinrich, E. W., 0742
 RE distribution: Pavlenko, A. S., 1437

Thorogummite

- Analysis: Hasegawa, Shuzo, 0699
 Analysis, occurrence, Japan: Iimori, Satoyasu, 0850
 Occurrence, Texas: Hidden, W. E., 0777
 RE distribution, mineralogy of U, Th: Frondel, Clifford, 0533

Unnamed

- Rhabdophane-type, RE distribution: Dooley, J. R., Jr., 0419

Uraninite

- Analyses, RE distribution: Hillebrand, W. F., 0786
 Analyses, RE distribution: Marsh, J. K., 1178
 Analyses: Zhironov, K. K., 2080
 Analysis: Gross, E. B., 0667
 Analysis, x-ray data: Wang, C. K., 1977
 Composition, RE distribution: Hillebrand, W. F., 0785
 Optical, x-ray data: Emiliani, Francesco, 0457
 RE content: Marsh, J. K., 1177
 RE distribution, mineralogy of U, Th: Frondel, Clifford, 0533
 RE distribution: Roscoe, S. M., 1566
 RE distribution: Sankaran, A. V., 1617

Vesuvianite

- Analyses, occurrence, Canada: Maxwell, J. A., 1198
 Analysis, x-ray data, RE distribution: Murdoch, Joseph, 1292
 Analysis, x-ray data: Orlov, Yu. L., 1382
 Occurrence, Siberia: Nozhkin, A. D., 1345

Wernerite

- Analyses for Y and Yb: Majmundar, H. H., 1150

Mineral data, RE in other minerals*Wolframite*

- Analyses, RE distribution: Pokrovskii, P. V., 1485

Zircon

- Analyses, RE, U, Th: Hugo, P. J., 0824
 Analysis, fluorescence: Fielding, P. E., 0497
 Analysis: Hasegawa, Shuzo, 0699
 Analysis, occurrence, Japan: Hata, Shin, 0714
 Analysis, RE distribution: Dutra, C. V., 0432
 Concentrates, Wausau, Wisconsin: Vickers, R. C., 1935
 EPR spectrum, Er: Valishev, R. M., 1906
 Geochemistry: Schermerhorn, L. J. G., 1631
 Occurrence, pegmatites, Bolivia: Ahlfeld, Friedrich, 0028
 RE distribution: Chessex, Ronald, 0319
 RE distribution: Goñi, Juan, 0627
 RE distribution: Kovalenko, V. I., 1006
 RE distribution: Kovalenko, V. I., 1004
 RE distribution: Lyakhovich, V. V., 1111
 RE distribution: Lyakhovich, V. V., 1113
 RE distribution: Meliksetyan, B. M., 1203
 RE distribution: Nagasawa, Hiroshi, 1305
 RE distribution: Portnov, A. M., 1490
 Variety riebeckite, analysis: Florencio, Willer, 0515
 Y content: Khalezova, E. B., 0945
 Yttrium content: Dennen, W. H., 0397

Zoisite

- RE determination: Myer, G. H., 1303

Mineral data, RE mineral groups*Arsenates*

- New Y-RE mineral, analysis, formula: Radtke, A. S., 1520

Carbonates and fluocarbonates

- Ancylite, bastnaesite, burbankite, synchysite, Quebec: Chao, G. Y., 0301
 Ancylite, bastnaesite, doverite, pegmatites, Colorado: Gross, E. B., 0670
 Ancylite, burbankite, carbocernaite, synchysite, carbonates, Africa: Verwoerd, W. J., 1931
 Bastnaesite, burbankite, parisite, sahamalite, calkinitite, analyses: Murata, K. J., 1290
 Bastnaesite, cordylite, parisite, alkalic intrusives: Dmetriev, E. D., 0413
 Bastnaesite, New Mexico: Northrop, S. A., 1341
 Fluorides, coprecipitation of La ions: Schlyter, Kurt, 1635
 Infrared spectroscopic studies, bastnaesite, parisite: Akhmanova, M. V., 0031
 Unnamed Ca-Sr-RE carbonate, optical, x-ray data, Quebec: Mandarino, J. A., 1160
 X-ray powder patterns, carbonates: Neumann, Heinrich, 1323

Fluorides

- Crystal structure LaF₃ type: Schlyter, Kurt, 1636
 Defect character, CaF₂-YF₃ crystals: Short, James, 1711

Mineral data, RE mineral groups*Multiple oxides and oxides*

- Alteration of titano-niobo-tantalates: Van Wambeke, L., 1923
- Betafite, brannerite, davidite, delorenzite, mineralogy of U, Th: Frondel, Clifford, 0533
- Betafite, brannerite, davidite, samiresite, x-ray data: Frondel, Clifford, 0543
- Betafite, davidite, samarskite, Malawi: Bosazza, V. L., 0223
- Betafite, eschynite, priorite, alkalic rocks, Ural Mts.: Zhabin, A. G., 2076
- Betafite, hatchettolite, pegmatites, New Mexico: Jahns, R. H., 0887
- Brannerite, davidite, India: Bhola, K. L., 0155
- Carbonatite minerals, RE distribution: Balashov, Yu. A., 0092
- Columbite intergrowths with RE minerals: Henrich, 0739
- Cubic niobotantalates, analyses, Madagascar: Lacroix, Alfred, 1047
- Distribution of RE, niobate-tantalates: Butler, J. R., 0274
- Eschynite, fergusonite, samarskite, Ceylon: Wadia, D. N., 1968
- Euxenite, fergusonite, occurrence Swaziland: Prior, G. L., 1506
- Euxenite, fergusonite, Samarskite, pyrochlore, pegmatites, Colorado: Gross, E. B., 0670
- Euxenite, fergusonite, South Africa: Backström, J. W. von, 0075
- Euxenite, fergusonite, yttrotalantite, occurrence, Rhodesia, Uganda: Gallagher, M. J., 0552
- Euxenite-polycrase, priorite-blomstrandine: Komkov, A. I., 0988
- Euxenite, polycrase, pyrochlore reserves, Canada: Rowe, R. B., 1581
- Euxenite-polycrase-type mineral, Japan: Takubo, Jitsutaro, 1814
- Euxenite, priorite, polymorphous $YNbTiO_6$: Komkov, A. I., 0991
- Euxenite, samarskite, betaite, pyrochlore, former British colonies: Davidson, C. F., 0376
- Fergusonite, samarskite, pegmatites, India: Dar, K. K., 0373
- Loparite, pyrochlore, analysis: Borovskii, I. B., 0218
- Metamict euxenite, samarskite: Chuboda, K. F., 0325
- Metamict, fergusonite, samarskite, brannerite, DTA: Srivastava, S. B., 1761
- Metamict: Lima de Faria, J., 1098
- Metamict minerals, euxenite group: Seifert, H., 1658
- Metamict, niobotantalates: Fauquier, Daniel, 0484
- Metamict niobotantalates: Fauquier, Daniel, 0483
- Mineralogy of U, Th minerals: George, D'Arcy, 0576
- Nb, Ta, United States materials survey: Barton, W. R., 0113
- Niobates and tantalates, crystal structure: Rooksby, H. P., 1564
- Niobium and tantalum geochemistry: Parker, Raymond L., 1419
- Niobium and tantalum occurrences, United States: Parker, Raymond L., 1416
- Niobotantalates, betaite, pyrochlore, fergusonite, euxenite, RE distribution: Fauquier, Daniel, 0481
- Niobotantalates, metamict, classification: Barsanov, G. B., 0111

Mineral data, RE mineral groups*Multiple oxides and oxides*

- North-central New Mexico pegmatites: Redmon, D. E., 1539
- Occurrence, Canada: Jones, R. A., 0904
- Occurrences, India, including samarskite, sipylite, eschynite: Krishnan, 1020
- Pegmatite minerals, RE distribution: Kalita, A. P., 0917
- Pegmatites, New Mexico: Jahns, R. H., 0886
- Polycrase, euxenite analyses, Ontario: Butler, J. R., 0273
- Polymorphism of orthoniobates: Godina, N. A., 0608
- Pyrochlore-microlite, fergusonite, euxenite-polycrase, Canada: Lang, A. H., 1059
- RE distribution, fergusonite-formanite, eschynite, pyrochlore: Pavlenko, A. S., 1437
- Samarskite, euxenite, fergusonite, North Carolina: Maurice, C. S., 1196
- Samarskite, ishiikawaite, fergusonite, Japan: Kawai, Teikichi, 0934
- Samarskite, yttrotalantite, fergusonite, pegmatite, Colorado: Heinrich, E. W., 0750
- Samarskite, euxenite, betaite, brannerite, davidite, placers, Idaho: Armstrong, F. C., 0063
- Synthesis, $TRNbTiO_6$ compounds: Komkov, A. I., 0994
- Tapiolite, pyrochlore, fergusonite, granite pegmatites: Rudovskaya, L. N., 1589
- Thoro-alumino-eschynite, analyses: Es'kova, E. M., 0469
- $TRNbO_6$ x-ray studies: Komkov, A. E., 0990
- U minerals handbook, bibliography: Soboleva, M. V., 1740
- Unnamed U-Nb oxide, metamict analysis, x-ray data: Mitchell, R. S., 1246
- Yttrotalantite, brannerite, euxenite, New Mexico: Northrop, S. A., 1341
- Phosphates*
- Grimsel, Switzerland: Beck, Gottfried, 0121
- Ionic radius relations to structure: Carron, M. K., 0289
- Mineralogy of U, Th minerals: George, D'Arcy, 0576
- Monazite mineralogy, xenotime, pegmatites: Leonova, V. A., 1086
- Monazite, Th-free, Bolivia: Gordon, S. G., 0633
- Monazite, tin mines, Bolivia: Gordon, S. G., 0634
- Monazite, xenotime, absorption spectra: Prinz, X., 1505
- Monazite, xenotime, analysis for Y: Funasaka, Waturu, 0548
- Monazite, xenotime, Brazil: Bodenlos, A. J., 0179
- Monazite, xenotime, pegmatite, Colorado: Heinrich, E. W., 0750
- Monazite, xenotime, pegmatites, Colorado: Gross, E. B., 0670
- Monazite, xenotime placers, North Carolina: Zodac, Peter, 2086
- Monazite, xenotime, placers, South Carolina: Mertie, J. B., Jr., 1213
- Monazite, xenotime, South Australia: Whittle, A. W. G., 2011
- Occurrences, India, including xenotime: Krishnan, 1020
- Pegmatite phosphates, britholite, monazite, florencite: Fisher, D. J., 0499
- Rhabdophane conversion to monazite, xenotime: Carron, M. K., 0290
- Synthesis: Feigelson, R. S., 0486
- Unit cell of monazite types: Weigel, F., 1999
- Xenotime, Ceylon: Wadia, D. N., 1968

Mineral data, RE mineral groups*Phosphates*

- Xenotime, Madagascar: Boubee, N., 0224
 Xenotime, monazite, apatite, pleochroic halos: Hutton, C. O., 0836
 Xenotime, monazite in migmatites: Nechaev, S. V., 1316
 Xenotime, monazite, placers, California: Hutton, C. O., 0842

Silicates

- Allanite, chevkinite, rinkolite, analysis. RE distribution: Vainshtein, E. E., 1904
 Allanite, gadolinite, chevkinite, Ceylon: Wadia, D. N., 1968
 Allanite, gadolinite, pegmatite, Colorado: Heinrich, E. W., 0750
 Allanite, nordite, analysis: Borovskii, I. B., 0218
 Auto-radiography of minerals, Ilmaussaq, Greenland: Buchwald, Vagn, 0259
 Britholite or tritomite, Norra Kärr, Sweden: Eckermann, Harry von, 0440
 Crystal data, polymorphic Y:Si:O: Felsche, J., 0487
 Crystal data, polymorphism: Felsche, J., 0488
 Crystal structure, NaY(SiO₃): Maksimov, B. A., 1157
 Er. Y silicates, optical, x-ray data: Harris, L. A., 0697
 Gadolinite, allanite, New Mexico: Northrop, S. A., 1341
 Geochemistry, formation in nature: Ginzburg, A. I., 0600
 Metamict decomposition: Akhmanova, M. V., 0030
 Metamict: Lima de Faria, J., 1098
 Mineralogy of U, Th minerals: George, D'Arcy, 0576
 Minerals of rinkite group: Slepnev, Yu. S., 1727
 Nordite, steenstrupine, rinkolite, nepheline syenites, Kola Peninsula: Gerasimovskii, V. I., 0587
 Occurrences, India, including allanite, gadolinite: Krishnan, 1020
 Phosphate- and boro-silicates: Kupriyanova, I. I., 1039
 Polymorphs of RE₃:Si:O: Felsche, J., 0489
 Properties, synthesis: Bondar, I. A., 0193
 Pyrosilicates, crystal structure: Lazarev, A. N., 1067
 RE distribution, britholite, chevkinite, gadolinite, allanite: Pavlenko, A. S., 1437
 Relations of thortveitite, yttrialite, thalenite, cerite: Sidorenko, G. A., 1712
 Silicate and aqueous phase distribution: Cullers, R. L., 0363
 Synthesis of divalent RE: Bondar, I. A., 0194
 Tornebohmite, allanite, cerite, analyses: Murata, K. J., 1290
 Unknown mineral, RECaP:O₃ silicate: Bel'kov, I. V., 0132
 Verneuil method, synthesis trivalent RE: Bondar, I. A., 0192
 X-ray powder patterns: Neumann, Heinrich, 1328

Mineral data, RE minerals*Abukumalite*

- Analysis, optical data: Hata, Shin, 0715
 Analysis, x-ray data: Omori, Keiichi, 1369
 Occurrence, pegmatite, Japan: Omori, Keiichi, 1370
 Occurrence, pegmatite: Pletneva, N. I., 1481
 Relationship to apatite: Machatschki, Felix, 1132
 Synthesis: Cockbain, A. G., 0335
 Synthesis: Trömel, Gerhard, 1866
 Synthetic: Ito, Jun, 0868
 Unnamed, in series, analysis, DTA: Leventov, V. S., 1090

Mineral data, RE minerals*Agardite*

- Analysis, DTA, RE distribution, optical, x-ray data: Dietrich, Jacques-É., 0409

Allanite

- Accessory, granites: Brown, Harrison, 0250
 Accessory, Nevada: Lee, D. E., 1069
 Accessory, pegmatites, North Carolina: Maurice, C. S., 1196
 Alteration, analyses: Hata, Shin, 0717
 Alteration, analysis, x-ray data: Mineev, D. A., 1231
 Alteration: Chernov, V. I., 0316
 Alteration, Elberton Granite, Georgia: Ramspott, L. D., 1526
 Alteration, geochemistry: Silver, L. T., 1713
 Alteration: Mallet, J. W., 1159
 Alteration, morphology: McKie, Duncan, 1143
 Alteration to bastnaesite: Riesmeyer, W. D., 1548
 Alteration: Valentine, E. P., 1905
 Analyses, chemistry: Lokka, Lauri, 1104
 Analyses, crystal structure, optical data: Hasegawa, Shuzo, 0702
 Analyses: Hasegawa, Shuzo, 0699
 Analyses, occurrence, Canada: Maxwell, J. A., 1198
 Analyses, occurrence, Colorado: Eakins, L. G., 0434
 Analyses, occurrence, Japan: Hasegawa, Shuzo, 0701
 Analyses, optical data: Hasegawa, Shuzo, 0700
 Analyses, optical data: Hugo, P. J., 0823
 Analyses, optical, x-ray data: Smith, W. L., 1734
 Analyses, RE distribution, optical, x-ray data: Hickling, N. L., 0770
 Analyses, RE distribution, optical, x-ray data: Hickling, N. L., 0769
 Analyses, RE distribution, S. Africa: Hugo, P. J., 0824
 Analyses, RE ratios: Hanson, R. A., 0695
 Analyses: Zhurov, K. K., 2080
 Analysis, Be-variety, occurrence, Japan: Iimori, Takeo, 0853
 Analysis, crystal structure, geochemistry: Ueda, Tateo, 1881
 Analysis: Geijer, Per, 0570
 Analysis: Marble, J. P., 1166
 Analysis, occurrence, Colorado: Eakins, L. G., 0434
 Analysis, occurrence, France: Chauris, Louis, 0308
 Analysis, occurrence, Idaho: Anderson, A. L., 0050
 Analysis, occurrence, Maine: Robinson, F. C., 1553
 Analysis, optical data: Black, P. M., 0167
 Analysis, optical data: Cooke, S. R. B., 340a
 Analysis, optical data: Erdzhanov, K. N., 0463
 Analysis, optical data: Goddard, E. N., 0607
 Analysis, optical data: Hutton, C. O., 0839
 Analysis, optical data: Hutton, C. O., 0840
 Analysis, optical data: Marble, J. P., 1165
 Analysis, optical data: Marble, J. P., 1167
 Analysis, optical data: Milton, Charles, 1219
 Analysis, optical data, Nevada: Lee, D. E., 1068
 Analysis (partial), occurrence, British Columbia: Stevenson, J. S., 1777
 Analysis, properties: Misumi, Seizo, 1244
 Analysis, properties: Wells, 2004
 Analysis, x-ray data: Nagashima, Koza, 1309
 Beryllian, analysis, x-ray data: Quensel, Percy, 1516
 Carbonates, analyses, optical data: Zdorik, T. B., 2072
 Chapter, ortho- and ring silicates: Deer, W. A., 0391
 Composition: Hasegawa, Shuzo, 0703
 Composition: Nozhkin, A. D., 1346
 Composition: Watson, T. L., 1989

Mineral data, RE minerals*Allanite*

- Crystallography, optical data: Pellas, Paul, 1448
 Crystallography, optical data: Pellas, Paul, 1449
 Data, occurrence, Japan: Hata, Shin, 0716
 Dielectric behavior: Takubo, Jitsutaro, 1815
 Geochemistry, occurrence, New Hampshire: Billings, M. P., 0160
 Geochemistry: Tsvetkova-Goleva, V., 1870
 Geochemistry, weathering: Watson, T. L., 1987
 Metamict: Bouska, 0231
 Metamictization: Pellas, Paul, 1447
 Metamict, occurrence, Virginia: Mitchell, R. S., 1248
 Metamict, pegmatites, Australia: Wilson, A. F., 2026
 Metamict: Ueda, Tateo, 1884
 Metamict, x-ray data: Lima de Faria, J., 1096
 Occurrence, accessory, commercial granites: Dale, T. N., 0369
 Occurrence, accessory: Iddings, J. P., 0848
 Occurrence, accessory, Japan: Takimoto, Kiyosi, 1810
 Occurrence, accessory, New York: Kemp, J. F., 0942
 Occurrence, Arizona: Williams, S. A. 2021
 Occurrence, alkalic rocks, Vermont: Daly, R. A., 0371
 Occurrence, California: Hewett, D. F., 0765
 Occurrence, Canada: Walker, T. L., 1975
 Occurrence, carbonatite, Turkey: Schuiling, R. D., 1650
 Occurrence, gneiss, Massachusetts: Emerson, B. K., 0456
 Occurrence, gneiss, South Carolina: Heron, S. D., Jr., 0759
 Occurrence, granite, Arizona: Galbraith, F. W., 0551
 Occurrence, granite, France: Chauris, Louis, 0309
 Occurrence, granite gneiss, India: Chakravarty, P. S., 0293
 Occurrence, granite, Greenland: Harry, W. T., 0698
 Occurrence, Greenland: Boucot, A. J., 0225
 Occurrence, India: Das, K. L., 0375
 Occurrence, metamorphic rocks, Australia: Matheson, R. S., 1192
 Occurrence, mica belt, India: Roy, 1585
 Occurrence, microgranite, Wales: Bromley, A. V., 0246
 Occurrence, pegmatite, California: Melhase, John, 1202
 Occurrence, pegmatite, California: Neuerburg, G. J., 1319
 Occurrence, pegmatite, Montana: Shaub, B. M., 1689
 Occurrence, pegmatite, New York: Rowley, E. B., 1582
 Occurrence, pegmatites, California, Nevada: Volborth, Alexis, 1954
 Occurrence, pegmatites, Massachusetts: Hitchen, C. S., 0789
 Occurrence, pegmatites, New York: Tan, Li-Ping, 1818
 Occurrence, pegmatites, Norway: Brogger, W. C., 0245
 Occurrence, pegmatites, Ontario: Heinrich, E. W., 0737
 Occurrence, pegmatites, Sweden: Heinrich, E. W., 0740
 Occurrence, placers, Idaho: Reid, R. R., 1541
 Occurrence, placers, India: Deshpande, G. G., 0406
 Occurrence, placers, Montana: Heinrich, E. W., 0749
 Occurrence, pyrite mine, Virginia: Katz, A. S., 0930
 Occurrence, pyrogenic, metamorphic rocks Montana: Emmons, W. H., 0458
 Occurrence, pyrometasomatic deposits, Alaska: White, M. G., 2008
 Occurrence, pyrometasomatic deposits, Australia: Whittle, A. W. G., 2014
 Occurrence, pyrometasomatic deposits, Wyoming: Hose, R. gk., 0812

Mineral data, RE minerals*Allanite*

- Occurrence, quartz monzonite, California: Moxham, R. M., 1276
 Occurrence, Sanford ore bed, New York: Blake, W. P., 0169
 Occurrence, Seward Peninsula: Moxham, R. M., 1277
 Occurrence, skarns, Nevada: Schrader, F. C., 1649
 Occurrence, syenite, Minnesota: Sanders, C. W., Jr., 1614
 Occurrence, thorite deposit, Idaho: LeMoine, Denis, 1076
 Occurrence, U deposit Australia: Hughes, F. E., 0821
 Occurrence, U deposit, Saskatchewan: Robinson, S. C., 1554
 Occurrence, uraniferous zone, Italy: Zucchetti, Stefano, 2091
 Occurrence, variety nagatelite, Japan: Iimori, Satoyasu, 0851
 Optical data, magnetite deposit, New York: Leonard, B. F., 1079
 Optical data, occurrence, South Africa: Söhne, P. G., 1741
 Optical data, properties: Zenzén, N., 2074
 Optical data, properties: Troger, W. E., 1865
 Optical, x-ray data: Izett, G. A., 0877
 Paragenesis: Richmond, W. E., Jr., 1546
 Paragenesis: Sundelius, H. W., 1797
 Radioactivity, occurrence, Egypt: Gindy, A. R., 0597
 Radioactivity: Pratt, L. S., 1501
 RE distribution: Kalita, A. P., 0917
 RE distribution: Lyakhovich, V. V., 1113
 RE distribution: Lyakhovich, V. V., 1111
 RE distribution: Meliksetyan, B. M., 1203
 RE distribution, x-ray data: Frondel, J. W., 0541
 RE distribution, x-ray data: Heinrich, E. W., 0751
 RE ratios, accessory: Kosterin, A. V., 1001
 Th analysis: Richardson, K. A., 1544
 Th distribution: Pellas, Paul, 1446
 U, Th, RE ratios; radioactivity: Mineev, D. A., 1232
 Variety treanorite, California: Woodford, A. O., 2036
 Variety treanorite, occurrence, California: Woodford, A. O., 2034
 Variety treanorite, occurrence, California: Woodford, A. O., 2035
 Variety yttrian-, analysis: Mineev, D. A., 1226
 Wausau, Wisconsin, analysis: Vickers, R. C., 1935
 Weathering, nepheline syenite, Brazil: Wedow, Helmut, Jr., 1993
 Weathering, nepheline syenite, Brazil: Wedow, Helmut, Jr., 1994
- Allanite-epidote*
- Analysis, isomorphism: Khvostova, V. A., 0959
 Analysis, RE distribution: Mineev, D. A., 1225
 Geochemistry, isomorphism: Khvostova, V. A., 0957
 Geochemistry, optical data, properties: Horst, G. T. Von, 0811
 Isomorphic substitution in epidote group: Ploshko, V. V., 1483
 Isomorphism, morphology: Kostov, Ivan, 1003
 Occurrence, granite, Maryland: Hobbs, W. H., 0793
 Occurrence, Morocco: Permingeat, 1457
 Optical data: Goldschmidt, V. M., 0620
 RE distribution: Vickery, R. C., 1938
 Relation content to refractive index: Tempel, Horst-Günter, 1833

Mineral data, RE minerals

Allanite-epidote

- Relationships: Hickling, N. L., 0770
- Stability range, regional metamorphism: Vas'kovskii, D. P., 1928
- X-ray determination curve: Myer, G. H., 1302
- X-ray study of group: Kumskova, N. M., 1038

Ambatoarinite

- Analysis, formula: Lacroix, Alfred, 1049

Ancylite

- Occurrence, analysis, Pennsylvania: Keidel, F. A., 0938
- Occurrence, carbonatite, Colorado: Parker, Raymond L., 1421
- Occurrence druses, Norway: Oftedal, Ivar, 1357
- Occurrence, Greenland: Flink, Gustav, 0511
- Occurrence, Oka, Quebec: Gold, D. P., 0611
- Occurrence, rutile deposits, Idaho: Anderson, A. L., 0050
- Optical and DTA data: Dakhiya, L. M., 0368
- Optical, x-ray data: Emilani, Francesco, 0457
- X-ray data: Heinrich, E. W., 0751
- X-ray data: Verwoerd, W. J., 1929

Ashcroftine

- Analysis, x-ray data: Moore, P. B., 1265

Barsanovite

- Analysis, occurrence, U.S.S.R.: Dorfman, M. D., 0421
- Occurrence, varieties, U.S.S.R.: Dorfman, M. D., 0422

Bastnaesite

- Accessory, granite: Smith, W. L., 1733
- Analyses, geochemistry: Jaffe, H. W., 0881
- Analyses, occurrence, New Mexico: Glass, J. J., 0606
- Analyses, occurrence, New Mexico: Soule, J. H., 1750
- Analyses: Tuttle, O. F., 1878
- Analyses, x-ray data: Sverdrup, T. L., 1801
- Analysis, carbonatite: Vainshtein, E. E., 1901
- Analysis, occurrence, Colorado: Allen, O. D., 0046
- Analysis, occurrence, Colorado: Hillebrand, W. F., 0787
- Analysis, occurrence, Ural Mts.: Zil'bermints, V. A., 2281
- Analysis, occurrence, U.S.S.R.: Khomyakov, A. P., 0950
- Analysis: Olson, J. C., 1365
- Analysis (partial), DTA, optical, x-ray data: Hansen, John, 0693
- Analysis, RE distribution: Cannon, 0285
- Analysis, RE distribution, kischitimit: Svyazhin, N. V., 1807
- Analysis, RE distribution: Semenov, E. I., 1674
- Analysis: Thoreau, J., 1842
- Composition, crystallography, formula, optical data: Alexandrov, I. V., 0040
- Crystallography: Donnay, Gabrielle, 0416
- Crystal structure: Oftedal, Ivar, 1351
- Formula: Chang, Pei-Shan, 0296
- Geochemistry, occurrence, Sweden: Geijer, Per, 0568
- Geochemistry, occurrence, U.S.S.R.: Gerasimovskii, V. I., 0584
- Geochemistry: Silver, L. T., 1713
- Occurrence, accessory, Finland: Marmo, Vladi, 1176
- Occurrence, alkalic complex, Colorado: Olson, J. C., 1366
- Occurrence, alkalic dikes, Virginia: U.S. Geological Survey, 1896
- Occurrence, alkalic rocks, Sierra Leone: Wilson, N. W., 2028

Mineral data, RE minerals

Bastnaesite

- Occurrence, alteration, U.S.S.R.: Khalezova, E. B., 0946
- Occurrence, Birthday claims, California: Sharp, W. N., 1688
- Occurrence, British Columbia: British Columbia Department of Mines 0243
- Occurrence, Caballo Mts., New Mexico: Staatz, M. H., 1764
- Occurrence, California: Pray, L. C., 1503
- Occurrence, carbonatite, Germany: Van Wambeke, L., 1924
- Occurrence, carbonatite, Germany: Van Wambeke, L., 1921
- Occurrence, carbonatite, Malawi: Garson, M. S., 0559
- Occurrence, carbonatite, Malawi: Holt, D. N., 0806
- Occurrence, carbonatites, Tanzania: James, T. C., 0889
- Occurrence, China: Ho, T. L., 0792
- Occurrence, fluorite-celestite deposit, British Columbia: Lang, A. H., 1059
- Occurrence, granite, Colorado: Adams, J. W., 0020
- Occurrence, hydrothermal deposits, Transvaal: Steyn, J. G. D., 1781
- Occurrence, iron deposit, New Jersey: Klemic, Harry, 0971
- Occurrence, Jamestown, Colorado: Goddard, E. N., 0607
- Occurrence, Madagascar: Koechlin, R., 1912, Bastnäsit von Madagas 0982
- Occurrence, Madagascar: Lacroix, Alfred, 1048
- Occurrence, Madagascar: Murdock, T. G., 1295
- Occurrence, micaceous schist, British Columbia: Lang, A. H., 1058
- Occurrence, nepheline syenite, Brazil: Wedow, Helmuth, Jr., 1993
- Occurrence, New Mexico: Griswold, G. B., 0666
- Occurrence, New Mexico: Kelley, V. C., 0940
- Occurrence, New Mexico: Perhac, R. M., 1455
- Occurrence, pegmatite, Colorado: Hidden, W. E., 0775
- Occurrence, pegmatites, Madagascar: Béhier, Jean, 0130
- Occurrence, pegmatites, Thailand: Garson, M. S., 0558
- Occurrence, pegmatites, Virginia: Mitchell, R. S., 1250
- Occurrence, rutile deposits, Idaho: Anderson, A. L., 0050
- Occurrence, shale, Michigan: White, W. S., 2010
- Occurrence, tin deposits, South Africa: Strauss, C. A., 1788
- Occurrence, vein deposits, Alaska: Houston, J. R., 0816
- Occurrence, veins, Alaska: Wedow, Helmuth, Jr., 1995
- Occurrence, vein, Switzerland: Itaka, Y., 0854
- Optical data, distinction from xenotime: Foster, W. R., 0522
- Optical properties: Donnay, J. D. H., 0418
- Optical, x-ray data: Sverdrup, T. L., 1803
- Paragenesis, occurrence, New Mexico: Perhac, R. M., 1456
- Processing: Bauer, D. J., 119a
- Processing, chemical behavior: Maneval, D. R., 1162
- Processing: Kruesi, P. R., 1026
- Processing: Lindstrom, R. E., 1100
- Processing: Zadra, J. B., 2064
- Production prices, Africa: Mining Journal, 1236
- Product of alteration of allanite: Riesmeyer, W. D., 1548

Mineral data, RE minerals*Bastnaesite*

- Properties, occurrence, Madagascar: Lacroix, Alfred, 1046
 Properties, uses of cerium: Mining Journal, 1235
 Pseudomorphic, occurrence, Norway: Saebo, P. C., 1598
 RE distribution: Khomyakov, A. P., 0951
 RE distribution: Lytle, F. W., 1116
 RE distribution, processing: Shaw, V. E., 1693
 Replacement of allanite: Chernov, V. I., 0316
 Synthesis, x-ray data: Jansen, G. L., 0891
 Technology: Berber, J. S., 0137
 Variety buszite discredited: Gohi, Juan, 0628
 Variety hydroxyl-: Kirillov, A. S., 0966
 X-ray data: Glass, J. J., 0603
 X-ray data: Mandarinov, J. A., 1161
 Yttrian, analysis, RE distribution, x-ray data: Mineev, D. A., 1230

Beckelite

- Crystal structure, x-ray data: Gay, P., 0565
 Identity with britholite: Kudrina, M. A., 1029

Beiyinite

- Description: Wang, T. F., 1978
 Optical data, occurrence, China: Ho, T. L., 0792

Belovite

- Analysis, occurrence, U.S.S.R.: Borodin, L. S., 0211
 Analysis, x-ray data: Vlasov, K. A., 1951
 RE distribution: Balashov, Yu. A., 0097

Betafite

- Analysis, DTA: Kalita, A. P., 0919
 Analysis, occurrence, Manchuria: Kawai, Teikichi, 0935
 Analysis (partial), x-ray data: Chesnokov, B. V., 0318
 Data: Hogarth, D. D., 0798
 Metamict, origin of Ti oxides: Orcel, Jean, 1381
 Metamict, x-ray data: Gasparin, M., 0560
 Occurrence, carbonate rocks, Ontario: Gulbrandsen, R. A., 0674
 Occurrence, pegmatites, California: Hewett, D. F., 0764
 Occurrence, pegmatites, Rhodesia: Davidson, C. F., 0377
 Occurrence, pegmatites, U.S.S.R.: Kalita, A. P., 0920
 Occurrence, tuffs, Uganda: Barnes, J. W., 0107
 RE distribution, DTA, x-ray data: Marchenko, E. Ya., 1170
 Variety hatchettolite, mica mine, Maryland: Shannon, E. V., 1686
 X-ray data: Omori, Keiichi, 1374

Blomstrandine

- Composition: Honglso, T., 0808
 Composition: Gorzhetskaya, S. A., 0635
 Metamict, x-ray data: Alexandrov, V. B., 0042

Braitschite

- Formula, optical, x-ray data: Raup, O. B., 1534
 Occurrence, marine evaporites, Utah: Raup, O. B., 1535

Mineral data, RE minerals*Brannerite*

- Analyses, RE distribution: Hewett, D. F., 0766
 Analysis, occurrence, France: Branche, C., 0239
 Analysis, optical data: Gotman, Ya. D., 0641
 Analysis (partial), occurrence, Argentina: Brodtkorb, M. K. de, 0244
 Analysis, x-ray data: Mel'nikova, V. L., 1205
 Composition, x-ray data: Pabst, 1403
 Crystallography, synthesis: Patchett, J. E., 1430
 DTA, RE distribution, properties, x-ray data: Povilaitis, M. M., 1496
 Geochemistry, x-ray data: Zavartzin, A. V., 2070
 Metamict, thermal behavior: Adler, H. H., 0022
 Occurrence, Climax deposit, Colorado: Vanderwilt, J. W., 1912
 Occurrence, conglomerates, Ontario: Traill, R. J., 1859
 Occurrence, conglomerate, South Africa: Schidlowski, Manfred, 1632
 Occurrence, fossil placer, South Africa: Taylor, K., 1825
 Occurrence, gold veins, France: Geffroy, J., 0567
 Occurrence, gneiss, Switzerland: Bianconi, Filippo, 0157
 Occurrence, metasomatic rocks, U.S.S.R.: Davidson, C. F., 0381
 Occurrence, migmatites, California: Dibblee, T. W., Jr., 0408
 Occurrence, Morocco: Roubault, 1579
 Occurrence, pegmatites, Spain: Alia, Manuel, 0044
 Occurrence, processing, Ontario: Honeywell, W. R., 0807
 Occurrence questioned, Blind River, Ontario: Lang, A. H., 1058
 Occurrence, U deposit, Canada: Roscoe, S. M., 1567
 Occurrence, vein deposits, Colorado: Adams, J. W., 0005
 Occurrence, with gold, California: Pabst, Adolf, 1404
 RE distribution: Nuffield, E. W., 1347
 RE distribution: Roscoe, S. M., 1566
 Variety absite, description: Whittle, A. W. G., 2012
 Variety absite, occurrence, Australia: Whittle, A. W. G., 2011
 X-ray data, occurrence, Norway: Autenboer, T. V., 0074
 X-ray data: Umamaheswararao, G. V., 1889

Britholite

- Analyses, optical data, properties: Nechaeva, A. E., 1314
 Analysis, magnetic susceptibility: Val'ter, A. A., 1907
 Analysis (partial), occurrence, Quebec: Hughson, M. R., 0822
 Analysis, RE distribution: Gold, D. P., 0611
 Analysis: Vorms, Atso, 1962
 Analysis: Winther, C., 2029
 Cefluocil composition: Rudneva, A. V., 1587
 Cefluocil composition: Rudneva, A. V., 1588
 Composition: Hägele, G., 0686
 Composition, optical data: Yurk, Yu. Yu, 2061
 Data: Tarkhanova, G. A., 1822
 Group characteristics: Kupriyanova, I. I., 1039
 Occurrence, nepheline syenite, Siberia: Khomyakov, A. P., 0952
 Occurrence, pegmatite: Pletneva, N. I., 1481
 Occurrence, x-ray data, pegmatites, Siberia: Kudrina, M. A., 1029
 RE distribution: Portnov, A. M., 1490
 Relationship to apatite: Machatschki, Felix, 1132

Mineral data, RE minerals*Britholite*

- Synthesis: Cockbain, A. G., 0335
 Synthesis: Trömel, Gerhard, 1866
 Unnamed, in series, analysis, DTA: Leventov, V. S., 1090
 Variety fenghuangite, composition: Peng, Ch'i-Jui, 1453
 Variety fenghuangite, composition: Peng, Chi-Jui, 1454
 X-ray data: Gay, P., 0565
 X-ray data, occurrence, Greenland: Dano, Marianne, 0372
 X-ray data, pegmatitic: Fisher, D. J., 0499

Brockite

- Analysis, x-ray data: Fisher, F. G., 0500
 X-ray data, analysis, Bi-bearing: Haapala, Ilmari, 0681

Burbankite

- Analysis, composition, properties, x-ray data: Pecora, W. T., 1443
 Analysis, DTA, optical, x-ray data: Borodin, L. S., 0210
 Crystal structure: Voronkov, A. A., 1965
 Occurrence, Green River formation: Milton, Charles, 1220
 RE distribution, optical data: Tikhonenkova, R. P., 1845
 X-ray data: Verwoerd, W. J., 1929

Calciogadolinite

- Occurrence, Japan: Nakai, Toshio, 1311
 Synthesis: Ito, 0867

Calciosamarskite

- Analysis, occurrence, Ontario: Ellsworth, H. V., 0452
 Analysis, occurrence, Ontario: Ellsworth, H. V., 0453

Calkinite

- Analysis, composition, properties, x-ray data: Pecora, W. T., 1443

Carbocerite

- Analysis, optical data, properties: Bulakh, 0261
 Analysis, optical data, properties: Bulakh, A. G., 0262
 X-ray data: Verwoerd, W. J., 1929

Caryocerite

- Occurrence, metamorphic rocks, Australia: Matheson, R. S., 1192

Cenosite

- Analyses, formula, optical, x-ray data: Heinrich, E. W., 0748
 Analysis, infrared spectrum, optical, x-ray data: Pouliot, G., 1494
 Crystal structure: Rumanova, I. M., 1590
 Crystal structure: Volodina, G. F., 1959
 Occurrence, altered granite, Switzerland: Parker, Robert L., 1424
 Occurrence, cleft deposits, Switzerland: Beck, Gottfried, 0122
 Occurrence, Idaho: Adams, J. W., 0019
 Occurrence, pegmatites, Norway: Brogger, W. C., 0245
 Occurrence, Sweden: Sjögren, Hjalmar, 1722
 Occurrence, Switzerland: Parker, Robert L., 1425
 Occurrence, Switzerland: Weibel, Max, 1996
 RE distribution, formula, optical data: Graham, R. P. D., 0648
 X-ray data: Berry, L. G., 0146

Ceralite

- Synthesis, in slags: Lapin, V. V., 1061

Cerianite

- Analysis, geochemistry: Graham, A. R., 0647
 Crystallography, occurrence, Brazil: Frondel, Clifford, 0542
 Occurrence, pegmatite dikes, Norway: Neumann, 1322
 RE distribution: Jensen, B. B., 0897

Mineral data, RE minerals*Cerite*

- Alteration: Svyazhin, N. V., 1806
 Analyses, RE ratios: Hanson, R. A., 0695
 Analyses, x-ray data: Glass, J. J., 0603
 Analysis, occurrence, Ural Mts.: Zil'bermints, V. A., 2281
 Analysis, optical data, Colorado: Goddard, E. N., 0607
 Crystal chemistry, x-ray data: Gay, P., 0565
 Crystallography: Gay, 0564
 Isostructural with whitlockite: Keppler, Ulrich, 0944
 Occurrence, alkaline complex, California: Olson, J. C., 1365
 Occurrence, pegmatites, New York: Tan, Li-Ping, 1818

Cerottungstite

- X-ray and optical data, analysis, RE distribution: Sahama, T. G., 1603

Cerphosphorhuttonite

- Composition, occurrence, Siberia: Pavlenko, A. S., 1435

Cheralite

- Analysis, composition, properties, x-ray data: Bowie, S. H. U., 0234
 Analysis, crystal structure: Finney, J. J., 0498
 Occurrence, pegmatite, Finland: Haapala, Ilmari, 0681
 RE distribution: Pavlenko, A. S., 1437
 Unit cell, space group: Rao, N. N., 1530
 X-ray data: Frondel, Clifford, 0543

Chernovite

- Analyses, RE distribution, optical, x-ray data: Goldin, B. A., 0619
 Analysis, formula, x-ray data: Goldin, B. A., 0618

Chevkinite

- Analyses, heating curves: Makarochkin, B. A., 1154
 Analyses, occurrence, Arizona: Kauffman, A. J., Jr., 0933
 Analysis, occurrence, India: Dar, K. K., 0373
 Analyses, x-ray data: Jaffe, H. W., 0883
 Analysis: Eakins, L. G., 0435
 Analysis, x-ray data: Mineev, D. A., 1231
 Data: Ito, Jun, 0866
 Metamict, analysis, x-ray data: Mitchell, R. S., 1247
 Metamict, heat treatment: Lima de Faria, J., 1097
 Occurrence, fenite, Ural Mts.: Zhabin, A. G., 2076
 Occurrence, iron deposit, New Jersey: Klemic, Harry, 0971
 Occurrence, Japan: Takubo, Jitsutaro, 1812
 Occurrence, Madagascar: Lacroix, Alfred, 1048
 Occurrence, metamorphic rocks: Hung, Wen-Hsing, 0826
 Occurrence, North Carolina, Virginia: Seaman, D. M., 1656
 Occurrence, optical, x-ray data: Vartanova, N. S., 1926
 Occurrence, pegmatite, U.S.S.R.: Makarochkin, B. A., 1151
 Occurrence, volcanic ash: Young, E. J., 2055
 Optical, x-ray data: Izett, G. A., 0877
 Polymorphism with perrierite: Bonatti, Stefano, 0190
 Properties, occurrence, Ural Mts.: Chesnokov, B. V., 0317
 RE analysis, occurrence, Idaho: Leonard, B. F., 1078
 RE distribution: Portnov, A. M., 1490
 Relation to perrierite: Bonatti, Stefano, 0188
 Synthesis, polymorphism: Ito, Jun, 0869
 X-ray data: Bonatti, Stefano, 0184
 X-ray data, occurrence, Japan: Takubo, Jitsutaro, 1813

Mineral data, RE minerals*Chukhrovite*

- Analysis, formula: Ermilova, L. P., 0466
 Crystal structure: Bokii, G. B., 0185
 Occurrence, W-Mo deposits, U.S.S.R.: Ermilova, L. P., 0467
 RE distribution: Fleischer, Michael, 0509

Clino-chevkinite

- Relation to perrierite: Bonatti, Stefano, 0189

Cordylite

- Crystal structure: Oftedal, Ivar, 1352
 Occurrence, Greenland: Flink, Gustav, 0511

Davidite

- Analyses: Hayton, 0725
 Analyses: Neumann, Henrich, 1327
 Analysis: Dixon, P., 0412
 Analysis, occurrence, Australia: Rayner, E. O., 1537
 Analysis, polished section, x-ray data: Whittle, 2013
 Analysis, x-ray data: Bannister, F. A., 0103
 Analysis, x-ray data: Van Wambeke, L., 1922
 Composition: Butler, J. R., 0275
 Determination, U minerals: Getseva, R. V., 0590
 Occurrence, accessory, Ural Mts.: Zhabin, A. G., 2078
 Occurrence, Australia: Whittle, A. W. G., 2011
 Occurrence, contact zone, Arizona: Pabst, Adolf, 1405
 Occurrence, Radium Hill, Australia: Parkin, L. W., 1426
 Occurrence, Sweden: Welin, Eric, 2003
 Radioactive halos: Ramdohr, Paul, 1524
 Sc content: Vickery, R. C., 1937
 "Ufertite", analysis, x-ray data: Soboleva, M. V., 1740
 Variety ufertite, mineralogy: Kulik, N. A., 1036

Doverite

- Analysis, x-ray data: Smith, W. L., 1736
 Formula, occurrence, New Jersey: Smith, W. L., 1735
 Occurrence, iron deposit, New Jersey: Klemic, Harry, 0971
 Occurrence, pegmatite, Colorado: Haynes, C. V., Jr., 0723
 RE distribution, optical, x-ray data: Levinson, A. A., 1093
 Unit cell, x-ray data, occurrence, U.S.S.R.: Semenov, E. I., 1663

Dysanallyte

- Occurrence, carbonalite, Germany: Knop, Adolph, 0978

Erikite

- Analysis, x-ray data: Vlasov, K. A., 1951
 Classification: Machatschki, Felix, 1133
 Formula, optical data, properties: Boggild, O. B., 0182
 Geochemistry: Semenov, E. I., 1662
 Occurrence, U.S.S.R.: Gerasimovskii, V. I., 0578
 X-ray data, occurrence, Greenland: Danø, Marianne, 0372

Mineral data, RE minerals*Eschynite*

- Analyses, optical, x-ray data: Chang, Pei-Shan, 0297
 Analyses, optical, x-ray data: Zhabin, A. G., 2075
 Crystal structure: Alexandrov, V. B., 0041
 Metamict, crystal chemistry, geochemistry: Seifert, H., 1659
 Metamict, crystal chemistry, geochemistry: Serfert, M., 1680
 Metamict, DTA, x-ray data: Adusumilli, M. S., 0023
 Morphology, x-ray data: Ishihara, Shunso, 0863
 Occurrence, fenitized rocks, Ural Mts.: Zhabin, A. G., 2077
 Occurrence, gneiss, Connecticut: Schairer, J. F., 1625
 Occurrence, Inner Mongolia: Chang, Pei-Shan, 0295
 Occurrence, North Carolina: Hidden, W. E., 0774
 Occurrence, placers, Alaska: Waters, A. E., Jr., 1986
 Occurrence, quartz reefs, Kenya: Horne, J. E. T., 0810
 RE distribution, eschynite-priorite series: Fleischer, Michael, 0506
 Synthesis: Komkov, A. I., 0995
 System, isomorphism, dimorphism: Chang, Pei-Shan, 0299
 X-ray data: Heinrich, E. W., 0751
 Yttrian, Ural Mts.: Makarochkin, B. A., 1153

Eucrasite

- RE distribution, mineralogy of U, Th: Frondel, Clifford, 0533

Euxenite

- Age, Grenville pegmatite: Robinson, S. C., 1555
 Analyses, x-ray data: Omori, Keiichi, 1374
 Analysis, age determination: Young, R. W., 2059
 Analysis, Colorado: Muench, O. B., 1283
 Analysis, DTA, optical, x-ray data: Sokolova, E. P., 1743
 Analysis, DTA, x-ray data: Hayashi, 0719
 Analysis: Marble, J. P., 1166
 Analysis, occurrence, Antarctica: Saito, Nobufusa, 1606
 Analysis, occurrence, Uganda: Barnes, J. W., 0107
 Analysis, RE distribution, processing: Shaw, V. E., 1695
 Analysis, x-ray data: Heinrich, E. W., 0743
 Composition: Honglso, T., 0808
 Composition: Omori, Keiichi, 1371
 Composition: Omori, Keiichi, 1373
 Composition, processing: Gruzensky, W. G., 0675
 Genetic relation to priorite: Komkov, A. I., 0993
 Metamict, analysis, x-ray data: Arnott, R. J., 0064
 Metamict, crystal chemistry, geochemistry: Seifert, H., 1659
 Metamict, crystal chemistry, geochemistry: Serfert, M., 1680
 Metamict, origin of Ti oxides: Orcel, Jean, 1381
 Metamict, wiikite, DTA, x-ray data: Fauquier, Daniel, 0480
 Metamict, x-ray data: Alexandrov, V. B., 0042
 Metamict, x-ray data: Lima de Faria, J., 1096
 Occurrence, Arizona: Galbraith, F. W., 0551
 Occurrence, fossil placer, South Africa: Taylor, K., 1825
 Occurrence, pegmatite, Japan: Omori, Keiichi, 1372
 Occurrence, pegmatites, California: Hewett, D. F., 0764
 Occurrence, pegmatites, Colorado: Heinrich, E. W., 0730
 Occurrence, pegmatites, Italy: Cantadore, Francesco, 0286
 Occurrence, pegmatites, Ontario: Heinrich, E. W., 0741

Mineral data, RE minerals*Euxenite*

- Occurrence, pegmatites, South Africa: Mountain, E. D., 1273
- Occurrence, pegmatites, Wyoming: Houston, R. S., 0815
- Occurrence, placers, California: Hutton, C. O., 0842
- Occurrence, placers, Idaho: Mackin, J. H., 1146
- Occurrence, placers, Montana: Heinrich, E. W., 0749
- Polymorphous YNbTiO₆: Komkov, A. I., 0991
- Processing, metallurgy: May, S. L., 1199
- Synthesis: Steuhl, H. H., 1776
- System, isomorphism, dimorphism: Chang, Pei-Shan, 0299
- X-ray data, occurrence, French Guiana: Cruys, A., 0362
- X-ray data, occurrence, New Zealand: Hutton, C. O., 0845
- X-ray data, zoning: Heinrich, E. W., 0745

Ewaldite

- Geochemistry: Donnay, Gabrielle, 0417

Fergusonite

- Analyses, RE distribution: Butler, J. R., 0277
- Analyses, S. Africa: Hugo, P. J., 0824
- Analyses: Shibata, Yuji, 1703
- Analysis: Hasegawa, Shuzo, 0699
- Analysis, occurrence, Japan: Kawai, Teikichi, 0935
- Analysis, occurrence, North Carolina: Hidden, W. E., 0772
- Analysis, optical data: Cooke, S. R. B., 340a
- Analysis (partial), pegmatites, South Africa: Mountain, E. D., 1273
- Analysis, RE distribution: Wylie, A. W., 2041
- Analysis, RE distribution, x-ray data: Petrova, E. A., 1464
- Analysis, x-ray data: Nagashima, Kozo, 1309
- Analysis, x-ray data: Van Wambeke, L., 1917
- Analysis, x-ray data: Vormea, Atso, 1962
- Beta-fergusonite, metamict: Gorzhevskaya, S. A., 0640
- Cerian, Analysis, RE distribution: Makarochkin, B. A., 1155
- Composition: Hasegawa, Shuzo, 0703
- Crystal structure, polymorphs: Wolten, G. M., 2032
- Crystal structure: Stubican, V. S., 1794
- Metamict: Berman, Joseph, 0142
- Metamict, crystal structure: Barth, T. F. W., 0112
- Metamict, crystal structure: Fauquier, Daniel, 0482
- Metamict, gneiss, New Jersey: Markewicz, F. J., 1174
- Metamict, properties, x-ray data: Bouška, Vladimir, 0230
- Metamict, x-ray data, Virginia: Mitchell, R. S., 1249
- Occurrence, amphibole granites, Nigeria: Darnley, A. G., 0374
- Occurrence, granite, China: Wang, T. F., 1979
- Occurrence, Japan: Sakurai, Kinichi, 1611
- Occurrence, pegmatites, Arizona: Moore, R. T., 1266
- Occurrence, pegmatites, Bolivia: Ahlfeld, Friedrich, 0028
- Occurrence, pegmatites, Virginia: Mitchell, R. S., 1250
- Occurrence, placers, reserves, S. Korea: Hwang, In Chun, 0846
- Synthesis, crystal structure: Krylov, E. I., 1027
- Synthesis: Ferguson, R. B., 0492
- Synthesis: Steuhl, H. H., 1776
- Synthesis: Wolten, G. M., 2033
- Synthetic, x-ray data: Komkov, A. I., 0989

Mineral data, RE minerals*Fergusonite*

- Variety sipylite, occurrence, Virginia: Mallet, J. W., 1158
- X-ray data, occurrence, French Guiana: Cruys, A., 0362
- X-ray data, occurrence, New Zealand: Watters, W. A., 1990

Fersmite

- Analysis: Parker, Raymond L., 1421
- Analysis, x-ray data: Makarochkin, B. A., 1152
- Geochemistry: Van der Veen, A. H., 1910
- Occurrence, alkaline rocks, Montana: Heinrich, E. W., 0751
- Occurrence, alkaline rocks, Montana: Heinrich, E. W., 0752

Florencite

- Analysis, occurrence, Brazil: Hussak, Eugen, 0832
- Analysis, optical data: Somina, M. Ya., 1746
- Analysis, x-ray data: Bhaskara Rao, A., 0154
- Analysis, x-ray data: Bhaskara Rao, A., 0153
- Analysis, x-ray data: Mitchell, R. S., 1252
- Composition: Hendricks, S. B., 0754
- Occurrence, Australia: Whittle, A. W. G., 2011
- Occurrence, carbonatite, Malawi: Holt, D. N., 0806
- Occurrence, carbonatite, Malawi: Smith, W. C., 1732
- Occurrence, carbonatites, Tanzania: James, T. C., 0889
- Occurrence, France: Guignes, Jean, 0678
- Occurrence, sedimentary rocks, Belgium: Theunissen, K., 1839
- Possible occurrence, Scotland: Bain, D. C., 0078
- "Stiepelmannite", occurrence, South West Africa: Ramdohr, Paul, 1525
- Variety Stiepelmannite: Ygberg, E. R., 2045
- X-ray data, carbonatite, Malawi: McKie, Duncan, 1144
- X-ray data, occurrence, France: Devismes, Pierre, 0407
- X-ray data, occurrence, Illinois: Trace, R. D., 1858
- X-ray data, pegmatitic: Fisher, D. J., 0499

Fluocerite

- Analysis, optical data: Geijer, Per, 0569
- Analysis, optical, x-ray data: Heinrich, E. W., 0750
- Occurrence, Brazil: Moraes, L. J. de, 1267
- Occurrence, Czechoslovakia: Kratchvil, 1011
- Occurrence, pegmatite, Uganda: Barnes, J. W., 0107
- Occurrence, Sweden: Weibull, Mats, 1997
- Occurrence, tin deposits, South Africa: Strauss, C. A., 1788
- Properties, x-ray data, U.S.S.R.: Chistyakova, M. B., 0320
- Synthesis: Schlyter, Kurt, 1635
- EPR, analysis for Eu, Gd: Vinokurov, V. M., 1945a

Fluorite

- Y, Yb content: Humphreys, W. J., 0825

Formanite

- Analysis, properties: Berman, Harry, 0140

Mineral data, RE minerals*Gadolinite*

- Analyses, absorption spectrum: Eakins, L. G., 0434
 Analysis, chemistry: Lokka, Lauri, 1104
 Analyses, lanthanide distribution, x-ray data: Petrova, E. A., 1463
 Analyses, occurrence, Italy: Pegliani, Giovanna, 1409
 Analyses, RE distribution, S. Africa: Hugo, P. J., 0824
 Analysis, Bi content: Gurney, J. J., 0680
 Analysis, radioactive minerals: Lokka, Lauri, 1104
 Analysis: Kawai, Teikichi, 0934
 Analysis, occurrence, Italy: Fagnani, G., 0478
 Analysis, occurrence, Japan: Kawai, Teikichi, 0935
 Analysis, properties: Béhier, Jean, 0129
 Analysis, RE distribution: Kudrina, M. A., 1028
 Crystal structure: Ito, Teichi, 0871
 Crystal structure: Pavlov, P. V., 1439
 Isotope dating: Boudin, André, 0227
 Metamict, analysis, x-ray data: Gibson, S. J., 0593
 Metamict: Chuboda, K. F., 0325
 Metamict: Pellas, Paul, 1445
 Occurrence, Be deposits, Canada: Mulligan, Robert, 1284
 Occurrence, Japan: Sakurai, Kinichi, 1608
 Occurrence, pegmatite, Colorado: Haynes, C. V., Jr., 0723
 Occurrence, pegmatites, Arizona: Moore, R. T., 1266
 Occurrence, pegmatites, Colorado: Heinrich, E. W., 0730
 Occurrence, pegmatites, Norway: Brogger, W. C., 0245
 Occurrence, pegmatites, South Africa: Mountain, E. D., 1273
 Occurrence, pegmatites, U.S.S.R.: Lunts, A. Ya, 1110
 Occurrence, pegmatite, Sweden: Mason, Brian, 1184
 Occurrence, South Africa: Backström, J. W. von, 0075
 Occurrence, Switzerland: Parker, Robert L., 1423
 Occurrence, tin ore, India: Holland, T. H., 0803
 Optical, x-ray data: Emiliani, Francesco, 0457
 RE distribution: Alexandrova, I. T., 0043
 RE distribution: Semenov, E. I., 1668
 RE distribution: Vainshtein, E. E., 1902
 RE distribution, various deposits: Vainshtein, E. E., 1900
 Synthesis: Ito, 0865
 Synthesis: Ito, Jun, 0864
 X-ray data: Vorma, Atso, 1962

Gagarinite

- Analysis, lanthanide distribution, formula, optical, x-ray data: Akelin, N. A., 0029
 Analysis: Mineev, D. A., 1226
 Analysis, optical data, properties, x-ray data: Stepanov, A. V., 1775
 RE distribution, alteration: Mineev, D. A., 1230
 RE distribution: Fleischer, Michael, 0509

Hellandite

- Analyses, x-ray data: Oftedal, Ivar, 1355
 Comparison with tadzhikite: Efimov, A. F., 0443
 Composition: Oftedal, Ivar, 1354
 Occurrence, Quebec: Hogarth, D. D., 0800
 Occurrence, tin deposits, South Africa: Strauss, C. A., 1788
 Optical, x-ray data: Emiliani, Francesco, 0457

Huanghoite

- Analysis: Semenov, E. I., 1669
 Formula: Chang, Pei-Shan, 0296

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- Analysis, RE distribution, optical, x-ray data: Semenov, E. I., 1673
 Occurrence, alkalic rocks, U.S.S.R.: Sokolova, M. N., 1744

Irinite

- Analysis: Borodin, L. S., 0212

Ishikawaite

- Occurrence, Japan: Kimura, Kenjiro, 0962
 Occurrence, Japan: Shibata, Yuji, 1704

Johnstrupite

- DTA, x-ray data: Slepnev, Yu. S., 1727
 Occurrence, Australia: Whittle, A. W. G., 2011
 Unit cell: Sahama, T. G., 1602

Karnasurtite

- Analysis, optical data: Kuz'menko, M. V., 1043
 Analysis, x-ray data: Vlasov, K. A., 1951

Kemmlitzite

- Analysis, RE distribution: Hak, J., 0688

Khlopinite

- Analysis, Sc content: Borovik, S. A., 0215

Knopite

- Data, occurrence, Sweden: Holmquist, P. S., 0804

Kobeite

- Analyses, x-ray data: Masutomi, Kazunosuke, 1191
 Formula, occurrence, Japan: Takubo, Jitsutaro, 1817
 X-ray data, occurrence, New Zealand: Hutton, C. O., 0843

Koppite

- Occurrence, carbonatite, Germany: Knop, Adolph, 0977

Lanthanite

- Analysis, occurrence, Pennsylvania: Blake, W. P., 0168
 Analysis, occurrence, Pennsylvania: Smith, J. L., 1731
 Geochemistry, occurrence, Sweden: Geijer, Per, 0568
 Occurrence, pegmatite, New York: Rowley, E. B., 1584
 Occurrence, Sanford ore bed, New York: Blake, W. P., 0169
 Optical data, occurrence, Norway: Saebø, P. C., 1597

Lermontovite

- Analysis, optical data: Soboleva, M. V., 1740
 Determination, U minerals: Getseva, R. V., 0590

Lessingite

- Analysis, occurrence, Ural Mts.: Zil'bermints, V. A., 2281
 Crystal structure, x-ray data: Gay, P., 0565
 Formula, optical data, properties: Svyazhin, N. V., 1808
 Identity with britholite: Kudrina, M. A., 1029
 Synthetic: Ito, Jun, 0868

Llallagualite

- Occurrence, tin deposits, Bolivia: Bandy, M. C., 0101

Lokkaiite

- RE distribution, x-ray data, optical data: Perttunen, Vesa, 1461

Lombaardite

- RE distribution: Neumann, Henrich, 1325
 X-ray data: Nel, H. J., 1318

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- Analysis, chemistry of perovskite group: Nickel, E. H., 1333
 Analysis, RE distribution, replacement: Kalenov, A. D., 0913
 Analysis, RE distribution: Vainshtein, E. E., 1904
 Analysis: Semenov, E. I., 1678
 Analysis, x-ray data: Gerasimovskii, V. I., 0587
 Analysis, x-ray data: Vlasov, K. A., 1951
 Crystal structure: Gaertner, H. R., 0549
 Occurrence, nepheline syenite, Siberia: Khomyakov, A. P., 0952
 Occurrence, nepheline syenite, U.S.S.R.: Tolok, A. A., 1850
 RE distribution: Balashov, Yu. A., 0096
 RE distribution, DTA, x-ray data: Zhidkov, A. Ya., 2079
 RE distribution: Portnov, A. M., 1490

Loranskite

- Data: Melnikov, M. P., 1204

Lovchorrite

- DTA, x-ray data: Slepnev, Yu. S., 1727
 Occurrence, Yukspor, U.S.S.R.: Afanas'ev, M. S., 0025

Lyndochite

- Analysis: Butler, J. R., 0273
 Analysis, crystallography, RE distribution: Gorzhetskaya, S. A., 0638
 Occurrence, Ontario: Ellsworth, H. V., 0451
 RE distribution, status: Fleischer, Michael, 0506
 X-ray data, occurrence, Kenya: Horne, J. E. T., 0810

Mackelvyite

- Analysis, formula, optical data: Milton, Charles, 1221
 Geochemistry: Donnay, Gabrielle, 0417
 Morphology: Desautels, P. E., 0405

Magnesium-orthite

- Analysis: Geijer, Per, 0570

Mangan-orthite

- Occurrence, U.S.S.R.: Ovchinnikov, L. N., 1389

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- Formula: Borneman-Starynkevich, I. D., 0204
 Occurrence, nepheline syenite, Siberia: Khomyakov, A. P., 0952
 Properties, occurrence U.S.S.R.: Portnov, A. M., 1492
 RE distribution: Portnov, A. M., 1490

Metaloparite

- Occurrence, Kola Peninsula: Gerasimovskii, V. I., 0581
 RE distribution: Portnov, A. M., 1490

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- Abundance, Florida phosphorite: Stow, S. H., 1787
 Abundance, placers, Malaysia: Singh, D. S., 1717
 Accessory, gneisses, U.S.S.R.: Zayats, A. P., 2071
 Accessory, granites, U-Th content: Hurley, P. M., 0830
 Accessory, granite, Texas: McAdams, R. E., 1120
 Accessory, Nevada: Lee, D. E., 1069
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 Analyses, economic aspects: Houk, 0814
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- Analyses, S. Africa: Hugo, P. J., 0824
 Analyses: Shibata, Yuji, 1703
 Analyses: Tuttle, O. F., 1878
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 Analyses: Zhirov, K. K., 2080
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 Analysis, black: Ellsworth, H. V., 0451
 Analysis: Bliss, A. D., 0174
 Analysis: Borovskii, I. B., 0218
 Analysis, carbonatite: Vainshtein, E. E., 1901
 Analysis, DTA, optical, x-ray data: Molloy, M. W., 1261
 Analysis, geochemistry, properties: Flinter, B. H., 0514
 Analysis, occurrence, Arkansas: Rose, H. J., Jr., 1571
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 Analysis, occurrence, Bolivia: Ahlfeld, Friedrich, 0028
 Analysis, occurrence, Ceylon: Wadia, D. N., 1968
 Analysis, occurrence, Great Britain: Knorring, Oleg von, 0981
 Analysis, occurrence, Idaho: Anderson, A. L., 0050
 Analysis, occurrence, Illinois: Trace, R. D., 1858
 Analysis, occurrence, India: Fermor, 0493
 Analysis, occurrence, Quebec: Spence, H. J., 1756
 Analysis, occurrence, Tennessee: Floyd, R. J., 0516
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 Analysis, occurrence, U.S.S.R.: Khomyakov, A. P., 0950
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 Analysis (partial), processing: Shen, Jin-Tai, 1702
 Analysis, RE distribution, optical data: Knorring, Oleg von, 0979
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 Analysis, RE distribution: Vainshtein, E. E., 1904
 Analysis, resources, Egypt: Higazy, R. A., 0782
 Analysis, ThO₂: Overstreet, W. C., 1397
 Analysis, unit cell, accessory: Karakida, Yoshifumi, 0924
 Analysis, U, Th, Pb: Muench, O. B., 1282
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 Beneficiation process, lode deposit: Pinkney, E. T., 1478
 Composition: Hasegawa, Shuzo, 0703
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 Composition: Wylie, A. W., 2040
 Crystallography: Parker, Robert L., 1422
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 Crystal structure: Ueda, Tateo, 1880
 Deposits, determination: Kithil, K. L., 0968
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 Evaluation of deposits: Griffith, R. F., 0659
 Exploration techniques: Griffith, R. F., 0660

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- Geochemistry: Kosterin, A. V., 1000
 Geochemistry: Kosterin, A. V., 1000
 Geochemistry, RE distribution: Heinrich, E. W., 0747
 Geochemistry: Schermerhorn, L. J. G., 1631
 Geochemistry: Tsvetkova-Goleva, V., 1870
 Geochemistry, U-enrichment: Baranov, V. I., 0104
 Geologic distribution and resources: Olson, J. C., 1363
 Geologic occurrence: Overstreet, W. C., 1393
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 Leaching of Pb isotopes: Burger, A. J., 0267
 Magnetic susceptibility: Ng, W. K., 1329
 Metamict: Ghouse, K. M., 0592
 Metamict: Karkhanavala, M. D., 0926
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 Mrima Hill Carbonatite, Kenya: Binge, F. W., 0161
 Nuclei of haloes in biotite: Schwander, Hans, 1651
 Occurrence, ancient placer, Zambia: O'Brien, P. L. A., 1349
 Occurrence, absorption bands, Germany: Scharizer, R., 1628
 Occurrence, accessory, New England: Derby, O. A., 0400
 Occurrence, accessory, Urals: Bogdanova, S. V., 0180
 Occurrence, Africa: Davidson, C. F., 0378
 Occurrence, alkalic complex California: Olson, J. C., 1365
 Occurrence, alkalic rocks, Sierra Leone: Wilson, N. W., 2028
 Occurrence, alkalic rocks, U.S.S.R.: Omel'yanenko, B. I., 1367
 Occurrence, alkalic rocks, Vermont: Daly, R. A., 0371
 Occurrence, alluvial, eluvial, Upper Volta: Duclellier, Jean, 0426
 Occurrence, ancient placer, Michigan: Vickers, R. C., 1934
 Occurrence, ancient placer, Virginia: Mertie, J. B., Jr., 1211
 Occurrence, Australia: Australia Bureau of Mineral Resources, 0073
 Occurrence, Australia: Ward, J., 1980
 Occurrence, beaches, Florida: Miller, Roswell, III, 1217
 Occurrence, Brazil: Derby, O. A., 0399
 Occurrence, Brazil: Uhlig, J., 1888
 Occurrence, British Columbia: Stevenson, J. S., 1777
 Occurrence, carbonate veins, China: Chang, Pei-Shan, 0298
 Occurrence, carbonatite, Colorado: Parker, Raymond L., 1421
 Occurrence, carbonatite, Germany: Van Wambeke, L., 1921
 Occurrence, carbonatite, Germany: Van Wambeke, L., 1924
 Occurrence, carbonatite, Kenya: Coetzee, G. L., 0337
 Occurrence, carbonatite, Malawi: McKie, Duncan, 1144
 Occurrence, carbonatites, South Africa: Verwoerd, W. J., 1929
 Occurrence, carbonatite, Zambia: Reeve, W. H., 1540
 Occurrence, Climax deposit, Colorado: Vanderwilt, J. W., 1912
 Occurrence, Connecticut: Foye, W. G., 0524
 Occurrence, Europe: Derby, O. A., 401a
 Occurrence, fossil placer, South Africa: Taylor, K., 1825
 Occurrence, France: Guigues, Jean, 0678

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- Occurrence, gneiss, India: Leelanadam, C., 1075
 Occurrence, gneiss, migmatite, Colorado: Young, E. J., 2056
 Occurrence, gneiss, New Jersey: Markewicz, F. J., 1174
 Occurrence, gravels, Arizona: Heineman, R. E. S., 0729
 Occurrence, hydrothermal veins, Greenland: Semenov, E. I., 1670
 Occurrence, Idaho: Stafley, 1768
 Occurrence, India: Wadia, D. N., 1969
 Occurrence, iron ore and graphite, Brazil: Derby, O. A., 0402
 Occurrence, Japan: Sakurai, Kinichi, 1611
 Occurrence, large crystal, North Carolina: Schaller, W. T., 1627
 Occurrence, Madagascar: Murdock, T. G., 1295
 Occurrence, Malawi, Thailand: Great Britain Overseas Geological Surveys 0651
 Occurrence, metamorphic rocks, Colorado: Young, E. J., 2057
 Occurrence, migmatites, California: Dibblee, T. W., Jr., 0408
 Occurrence, New York: Bodelson, O. W., 0177
 Occurrence, North Carolina: Bryson, H. J., 0257
 Occurrence, Oka, Quebec: Gold, D. P., 0611
 Occurrence, pegmatite, Arizona: Flagg, A. L., 0504
 Occurrence, pegmatite, Australia: Thomas, R. G., 1840
 Occurrence, pegmatite, California: Melhase, John, 1202
 Occurrence, pegmatite, Colorado: Waldschmidt, W. A., 1973
 Occurrence, pegmatite, Finland: Haapala, Ilmari, 0681
 Occurrence, pegmatites, Australia: Lawrence, L. J., 1066
 Occurrence, pegmatites, Colorado: Heinrich, E. W., 0730
 Occurrence, pegmatites, Colorado: Staatz, M. H., 1766
 Occurrence, pegmatites, Georgia: Hurst, V. J., 0831
 Occurrence, pegmatites, Germany: Strunz, Hugo, 1793
 Occurrence, pegmatites, New Mexico: Jahns, R. H., 0886
 Occurrence, pegmatites, New Mexico: Redmon, D. E., 1539
 Occurrence, pegmatites, Thailand: Garson, M. S., 0558
 Occurrence, pegmatites, Wyoming: Houston, R. S., 0815
 Occurrence, Pennsylvania: Hamilton, S. H., 0691
 Occurrence, placer, Idaho: Hill, W. H., 0784
 Occurrence, placer, Idaho: Schrader, F. C., 1648
 Occurrence, placers, Argentina: Rojas, H., 1561
 Occurrence, placers, Australia: Australia Bureau of Mineral Resources, 0072
 Occurrence, placers, Australia: Overstreet, W. C., 1391
 Occurrence, placers, China: Peng'Ch'i-Jui, 1452
 Occurrence, placers, Idaho: Kline, M. H., 0973
 Occurrence, placers, Idaho: Mackin, J. H., 1146
 Occurrence, placer, Idaho: Schmidt, D. L., 1638
 Occurrence, placers, India: Deshpande, G. G., 0406
 Occurrence, placers, India: Mahadevan, C., 1148
 Occurrence, placers, India: Viswanathan, P., 1946
 Occurrence, placers, Indonesia: Van Overeem, A. J. A., 1914
 Occurrence, placers, Japan: Yoshimura, Jun, 2050
 Occurrence, placers, Montana: Heinrich, E. W., 0749
 Occurrence, placers, Nigeria: Mackay, R. A., 1135
 Occurrence, placers, Northwest Territories: Folinsbee, R. E., 0519
 Occurrence, placer, South Carolina: Kline, M. H., 0975

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- Occurrence, placers, reserves, India: U.S. Bureau Mines, 1890
- Occurrence, placers, South Carolina: Sloan, Earl, 1729
- Occurrence, placers, Wyoming: Murphy, J. F., 1297
- Occurrence, production, Madagascar: U.S. Bureau Mines, 1894
- Occurrence, reserves, Malawi: Holt, D. N., 0806
- Occurrence, reserves, Malawi: Mining, 1233
- Occurrence, resources, Piedmont: Heron, S. D., Jr., 0759
- Occurrence, resources, South Carolina: Griffith, R. F., 0661
- Occurrence, S. Atlantic coastal plain: Dryden, Lincoln, 0425
- Occurrences, Canada: Lang, A. H., 1059
- Occurrence, S.E. United States: Mertie, J. B., Jr., 1209
- Occurrences, Nevada: Longwell, C. R., 1105
- Occurrences, North Carolina: Laney, F. B., 1056
- Occurrence, Sn-W deposits, Bolivia: Stoll, W. C., 1782
- Occurrence, South Africa: Mendelssohn, E., 1206
- Occurrence, South Australia: Wilson, A. F., 2025
- Occurrence, South Carolina: Perry, E. S., 1460
- Occurrence, southeastern U.S.: Mertie, J. B., Jr., 1212
- Occurrence, southeastern U.S.: Overstreet, W. C., 1394
- Occurrence, stream gravels, Sierra Leone: Marmo, Vladi, 1175
- Occurrence, Swaziland: Prior, G. L., 1506
- Occurrence, Switzerland: Beck, Gottfried, 0121
- Occurrence, Taiwan: Shen, Jin-Tai, 1701
- Occurrence, Th-deposits, Idaho, Montana: Sharp, W. N., 1687
- Occurrence, Th-free, Bolivia: Gordon, S. G., 0633
- Occurrence, U deposit, Australia: Mawson, Douglas, 1197
- Occurrence, U deposit, Canada: Roscoe, S. M., 1567
- Occurrence, U deposit, Congo: Derriks, J. J., 0404
- Occurrence, U deposit, Saskatchewan: Robinson, S. C., 1554
- Occurrence, Utah: Bullock, K. C., 0264
- Occurrence, vein deposits, Congo: Thoreau, J., 1843
- Occurrence, vein deposits, South Africa: MacConachie, H., 1127
- Occurrence, veins, Alaska: Wedow, Helmuth, Jr., 1995
- Occurrence, Virginia: Sears, C. E., Jr., 1657
- Occurrence, western hemisphere: Strod, A. J., 1789
- Occurrence, with zircon, South Africa: Backström, J. W. von, 074a
- Optical data, occurrence, California: Hutton, C. O., 0841
- Placer evaluation: Kline, M. H., 0972
- Processing, reserves, India: Bhola, K. L., 0155
- Processing: Tobia, S. K., 1847
- Production of RE and Th: Pilkington, E. S., 1476
- Production, placers, Australia: Mining Journal, 1240
- Production, reserves, Brazil: Mining Journal, 1239
- Pyrochlore-Microlite: Verwoerd, W. J., 1931
- Radioactive decay products: Voronovsky, S. N., 1966
- Radioactivity: Gindy, A. R., 0596
- Recovery, beach sands: Hudson, S. B., 0820
- RE distribution: Kalita, A. P., 0917
- RE distribution: Khomyakov, A. P., 0951
- RE distribution: Lyakhovich, V. V., 1111
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- RE distribution, magnetic susceptibility: Richartz, W., 1545

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- RE distribution: Meliksetyan, B. M., 1203
- RE distribution, mineralogy of U, Th: Frondel, Clifford, 0533
- RE distribution: Pavlenko, A. S., 1437
- RE distribution: Roscoe, S. M., 1566
- RE distribution: Sahama, T. G., 1605
- RE distribution: Vainshtein, E. E., 1903
- RE distribution, x-ray data: Heinrich, E. W., 0751
- Reserves, Brazil: Leonardos, O. H., 1080
- Reserves, Malawi, Rhodesia: Metal1214
- Resources, placers, Wyoming: McKinney, A. A., 1147
- Resources, South Carolina: McCauley, C. K., 1125
- Rotation properties: Hutchinson, R. W., 0833
- Separation from beach sands: Nicholson, D. S., 1331
- Separation from xenotime: Flinter, B. H., 0513
- Solvent extraction of Th, U: Nishimura, Shin'ichi, 1336
- South Africa: Backström, J. W. von, 0076
- Stability relations: Ueda, Tateo, 1885
- Structure: Kokkoros, Peter, 0986
- Synthesis: Anthony, J. W., 0058
- Synthesis: Karkhanavala, M. D., 0925
- Synthesis: Radominski, F., 1519
- Synthetic, crystal morphology: Anthony, J. W., 0059
- Systematic variation of RE: Murata, K. J., 1289
- ThO₂ abundance: Overstreet, W. C., 1390
- Th, U content, age-dating: Gottfried, David, 0644
- U-content, accessory: Lyons, J. W., 1115
- Unit cell, space group: Parrish, William, 1427
- Use, age determination: Tilton, G. R., 1846
- Use, occurrence: Pratt, J. H., 1499
- X-ray data, occurrence, Greenland: Danø, Marianne, 0372
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- RE distribution, DTA: x-ray data: Slepnev, Yu. S., 1727
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- Euxenite, pegmatites, New Mexico: Gillerman, Elliot, 0594
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- Analysis, formula, x-ray data: Muto, Tadashi, 1301
- Precipitation environment: Muto, Tadashi, 1299
- Thermochemical stability: Muto, Tadashi, 1300
- Nioboloparite*
- Analysis, alkali pegmatite: Tikhonenkov, I. P., 1844
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- Analysis, RE distribution, optical data, properties: Gerasimovskii, V. I., 0580
- Analysis, x-ray data: Gerasimovskii, V. I., 0587
- Analysis, x-ray data: Vlasov, K. A., 1951
- RE distribution: Balashov, Yu. A., 0097
- Oborite*
- Optical data, occurrence, China: Ho, T. L., 0792
- Obruchevite*
- Analyses: Beus, A. A., 0152
- Analysis, x-ray data: Kalita, A. P., 0916
- Composition, DTA, x-ray data: Kalita, A. P., 0915
- Determination, U minerals: Getseva, R. V., 0590
- Metamict, wiikite, DTA, x-ray data: Fauquier, Daniel, 0480
- Occurrence, pegmatites, U.S.S.R.: Kalita, A. P., 0920
- RE distribution: Kalita, A. P., 0917
- X-ray data: Sahama, T. G., 1604

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Analyses, crystallography, optical data, occurrence,

Massachusetts: Palache, Charles, 1412

Analysis: Borovskii, I. B., 0218

Analysis, carbonatite: Vainshtein, E. E., 1901

Analysis, composition, crystallography: Penfield, S. L., 1451

Analysis, geochemistry: Kuz'menko, V. I., 1044

Analysis, occurrence, U.S.S.R.: Khomyakov, A. P., 0950

Analysis, RE distribution: Vainshtein, E. E., 1904

Crystallography: Donnay, Gabrielle, 0416

Crystal structure: Oftedal, Ivar, 1352

Geochemistry, occurrence, U.S.S.R.: Gerasimovskii, V. I., 0584

Occurrence, alkaline rocks, U.S.S.R.: Omel'yanenko, B. I., 1367

Occurrence, carbonatite "pegmatite", Montana: Clabaugh, S. E., 0328

Occurrence, emerald deposits, Colombia: Wokittel, Roberto, 2030

Occurrence, fluorite-cassiterite veins, Virginia: Glass, J. J., 0604

Occurrence, Greenland: Flink, Gustav, 0511

Occurrence, Oka, Quebec: Gold, D. P., 0611

Occurrence, pegmatite, Massachusetts: Warren, C. H., 1984

Occurrence, pyrometamorphic deposits, Alaska: White, M. G., 2008

Occurrence, Rhode Island: Bjareby, 0164

Occurrence, tin deposits, South Africa: Strauss, C. A., 1788

Occurrence, vein deposits, Alaska: Houston, J. R., 0816

Occurrence, veins, Alaska: Wedow, Helmuth, Jr., 1995

Optical, x-ray data: Mandarin, J. A., 1161

RE distribution: Khomyakov, A. P., 0951

RE distribution: Pavlenko, A. S., 1437

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Analysis (partial): Semenov, E. I., 1676

Crystal structure, formula: Gottardi, Glaucio, 0643

Crystal structure: Galli, Ermanno, 0553

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Metamict, analysis: Mitchell, R. S., 1247

Metamict, heat treatment: Lima de Faria, J., 1097

Occurrence, Finland: Kallio, Pekka, 0921

Occurrence, Italy: Bonatti, Stefano, 0187

Occurrence, pegmatite, Japan: Sakurai, Kinichi, 1609

Occurrence, placers, Italy: Ippolito, Felice, 0861

Optical, x-ray data: Gandolfi, Giorgio, 0554

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Polymorphism with chevkinite: Bonatti, Stefano, 0190

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Synthesis, polymorphism: Ito, Jun, 0869

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Analyses: Hidden, W. E., 0779

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Composition: Omori, Keiichi, 1371

Metamict, x-ray data: Alexandrov, V. B., 0042

Occurrence, pegmatite, New York: Rowley, E. B., 1583

Occurrence, pegmatites, New York: Smith, E. S. C., 1730

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Metamict, x-ray data: Lima de Faria, J., 1096

Pravdite

Data: Tarkhanova, G. A., 1822

X-ray data: Nurlyba'ev, A. N., 1348

Priorite

Analysis, DTA, x-ray data: Van Wambeke, L., 1917

Composition: Gorzhetskaya, S. A., 0635

Genetic relation to euxenite: Komkov, A. I., 0993

Isotope dating: Boudin, André, 0227

Polymorphous YNbTiO₆: Komkov, A. I., 0991

RE distribution: Kovalenko, V. I., 1006

Synthesis: Komkov, A. I., 0995

System, isomorphism, dimorphism: Chang, Pei-Shan, 0299

Pyrochlore

Analyses, Oka, Quebec: Gold, D. P., 0611

Occurrence, carbonatite, Germany: Van Wambeke, L., 1921

Pyrochlore-Microlite

Analyses, DTA, x-ray data: Kalita, A. P., 0918

Analysis, carbonatite: Vainshtein, E. E., 1901

Analysis, composition, production: Carboneau, C., 0287

Analysis, occurrence, Kola Peninsula: Semenov, E. I., 1678

Analysis: Parker, Raymond L., 1421

Analysis, processing: Fancher, J. A. R., 478a

Analysis, RE distribution: Kalenov, A. D., 0913

Analysis, reserves Mbeya carbonatite: Fawley, A. P., 0485

Composition, crystal structure, x-ray data: Perrault, Guy, 1459

Composition, formula, substitution: Borodin, L. S., 0213

Composition: Nickel, E. H., 1332

Crystal chemistry: Aleshin, Eugene, 0037

Crystal structure: Gaertner, H. R., 0549

Data: Hogarth, D. D., 0798

General: Van der Veen, A. H., 1911

Marignacite, occurrence, Wausau: Weidman, S., 1998

Metamict, alteration to columbite, x-ray data: Lima de Faria, J., 1096

Metamict, occurrence, Virginia: Mitchell, R. S., 1254

Metamict, x-ray data: Arnott, R. J., 0064

Occurrence, alkaline rocks, Greenland: Semenov, E. I., 1677

Occurrence, alkaline rocks, U.S.S.R.: Ivanov, A. A., 0872

Occurrence, alteration, Tanzania: Van der Veen, A. H., 1910

Occurrence, carbonatite, Finland: Paarma, Heikki, 1400

Occurrence, carbonatite, Kenya: Coetzee, G. L., 0337

Occurrence, carbonatites, Brazil: Leonardos, O. H., 1081

Mineral data, RE minerals*Pyrochlore-Microlite*

- Occurrence, carbonatites, South Africa: Verwoerd, W. J., 1931
- Occurrence, carbonatite, Uganda: Mackay, R. A., 1136
- Occurrence, Oka, Quebec: Perrault, Guy, 1458
- Occurrence, pegmatites, Ontario: Heinrich, E. W., 0741
- Occurrence, pegmatites, U.S.S.R.: Kalita, A. P., 0920
- Occurrence, reserves, Tanzania: Fick, L. J., 0496
- RE distribution: Es'kova, E. M., 0468
- RE distribution: Kovalenko, V. I., 1006
- Variety, pandaite: Harris, P. M., 0696
- Variety scheteligite, analysis, composition: Bjorlykke, Harald, 0166

Retzian

- Composition: Sjögren, Hjalmar, 1723
- Crystal chemistry: Moore, P. B., 1264
- Occurrence, Sweden: Sjögren, Hjalmar, 1721
- X-ray data: Welin, Eric, 2002

Rhabdophane

- Alteration: Kosterin, A. V., 1000
- Analysis, RE distribution: Pavlishin, V. I., 1438
- Analysis, RE distribution: Vainshtein, E. E., 1904
- Analysis, RE distribution, x-ray data: Hildebrand, F. A., 0783
- Analysis, x-ray data: Mitchell, R. S., 1245
- Analysis, x-ray data: Vlasov, K. A., 1951
- Crystal structure: Belov, N. V., 0135
- Geochemistry, from limestone weathering: Dümmler, F. L., 0428
- Geochemistry, possible conversion: Carron, M. K., 0290
- Geochemistry: Semenov, E. I., 1662
- Occurrence, alkaline pegmatites, U.S.S.R.: Semenov, E. I., 1664
- Occurrence, Connecticut: Hobbs, W. H., 0794
- Occurrence, Cornwall, England: Lettsom, W. G., 1089
- Occurrence, fenites, U.S.S.R.: Khalezova, E. B., 0946
- Occurrence, Great Britain: Kingsbury, A. W. G., 0965
- Occurrence, Idaho: Adams, J. W., 0011
- Occurrence, pegmatites, New Mexico: Redmon, D. E., 1539
- Optical data, properties: Bertrand, Emile, 0149
- Synthesis, x-ray data: Mooney, R. C. L., 1263
- Unit cell, pegmatite, Virginia: Mitchell, R. S., 1252

Rinkite

- Analysis: Val'ter, A. A., 1908
- Crystal structure: Kheirov, M. B., 0947
- DTA, x-ray data: Slepnev, Yu. S., 1727
- Occurrence, metamorphic rocks, Australia: Matheson, R. S., 1192
- Occurrence, nepheline syenite, Quebec: Chao, G. Y., 0301
- Unit cell: Sahama, T. G., 1602

Rinkolite

- Analysis, x-ray data: Vlasov, K. A., 1951
- RE distribution, DTA, x-ray data: Slepnev, Yu. S., 1727
- RE distribution: Portnov, A. M., 1490

Risörite

- Data: Hauser, Otto, 0718

Röntgenite

- Crystallography: Donnay, Gabrielle, 0416
- Optical data, occurrence, Greenland: Donnay, Gabrielle, 0415

Rowlandite

- Analysis, formula, properties: Hidden, W. E., 0776
- RE distribution: Meliksetyan, B. M., 1203
- RE distribution, properties: Proshchenko, E. G., 1508
- X-ray data: Frondel, Clifford, 0534

Mineral data, RE minerals*Sahamalite*

- Formula, optical, x-ray data: Jaffe, H. W., 0884
- Occurrence, alkaline complex, California: Olson, J. C., 1365

Samarските

- Analyses, DTA, replacement, x-ray data: Kalita, A. P., 0918
- Analysis: Armstrong, F. C., 0062
- Analysis, crystal structure, x-ray data: Komkov, A. I., 0992
- Analysis: Mineev, D. A., 1226
- Analysis, placer, South Korea: Iimori, Satoyasu, 0849
- Composition, heat-produced phases: Nilssen, Borghild, 1335
- DTA: Adusumilli, M. S., 0024
- DTA, x-ray data, comparison to ampingabeite: Van Wambeke, L., 1919
- Ident. neuvite, analysis, x-ray data: Murdoch, Joseph, 1291
- Metamict, x-ray data, analysis, Virginia: Mitchell, R. S., 1251
- Metamict, x-ray data: Lima de Faria, J., 1096
- Occurrence, accessory, Utah: Williams, N. C., 2020
- Occurrence, albitized granite, China: Chen, T.-C., 0314
- Occurrence, alkaline rocks, U.S.S.R.: Ivanov, A. A., 0872
- Occurrence, mica belt, India: Roy, 1585
- Occurrence, North Carolina: Hidden, W. E., 0774
- Occurrence, pegmatite, Idaho: Fryklund, V. C., Jr., 0545
- Occurrence, pegmatite, Manchuria: Takubo, Jitsutaro, 1811
- Occurrence, pegmatites, Germany: Strunz, Hugo, 1793
- Occurrence, pegmatites, New Mexico: Hess, F. L., 0763
- Occurrence, pegmatites, Utah: Fowkes, E. J., 0523
- Properties: Gorzhetskaya, S. A., 0639
- RE distribution: Aswathanarayana, U., 0067
- Variety ampingabeite, analysis, RE distribution, occurrence, India: Rama Rao, Y. N., 1522
- Variety ampingabeite, metamict: Bouška, 0232
- X-ray data, occurrence, New Zealand: Hutton, C. O., 0845
- X-ray data, occurrence, New Zealand: Watters, W. A., 1990
- X-ray data, pegmatite, Sweden: Mason, Brian, 1184
- X-ray data: Vorm, Atso, 1961

Samiresite

- Analysis, occurrence, Madagascar: Lacroix, Alfred, 1047
- Analysis, RE distribution, DTA, optical, x-ray data: Gorzhetskaya, S. A., 0637
- Data: Hogarth, 0799
- X-ray data, heated: Gorzhetskaya, S. A., 0636

Saryarkite

- Analysis, formula, optical, x-ray data: Krol', O. F., 1023

Silicosmirnovskite

- Occurrence, alkaline pegmatites, U.S.S.R.: Semenov, E. I., 1664

Sinicite

- Analysis, formula, x-ray data: Ho, Chen-Tsi, 0790
- Composition: Gorzhetskaya, S. A., 0635
- System, isomorphism, dimorphism: Chang, Pei-Shan, 0299

Smirnovskite

- Analysis: Grigor'ev, I. F., 0662

Mineral data, RE minerals*Spenceite*

- Analysis, optical, x-ray data: Jaffe, H. W., 0885
 Analysis, RE distribution: Joensuu, O. I., 0900
 Formula: Borneman-Starynkevich, I. D., 0204
 Occurrence, iron deposits, New Jersey: Williams, R. L., 2019
 X-ray data, occurrence, Ontario: Frondel, Clifford, 0534

Steenstrupine

- Analysis: Winther, C., 2029
 Analysis, x-ray data: Vlasov, K. A., 1951
 Crystallography, formula: Strunz, Hugo, 1792
 Formula, unit cell: Strunz, Hugo, 1791
 Occurrence, alkaline rocks, Greenland: Sørensen, Henning, 1748
 Occurrence, nepheline syenites, Greenland: Bondam, J., 0191
 Relationship to apatite: Machatschki, Felix, 1134
 Synthetic: Ito, Jun, 0868
 Varieties, origin: Buchwald, Vagn, 0259

Stillwellite

- Analysis, optical data: McAndrew, John, 1122
 Analysis, x-ray data: Dusmatov, V. D., 0431
 Crystal structure: Belov, N. V., 0135
 Crystal structure: Voronkov, A. A., 1964
 Formula, x-ray data: Gay, P., 0565
 Occurrence, metamorphic rocks, Australia: Matheson, R. S., 1192
 Occurrence, pyrometamorphic deposit, Australia: McAndrew, John, 1121
 Occurrence, pyrometamorphic deposits, Australia: Whittle, A. W. G., 2014
 Occurrence, U deposit, Australia: Hughes, F. E., 0821
 Occurrence, U.S.S.R.: Efimov, A. F., 0443

Synchysite

- Occurrence, alkaline complex, Colorado: Olson, J. C., 1366
 Occurrence, carbonatite, Malawi: Garson, M. S., 0559
 Occurrence, carbonatites, South Africa: Verwoerd, W. J., 1929
 Occurrence, vein, Switzerland: Iitaka, Y., 0854
 Optical, x-ray data: Emiliani, Francesco, 0457
 Crystallography: Donnay: Gabrielle, 0416
 Crystal structure: Oftedal, Ivar, 1352
 Occurrence, carbonatite, Malawi: Smith, W. C., 1732
 Occurrence, shale, Michigan: White, W. S., 2010
 Optical data, properties, x-ray data: Saebo, P. C., 1599
 X-ray data: Vormaa, Atso, 1962

Tadzhikite

- Analysis, RE distribution, x-ray data, occurrence, U.S.S.R.: Efimov, A. F., 0443

Tantalopolyrase

- Occurrence, Australia: Simpson, E. S., 1715

Tanteuxenite

- Analysis (partial), x-ray data: DePol, Carla, 0398
 Delorenzite identity: Butler, J. R., 0276
 Occurrence, Congo: Van Wambeke, L., 1918
 Variety delorenzite, analysis: Zambonini, Ferruccio, 2066

Mineral data, RE minerals*Tengerite*

- Analyses, x-ray data: Sverdrup, T. L., 1801
 Analysis, x-ray data: Nagashima, Kozo, 1310
 Analysis, x-ray data, occurrence, Japan: Iimori, Takeo, 0852
 Analysis, x-ray data: Vormaa, Atso, 1962
 Occurrence, Colorado: Haynes, C. V., Jr., 0722
 Occurrence, pegmatite, Quebec: Spence, H. S., 1756
 Occurrence, Texas: Hidden, W. E., 0777

Thalenite

- Analyses, paragenesis: Schetelig, Jakob, 1630
 Analysis, occurrence, Sweden: Sjögren, Hjalmar, 1724
 Analysis, optical data: Nagashima, Kozo, 1308
 Analysis, RE distribution, optical, x-ray data: Volzhenkova, A. Ya, 1960
 Analysis, synthesis: Bondar, I. A., 0193
 Composition: Batali'eva, N. G., 0116
 Composition, formula: Hillebrand, W. F., 0788
 Crystal chemistry: Warshaw, Israel, 1985
 Metamict: Faessler, A., 0477
 Occurrence, albitites, Siberia: Skorobogatova, N. V., 1726
 Occurrence, Arizona: Galbraith, F. W., 0551
 Occurrence, cell dimensions, Arizona: Pabst, Adolf, 1406
 Occurrence, Colorado: Adams, J. W., 0017
 Occurrence pegmatites, Colorado: Adams, J. W., 0015
 Occurrence, pegmatites, Japan: Japan Geological Survey, 0893
 Occurrence, pegmatites, Norway: Brogger, W. C., 0245
 Occurrence, pegmatite, Sweden: Mason, Brian, 1184
 Occurrence, Sweden: Benedicks, Carl, 0136
 Replacing fergusonite, in albitites: Petrova, E. A., 1464
 Synthesis: Ito, Jun, 0870
 Synthesis: Toropov, N. A., 1853
 X-ray data: Vormaa, Atso, 1962

Thorbastnaesite

- Analysis, optical, x-ray data: Pavlenko, A. S., 1436

Thorosteenstrupine

- Analysis, RE distribution, x-ray data: Kupriyanova, I. I., 1040

Thortveitite

- Analysis, occurrence, Japan: Sakurai, Kinichi, 1609
 Analysis, optical data: Marble, J. P., 1168
 Analysis, x-ray data: Phan, K. D., 1468
 Composition, properties: Boulanger, C., 0228
 Crystal structure: Cruickshank, D. W. J., 0361
 Crystal structure: Zachariasen, W. H., 2063
 Description: Schetelig, Jakob, 1629
 Hf, Zr, Y content: Levinson, A. A., 1092
 Infrared study: Povarennykh, A. S., 1495
 Occurrence, Madagascar: Lacroix, Alfred, 1050
 Occurrence, Norway, Madagascar: Phan, K. D., 1469
 Occurrence, pegmatites, Norway: Brogger, W. C., 0245
 Occurrence, with fluorite, Montana: Parker, Raymond L., 1420
 RE distribution: Oftedal, Ivar, 1356
 Sc content: Neumann, Heinrich, 1320
 Synthesis: Bondar, I. A., 0193
 X-ray data: Horne, J. E. T., 0809

Tombarthite

- Analysis, x-ray data: Neumann, Heinrich, 1326

Mineral data, RE minerals*Törnebohmit*

- Analysis, optical data, Colorado: Goddard, E. N., 0607
 Geochemistry, occurrence, Sweden: Geijer, Per, 0568
 Occurrence, pegmatite dikes, Norway: Neumann, 1322
 RE distribution: Svayzhin, N. V., 1806
 X-ray data: Nurliba'ev, A. N., 1348

Tritomite

- Analysis, occurrence, Germany: Moller, F. P., 1260
 Analysis, x-ray data: Jaffe, H. W., 0885
 Occurrence, Norway: Berlin, N. J., 0139

Tundrite

- Analyses, RE distribution: Semenov, E. I., 1672
 Description: Semenov, E. I., 1665
 Occurrence, alkaline pegmatites, U.S.S.R.: Semenov, E. I., 1664

Tysonite

- Analysis, occurrence, Colorado: Allen, O. D., 0046
 Analysis, occurrence, Colorado: Hillebrand, W. F., 0787
 Analysis, optical data: Geijer, Per, 0569
 Analysis, optical, x-ray data: Steyn, J. G. D., 1781
 Occurrence, pegmatite, Colorado: Hidden, W. E., 0775
 Optical, x-ray data: Sverdrup, T. L., 1804
 Paramagnetic rotation: Kramers, H. A., 1010

Vudyavrite

- DTA, x-ray data: Slepnev, Yu. S., 1727

Wakefieldite

- Occurrence, x-ray data, Quebec: Miles, N. M., 1216
 Unit cell, x-ray data: Hogarth, D. D., 0801

Weinschenkite

- Analysis, optical, x-ray data: Claringbull, G. F., 0329
 Analysis, optical, x-ray data: Milton, Charles, 1222
 Analysis, RE distribution, optical data: Noneshnikova, V. I., 1339
 Analysis, x-ray data: Mitchell, R. S., 1252
 Formula, unit cell, x-ray data: Strunz, Hugo, 1790
 Occurrence, Bavaria: Laubmann, Heinrich, 1065
 Occurrence, Germany: Henrich, F., 0755
 Occurrence, Great Britain: Kingsbury, A. W. G., 0964
 RE distribution: Henrich, F., 0756
 RE distribution, optical, x-ray data, DTA: Pokrovskii, P. V., 1486
 X-ray data: Heinrich, E. W., 0753

Wilkite

- Analyses: Beus, A. A., 0152
 Analyses, chemistry, composition: Lokka, Lauri, 1104
 Analyses, x-ray data: Sahama, T. G., 1604

Xenotime

- Absorption lines, shift by pressure and temperature: Paetzold, H. K., 1408
 Absorption spectrum: Corin, François, 0348
 Abundance, placers, Malaysia: Singh, D. S., 1717
 Accessory, granites, South Africa: Van der Ling, J. S., 1909
 Accessory in European rocks: Rösler, H., 1576
 Analyses, RE distribution: Jefford, Godfrey, 0896
 Analyses, RE distribution: Leonova, V. A., 1085
 Analyses: Zhiron, K. K., 2080
 Analysis, geochemistry: Gastil, Gordon, 0562
 Analysis, geochemistry: Shaw, D. M., 1691
 Analysis, occurrence, Australia: Grace, J. N. A., 0645
 Analysis, occurrence, Georgia: Smith, J. L., 1731
 Analysis, occurrence, Japan: Hata, Shin, 0714
 Analysis (partial), accessory in migmatites: Zatsikha, B. V., 2069
 Analysis, RE distribution: Kononov, Yu. V., 0997

Mineral data, RE minerals*Xenotime*

- Analysis, RE distribution: Vainshtein, E. E., 1904
 Analysis, x-ray data: Heinrich, E. W., 0742
 Analysis, x-ray data: Wakita, Hisanobu, 1971
 Crystal structure: Ivanov, V. I., 0874
 Crystal structure: Krstanović, Ilija, 1025
 Decomposition: analytical method: Goto, Kazuo, 0642
 Determination: Hutton, 0837
 Geochemistry: Schermerhorn, L. J. G., 1631
 Identification by x-ray absorption: Coppens, R., 0346
 Magnetic susceptibility: Ng, W. K., 1329
 Occurrence, accessory, Brazil: Derby, O. A., 0401
 Occurrence, accessory, Brazil: Wallace, R. M., 1976
 Occurrence, accessory, pyrometamorphic deposits, Brazil: Kloosterman, J. B., 0976
 Occurrence, Bolivia: Ahlfeld, Friedrich, 0027
 Occurrence, California: Evans, J. R., 0472
 Occurrence, Europe: Derby, O. A., 401a
 Occurrence, France: Guigues, Jean, 0678
 Occurrence, gneiss, migmatite, Colorado: Young, E. J., 2056
 Occurrence, greisen, Great Britain: Dawson, J., 0383
 Occurrence, iron deposit, New Jersey: Klemic, Harry, 0971
 Occurrence, Japan: Sakurai, Kinichi, 1610
 Occurrence, metamorphic rocks, Colorado: Young, E. J., 2057
 Occurrence, pegmatite, California: Melhase, John, 1202
 Occurrence, pegmatites, Finland: Haapala, Ilmari, 0681
 Occurrence, pegmatites, Thailand: Garson, M. S., 0558
 Occurrence, placers, North Carolina: Hidden, W. E., 0773
 Occurrence, S. E. United States: Mertie, J. B., Jr., 1209
 Occurrence, southeastern U.S.: Mertie, J. B., Jr., 1212
 Occurrence, Switzerland: Beck, Gottfried, 0121
 Occurrence, U deposit, California: MacKevett, E. M., Jr., 1142
 Optical data, distinction from bastnaesite: Foster, W. R., 0522
 Paramagnetic rotation: Kramers, H. A., 1010
 RE distribution: Lyakhovich, V. V., 1113
 RE distribution: Lyakhovich, V. V., 1111
 RE distribution: Meliksetyan, B. M., 1203
 RE distribution: Murata, K. J., 1288
 Separation from monazite: Flinter, B. H., 0513
 Synthesis: Radominski, F., 1519
 U-content, accessory: Lyons, J. W., 1115
 X-ray fluorescence data: Even, Gilbert, 0474

Yttrialite

- Alteration, occurrence, Japan: Iimori, Takeo, 0852
 Analyses, composition, properties, x-ray data: Proshchenko, E. G., 1507
 Analyses, x-ray data: Hata, Shin, 0713
 Analyses, x-ray data: Ueda, Tateo, 1886
 Analysis, alteration: Iimori, Satoyasu, 0850
 Analysis, optical data: Omori, Keiichi, 1369
 Composition, formula: Hillebrand, W. F., 0788
 Occurrence, pegmatite, Japan: Omori, Keiichi, 1370
 Occurrence, pegmatites, California: Patchick, P. F., 1431
 Occurrence, pegmatites, Finland: Vormä, Atso, 1962
 Occurrence, Texas: Hidden, W. E., 0777
 Synthesis attempt: Bondar, I. A., 0193
 Synthesis: Ito, Jun, 0870
 Synthesis: Toropov, N. A., 1853
 X-ray data: Sidorenko, G. A., 1712
 X-ray data, synthesis: Batali'eva, N. G., 0115

Mineral data, RE minerals*Yttrocolumbite*

Occurrence, Mozambique: Lepierre, Charles, 1087

Yttrocrasite

Absorption spectrum: Corin, François, 0348

Analysis, occurrence, Texas: Hidden, W. E. 0780

Occurrence, Australia: Whittle, A. W. G., 2011

Yttrofluorite

Analyses: Sverdrup, T. L., 1802

Analysis: Chatterjee, Narayanchandra, 0306

Analysis: Zambonini, Ferruccio, 2068

Associated with thalenite, Colorado: Adams, J. W., 0017

Crystal structure: Zalkin, Allan, 2065

Fluorescence, occurrence, South West Africa: Ramdohr, Paul, 1523

General, group characteristics: Vogt, Thorolf, 1952

Occurrence, Central Asia: Zuev, V. N., 2092

Occurrence, Japan: Uetani, Keiji, 1887

Occurrence, pegmatite, Colorado: Haynes, C. V., Jr., 0723

Optical, x-ray data: Sverdrup, T. L., 1804

Yttroparisite

Composition, crystallography, optical data: Nefedov, E. I., 1315

Occurrence, U.S.S.R.: Ryabchikov, D. I., 1594

Yttrotantalite

Analyses, RE distribution, processing: Shaw, V. E., 1694

Analysis, occurrence, Rhodesia: Hutchinson, R. W., 0833

Analysis, x-ray data: Heinrich, E. W., 0738

Data: Matias, V. V., 1193

Metamict, x-ray data: Lima de Faria, J., 1096

Occurrence, pegmatites, Colorado: Gross, E. B., 0670

Occurrence, pegmatites, Sweden: Heinrich, E. W., 0740

Occurrence, pegmatites, Thailand: Garson, M. S., 0558

X-ray data, pegmatite, Sweden: Mason, Brian, 1184

X-ray data: Vorma, Atso, 1961

Yttrotungstite

Analysis: Butler, J. R., 0272

Analysis, DTA, IR, x-ray data: Semenov, E. I., 1671

Composition: Beard, E. H., 0120

Occurrence, Malaysia: Scrivenor, J. B., 1655

X-ray data: Sahama, T. G., 1603

Zirconolite

Analysis: Borodin, L. S., 0209

RE distribution: Borodin, L. S., 0214

Mineralogical techniques*General*

Absorption bands, nonopaque Ce-minerals: Murata, K. J., 1287

Autoluminographs of RE minerals, Canada: Buchanan, R. M., 0258

Autoradiographs, accessory minerals: Tsutsumi, Tokudo, 1867

Determination of xenotime: Hutton, 0837

Franz Isodynamic separator, alluvial minerals: Flintner, B. H., 0512

Gold pan: Theobald, P. K., Jr., 1838

Hand spectroscopy, gold pan: Mertie, J. B., Jr., 1210

Heating bastnaesite, xenotime for optical differentiation: Foster, W. R., 0522

Heating method, metamict minerals: Adams, J. W., 0016

Method to distinguish zircon, monazite, xenotime: Hering, O. H., 0758

Mineralogical techniques*General*

Microspectroscope: Adams, 0006

Microspectroscope: Wherry, E. T., 2005

Neutron activation, thin sections: Ford, I. H., 0521

Polarized absorption spectra apparatus: Burns, R. G., 0270

Separation, identification, placer minerals: Overstreet, W. C., 1397

Specific refractive energy values: Jaffe, H. W., 0882

Spectroscope eyepiece for monazite: Smithson, F., 1737

Use, Franz Isodynamic magnetic separator: Rosenbloom, Samuel, 1574

Use of lead chloride for mineral separation: Flintner, B. H., 0513

X-ray absorption: Coppens, R., 0346

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Catalogue, x-ray diffraction patterns, Canada Survey: Sabina, A. P., 1596

Collection of reports on RE minerals: Ginzburg, A. I., 0599

Distribution lanthanides in minerals: Adams, J. W., 0012

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Nomenclature system, RE minerals: Levinson, A. A., 1091

Placers, New Zealand, detailed study: Hutton, C. O., 0838

RE affinity of minerals: Khomyakov, A. P., 0955

RE distribution in Ce-rich minerals: Jensen, B. B., 0898

Thorium and RE minerals: Frondel, Clifford, 0532

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Glossary of radioactive minerals: Crosby, J. W., 3d., 0353

Mineralogy: Vlasov, K. A., 1949

Non-silicates: Deer, W. A., 0392

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Rare earths: Bruet, Edmond, 0252

Rare earths: Heinrich, E. W., 0735

Rare earths: Semenov, E. I., 1665

RE and Sc: Pascal, Paul, 1429

Minnesota*General*

Sc distribution, Duluth complex: Snyder, J. L., 1738

Mineral occurrence

Allanite, composite syenite stock, Snowbank Lake: Sanders, C. W., Jr., 1614

Missouri*General*

RE content, shales, coal: Hyden, H. J. 0847

Mineral occurrence

Calcite, phosphorescent, Joplin: Headden, W. P., 0726

Montana*General*

- Bearpaw Mts., carbonatite problem: Pecora, W. T., 1442
 Lemhi Pass deposits: Sharp, W. N., 1687
 RE, Th resources: Weis, P. L., 2000
 Th deposits, Lemhi Pass district: Geach, R. D., 0566
 Th, RE black mineral deposits: Eilertsen, D. E., 0448
 U, Th deposits, S.W.: Trites, A. F., Jr., 1863
 U, Th occurrences: Jarrard, L. D., 0894

Mineral occurrence

- Allanite, ancylite, eschynite, fersmite, Ravalli County: Heinrich, E. W., 0751
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- Allanite, Mt. Wheeler area: Lee, D. E., 1068
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 Kobeite, Paringa River, South Westland: Hutton, C. O., 0843

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- Metamict minerals: Fitzgerald, F. B., III, 0503
- Mineral localities: Dietrich, R. V., 0411
- Mineral localities, euxenite, samarskite, parsite, chevkinite, weinschenkite: Dietrich, R. V., 0410

Virginia*Mineral occurrence*

- Allanite, Amherst County: Mallet, J. W., 1159
 Allanite, 25 localities: Mitchell, R. S., 1248
 Allanite, Nelson County: Valentine, E. P., 1905
 Allanite, Sulfur mine: Katz, A. S., 0930
 Bastnaesite, alkaline dikes, Augusta County: U.S. Geological Survey, 1896
 Chevkinite, Hat Creek: Seaman, D. M., 1656
 Fergusonite, several localities: Mitchell, R. S., 1249
 Monazite, deposits: Sears, C. E., Jr., 1657
 Parisite, fluorite-cassiterite veins, Irish Creek: Glass, J. J., 0604
 Perrierite, chevkinite: Mitchell, R. S., 1247
 Pyrochlore-microlite: Mitchell, R. S., 1254
 Samarskite, several localities: Mitchell, R. S., 1251
 Sipyrite, Amherst County: Mallet, J. W., 1158
 Unnamed U-Nb oxide, Powhatan County: Mitchell, R. S., 1246
 Weinschenkite, Kelly Bank mine: Milton, Charles, 1222

Pegmatites

- Allanite, bastnaesite, Rutherford mine, Amelia County: Riesmeyer, W. D., 1548
 Allanite: Watson, T. L., 1987
 Amelia, Hanover Counties: Watson, T. L., 1988
 Amherst County, florencite, weinschenkite, rhabdophane: Mitchell, R. S., 1252
 Bastnaesite, fergusonite, Rutherford deposit: Mitchell, R. S., 1250
 Localities: Pegau, A. A., 1444
 Monazite, microlite, Amelia: Glass, J. J., 0602
 Morefield deposit, Amelia County: Mitchell, R. S., 1253
 Rhabdophane, Amelia County: Mitchell, R. S., 1245

Placers

- Ancient, monazite: Mertie, J. B., Jr., 1211

Washington*General*

- RE mineral localities: Huntting, M. T., 0829

Mineral occurrence

- Monazite: Hosterman, J. W., 0813

Wisconsin*General*

- Syenite complex, Wausau: Vickers, R. C., 1935

Mineral occurrence

- Marignacite, Wausau: Weidman, S., 1998

Wyoming*General*

- Mineral resources: Osterwald, F. W., 1386
 Phosphatic rocks, Teton Range, Snake River: Gere, W. C., 0588
 Radioactive deposits: Wilson, W. H., 2027
 RE content, black shale, Phosphoria formation: Vine, J. D., 1943
 RE in phosphatic lake deposits: Love, J. D., 1107
 RE occurrence, Crook County: Wilmarth, V. R., 2024
 Th, RE resources: Kelly, F. J., 0941

Mineral occurrence

- Allanite, Crazy Woman Creek area: Hose, R. K., 0812
 Apatite, perovskite, volcanic rocks, Leucite Hills: Carmichael, I. S. E., 0288
 MacKelveyite, Green River Formation: Milton, Charles, 1221
 Rhabdophane-type: Dooley, J. R., Jr., 0419

Pegmatites

- Allanite, Wheatland: Wells, 2004
 Euxenite, monazite, Big Creek area: Houston, R. S., 0815
 Investigations: Hanley, J. B., 0692

Placers

- Ancient, monazite: Murphy, J. F., 1297
 Deadwood conglomerate monazite deposit: McKinney, A. A., 1147
 Monazite, Deadwood formation, Bald Mt. district: Borrowman, S. R., 0221
 Titaniferous black sandstones: Houston, R. S., 0817

Ytterbium*General*

- Ytterbium in gadolinite: Marignac, J. C. G., 1171

Yttrium*General*

- Mineral facts and problems 1965: Parker, J. G., 1414
 Production at Elliot Lake, Ontario: Ontario Department of Mines, 1377
 Uses: Phan, K. D., 1470
 Yttrium: Baroch, C. T., 0109

Zambia*Mineral occurrence*

- Monazite, Irumi: O'Brien, P. L. A., 1349
 Monazite, Nkumbwa carbonatite, Isoka District: Reeve, W. H., 1540

Pegmatites

- Petauke, Mwanjwantu areas: Phillips, K. A., 1472

the 1990s, the number of people in the UK who are employed in the public sector has increased by 1.5 million, from 2.5 million in 1980 to 4 million in 1995 (Department of Health 1996).

There is a growing emphasis on the need to improve the efficiency of the public sector, and to ensure that the public sector is able to deliver the services that are required by the public. This has led to a number of initiatives, including the introduction of competition, the restructuring of public services, and the introduction of new management practices. These initiatives have led to a number of changes in the way that public services are delivered, and have led to a number of improvements in the efficiency of the public sector.

One of the main reasons for the need to improve the efficiency of the public sector is the increasing demand for public services. The population of the UK is growing, and the demand for public services is increasing. This has led to a number of challenges for the public sector, including the need to find ways to deliver services more efficiently, and the need to find ways to raise the revenue that is required to fund public services.

One of the main ways in which the public sector has been able to improve its efficiency is by introducing competition. This has led to a number of changes in the way that public services are delivered, and has led to a number of improvements in the efficiency of the public sector. For example, the introduction of competition has led to a number of improvements in the quality of public services, and has led to a number of improvements in the efficiency of the public sector.

Another way in which the public sector has been able to improve its efficiency is by restructuring public services. This has led to a number of changes in the way that public services are delivered, and has led to a number of improvements in the efficiency of the public sector. For example, the restructuring of public services has led to a number of improvements in the quality of public services, and has led to a number of improvements in the efficiency of the public sector.

Finally, the public sector has been able to improve its efficiency by introducing new management practices. This has led to a number of changes in the way that public services are delivered, and has led to a number of improvements in the efficiency of the public sector. For example, the introduction of new management practices has led to a number of improvements in the quality of public services, and has led to a number of improvements in the efficiency of the public sector.

These initiatives have led to a number of improvements in the efficiency of the public sector, and have led to a number of improvements in the quality of public services. However, there is still a need to continue to improve the efficiency of the public sector, and to ensure that the public sector is able to deliver the services that are required by the public. This will require a number of further initiatives, including the introduction of competition, the restructuring of public services, and the introduction of new management practices.

