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Autore	Russell Cary
Titolo	Afghanistan drawdown preparations [[electronic resource] ] : DOD decision makers need additional analyses to determine costs and benefits of returning excess equipment // [Cary Russell]
Pubbl/distr/stampa	Washington, DC : , : U.S. Govt. Accountability Office, , [2012]
Descrizione fisica	1 online resource (43 pages) : color illustrations
Soggetti	Afghan War, 2001-2021 - Peace War - Termination United States United States Armed Forces Equipment Management
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Autore	Kawatra S. Komar
Titolo	Beneficiation of phosphate ore // by S. Komar Kawatra and J.T. Carlson
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ISBN	1-62870-312-1 0-87335-392-7
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Soggetti	Phosphates Ore-dressing
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Note generali	Description based upon print version of record.
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Nota di contenuto	Cover; Title Page; Copyright; Contents; List of Figures; List of Tables; Preface; 1: Introduction; 1.1 Feed Requirements for Phosphoric Acid Production; 1.2 Phosphate Rock Production Statistics and Reserves; 2: Sources of Phosphate Rock; 2.1 Common Phosphate Minerals; 2.1.1 Apatite; 2.1.2 Francolite; 2.1.3 Collophane; 2.1.4 Dahllite; 2.2 Common Gangue Minerals; 2.1.1 Clays; 2.2.2 Quartz; 2.2.3 Dolomite; 2.2.4 Calcite; 2.3 Mineralogy of Sedimentary Phosphates; 2.4 Mineralogy of Igneous Phosphates; 2.5 Mineralogy of Biogenic (Island) Deposits 3: Beneficiation of Siliceous Sedimentary Phosphate Ores 3.1 Flotation Feed Preparation-Washing, Sizing, and Desliming; 3.1.1 Industrial Phosphate Washing Plant; 3.2 Theory of Phosphate Flotation; 3.2.1 Froth Flotation Devices; 3.2.2 Contact Angle Theory; 3.2.3 Entrainment Theory; 3.2.4 Surface Properties and Water Chemistry of Siliceous Phosphates; 3.3 Crago Double Float Process; 3.3.1 Stage 1-Anionic Fatty Acid/Fuel Oil Phosphate Flotation; 3.3.2 Stage 2-Cationic Amine Silica Flotation; 3.3.3 Industrial Flotation Plant for Siliceous Sedimentary Phosphate Ores 3.4 Proposed Alternatives to the Crago Double Float Process 3.4.1 Reverse Crago Process; 3.4.2 All-Anionic (Fatty Acid/Fuel Oil Collector) Process; 3.4.3 All-Cationic (Amine) Process; 3.5 Conclusions from Siliceous Sedimentary Phosphate Ore Processing; 4: Beneficiation of

High-MgO Sedimentary Phosphate Ores; 4.1 Mineralogy of High-MgO Sedimentary Phosphate Ores; 4.2 Acid Leaching of Carbonaceous Phosphate Ores; 4.2.1 Strong Acid Leaching; 4.2.2 Organic Acid Leaching; 4.2.3 Summary of Acid Leaching for the Removal of MgO (Dolomite,  $\text{CaMg}(\text{CO}_3)_2$ ) from Phosphate Ores  
4.3 Thermal Decomposition (Calcination)4.3.1 Calcination Reactions and Decomposition Temperatures; 4.3.2 Quenching and Desliming of Calcined Phosphate Ore; 4.3.3 Effects of Calcination on the Reactivity of Phosphate Products; 4.3.4 Process Considerations for Calcination of Carbonaceous Sedimentary Phosphate Ores; 4.3.5 Calcination as a Method for the Removal of MgO from Phosphate Ore; 4.4 Beneficiation of Phosphate Ore by Physical Separation Methods; 4.4.1 Desliming, Attrition Scrubbing, and Sizing; 4.4.2 Sizing and Selective Crushing; 4.4.3 Heavy-Media Separation; 4.4.4 Jigging  
4.4.5 Summary of Physical Separation Methods for Removal of MgO from Phosphate Ores4.5 Flotation; 4.5.1 University of Florida Two-Stage Conditioning Process; 4.5.2 Tennessee Valley Authority Diphosphonic Acid Depressant Process; 4.5.3 U.S. Bureau of Mines Anionic Flotation Process; 4.5.4 IMC Cationic Flotation Process; 4.5.5 IMC Anionic Flotation Process; 4.5.6 Summary of Flotation for Removal of Dolomite from Phosphate Ores; 4.6 Selective Flocculation; 4.6.1 Flocculants for the Apatite/Dolomite/Silica System; 4.6.2 Factors Affecting Selectivity of Flocculation Processes  
4.6.3 Selective Flocculation for the Removal of Dolomite from Phosphate Ores

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#### Sommario/riassunto

Beneficiation of Phosphate Ore examines various methods for processing phosphate rock, an important mineral commodity used in the production of phosphoric acid. The majority of phosphoric acid is produced by the wet process, in which phosphate rock is reacted with sulfuric acid to produce phosphoric acid and gypsum (calcium sulfate dihydrate). This wet process demands a phosphate rock feed that meets certain specifications to produce phosphoric acid efficiently and economically.

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