1D:88073699

TN-82 Mailing List 1

Filing Code 3000

84.2 L35 no.082

Date Issued 2/1/73



TECHNICAL NOTE

U.S. DEPARTMENT OF THE INTERIOR - BUREAU OF LAND MANAGEMENT

Subjects:

Minerals Policy, Secretary's Report, Minerals in the Economy, Reserves, Demand-Supply Projections 1985-2000, Industry Problems, Opportunities-Recommendations, Mineral Commedity Profiles, Francy and Fassil Fuels

Commodity Profiles, Energy and Fossil Fuels

Reference:

Annual Report of the Secretary of the Interior Under the Mining and Minerals Policy Act of 1970 (P. L. 91-631). (The first report was published in March 1972 in two volumes.)

Volume 1: Summary and Report (No cost quoted)

Volume 2: Appendicies (GPO, \$3.25)

Discussion:

This report contains excellent background material of use in planning and operation of the minerals program. The Mineral Commodity Profiles (Appendix I) provide a very useful concise summary of the overall situation for each commodity. Presumably these will be updated each year. Annual reports are recommended as a reference for each District Office. Copies of the Tables of Content of each volume is attached.

FIRST ANNUAL REPORT

of the

SECRETARY OF THE INTERIOR

under

THE MINING AND MINERALS POLICY ACT OF 1970

(P.L. 91-631)

MARCH 1972

PART ONE

THOSE AND THE

SCHOOLS OF THE PARTIES.

2000

OVER TO TOO YOURDS TAXABLE OUR PARKET DAY

CP-15. 01-0313

MARCH 1972

THE PERSON

TABLE OF CONTENTS

	rnuc
FOREWORD	i
Office of the same	
PUBLIC LAW 91-631 - "THE MINING AND MINERALS POLICY	
ACT OF 1970"	V
EXECUTIVE SUMMARY	1
OR THE ROLL OF THE PARTY OF THE	
All Minerals	4
WIT WINGIGIA	
Major Mineral Groups	6
the contract of the contract o	
Energy	6
the second secon	•
Hetals	8
Nonmetallics	11
Finding Solutions	11
ringing solutions	11
The same of the sa	
CHAPTER I	
NAME OF TAXABLE PARTY OF TAXABLE PARTY.	
THE ROLE OF MINERALS IN THE UNITED STATES ECONOMY	16
Design of the second se	
The same of the sa	20
Energy	20
Coal	20
Natural Gas	22
Petroleum	24
Uranium	24
Other Energy Sources	26
Ferrous Metals	26
Nonferrous Metals	28
Housestand as a second	20
The state of the s	
Aluminum	28
Copper	30
Zinc	31
Lead	31
Other Nonferrous Metals	32
Other Monterrous Metals	32
Nonmetallic Minerals	32
Construction Materials	32
Fertilizer Materials	34
Other Nonmetallics	34

	PAGI
Reclaimed Metals and Minerals	36
International Trade	36
Imports	36
Exports	40
U. S. Government Inventories	40
Substitutes or Alternatives	43
Transportation	43
Manpower	45
Prospecting, Exploration and Reserves	46
Energy Materials	47
Oil and Gas	50
Coal	52
Uranium	53
Metallic and Nonmetallic Minerals	53
Demand-Supply Projections for 1985 - 2000	61
Projections of Future Demand .	61
Projections of Future Supply .	62
Projections of Future Deficits	62
The Current State of the Art in Extraction and Processing	
of Minerals	65
Petroleum and Natural Gas	65
Mining	68
Iron and Steel Metallurgy	69
Nonferrous Metallurgy-Base Metals	72
Nonferrous Metallurgy-Light Metals	
Ceramics	76
Mineral Research by the	
Department of the Interior	77
Industry Structure and Finance	78
Existing Legal Authorities of the Secretary of the Interior	
With Respect to Mining and Minerals Policy	87

CHA	PTER	II

MAJOR PROBLEMS INVOLV MINERAL RECLAMATION NATIONAL MINING AND	INDUSTRIES A	ND THE IMPLEMENTATI		
Development of the Minister Not Keeping Pace				92
Domestic Demand for Possibstantially Exceed Productive Capacity	ds Readily Av	ailable Domestic		93
Expropriations, Confidence Agreements in Foreign Flow to the United Produced by United	gn Countries a States of Some	Already Have Severe e Foreign Materials	ed the	
Made Other Material				94
United States Industry Competition for For				94
Increasing Dependence Mineral Supplies Pl Conduct of United S Time Threatens the	aces Increasi tates Foreign	ng Constraints Upon Policy and at the	the	
Economy				96
Investment in Development Is Falling Behind .		tic Mineral Propert	ies	97
Environmental Regulat Some Domestic Miner			of	100
Coal	100	Asbestos	105	
Nonferrous Metals		Particulates	105	
Sulfur Production		Water	105	
Lead	103	Open-pit Mining	105	
Mercury	103	Oil Spills	106	
Siting of Plan	nts and Other	Facilities 106		
Actual and Prospective	e Withdrawals	of Land Available	for	
Prospecting and Exp				
Mineral Development				106

(Continued)

	PAGE
For Many Non-energy Minerals, Domestic Demand in the Past Few Years Has Been Cyclically Lower. Concurrently, Domestic Producers have Experienced Increased Import Competition	107
The Trend Toward Increased Importation of Processed Materials of Mineral Origin Increases Balance-of-Payments Problems and Further Reduces Employment and Investment Possibilities in the Domestic Mining and Mineral Processing Industries	108
Instability of Government Stockpile Objectives and Potential Disposals of Government Inventories Overhang Domestic Metal and Mineral Markets and Producers in Periods of Lower Demand	108
Mining Suffers from a Shortage of Skilled Manpower	109
Failure of United States Transportation Facilities to Keep Pace with Modern Developments Is Making the Movement of Mineral Commodities in Domestic and Foreign Commerce More Difficult and More Costly	109
Panama Canal	109 110 110
Fundamental Research Affecting Mineral Production and Use Is Being Cut Back When Instead It Should Be Expanding	110
United States Government Organization and Its Information Base for the Implementation of the National Mineral Policy Is Inadequate	114
The United States Mineral Industry is Restricted by Government Regulations from Organizing for Effective Operation in the Modern World	116
CHAPTER III	
OPPORTUNITIES - RECOMMENDATIONS	
Opportunities - Recommendations	118
Domestic Demand for Petroleum and Natural Gas Already Substantially Exceeds Readily Available Domestic	
Productive Capacity	119

(Continued)

	PAGE
Fundamental Research Affecting Mineral Production and Use Is Being Cut Back When, Instead, It Should Be Expanding	134
United States Government Organization and Its Information Base For The Implementation Of The National Minerals Policy Is Inadequate	138
The United States Mineral Industry is Restricted by Government Regulations from Organizing for Effective Operation in the Modern World	140
A Final Recommendation	142
APPENDICES	Two

TARREST OF STREET STREET TRANSPORT IN THE PROPERTY OF THE PARTY OF THE

the visit rates to the property of the property of the property of the party of the

THE COUNTRY BUT BELLEVIEW BY BEEFER OF RESIDENCE AND RESIDENCE AND RESIDENCE AND ADDRESS OF THE PARTY OF THE

Divine the liver obtained by the second state of the second self-

DESCRIPTION OF THE RESIDENCE OF THE PROPERTY O

STREET, STREET (List of Tables and Charts follows)

LIST OF TABLES AND CHARTS

Tables		PAGE
1	TOTAL ANNUAL U. S. MINERAL SUPPLIES AND USES	37
2	OLD SCRAP RECOVERED IN THE UNITED STATES - 1971	38
3	NET IMPORTS AS A PERCENTAGE OF 1971 U. S. MINERAL DEMAND	39
4	STATUS OF U. S. GOVERNMENT INVENTORIES OF METALS AND MINERALS AS OF DECEMBER 31, 1971	41
5	MOVEMENT OF MINERALS ON THE UNITED STATES TRANSPORTATION NETWORK	43
6	U. S. ENERGY MATERIALS RESERVES	49
7	ESTIMATED DOMESTIC RESERVES AND POTENTIAL RESOURCES OF NON-FUEL MINERAL RAW MATERIALS	57
8	RESERVES, PRODUCTION, AND DEMAND FOR MAJOR METALS .	59
9	COMPARISON OF U. S. PRIMARY DEMAND WITH U. S. PRIMARY PRODUCTION: 1970, 1985, and 2000	62
10	COMPARISON OF U. S. PRIMARY DEMAND WITH U. S. PRIMARY PRODUCTION: 1970, 1985, and 2000, IN MILLIONS OF 1970 DOLLARS	63
Figures		
1	THE ROLE OF MINERALS IN THE U.S. ECONOMY	17
2	U. S. DEMAND FOR MAJOR ENERGY SOURCES	19
3	U. S. SUPPLIES AND USES OF COAL, NATURAL GAS, AND PETROLEUM	21
4	U. S. SUPPLIES AND USES OF URANIUM (U308)	23
5	U. S. SUPPLIES AND USES OF IRON	25
6	U. S. SUPPLIES AND USES OF ALUMINUM, COPPER, ZINC	29

(Continued)

Figures		PAGE
7	U. S. SUPPLIES AND USES OF MAJOR NON-METALLIC CONSTRUCTION MATERIALS	33
8	U. S. SUPPLIES AND USES OF MAJOR FERTILIZER INGREDIENTS	35
9	U. S. SUPPLIES AND USES OF PLASTICS	44
10	NATURAL GAS AND PETROLEUM RESERVES, AND RESERVE- PRODUCTION RATIOS	51
11	DEVELOPING DEFICITS: U.S. PRIMARY MINERAL DEMAND vs. U.S. PRIMARY MINERAL SUPPLIES	65
12	WORLD STEEL PRODUCTION	94
13	COPPER SUPPLY AND ENVIRONMENTAL CONTROLS	101
14	U. S. PRODUCTION, DEMAND, AND POTENTIAL SUPPLIES OF SULFUR	103
15	ONLY A SMALL NUMBER OF ELEMENTS HAVE HIGH MELTING	111

THE RESIDENCE AND USED ON DESCRIPTION AND ADDRESS.

and the second of the second of the

FIRST ANNUAL REPORT

of the

SECRETARY OF THE INTERIOR

under

THE MINING AND MINERALS POLICY ACT OF 1970

(P.L. 91-631)

PART TWO

APPENDICES

For sale by the Superintendent of Documents, U.S. Government Printing Office Washington, D.C. 20402 - Price \$3.25

Eureon of Landing RARY

TO SERVICE AND DESCRIPTION OF THE PARTY OF T

APPENDICES

the same of the supplied of the supplied of the supplied of the same of

TANA OF THE PARTY OF THE PARTY

1

V. 6

APPENDICES

TABLE OF CONTENTS

PROFILES OF THE MINERALS INDUSTRIES	1
THE ROLE OF MINERALS IN THE UNITED STATES ECONOMY	II
PETROLEUM	III
NATURAL GAS	IV
OIL SHALE	V
COAL	VI
RECLAMATION AND RECYCLING	VII
MINERAL RESEARCH PROGRAMS OF MAJOR AGENCIES OF THE DEPARTMENT OF THE INTERIOR	VIII
STATUTORY AUTHORITY OF THE SECRETARY OF INTERIOR WITH RESPECT TO MINING AND MINERALS	IX

APPENETCES.

TANLE OF CONTENTS

			-214	

PROFILES OF THE MINERALS INDUSTRIES

.

INDEX TO THE PROFILES

COMMODITY	PAC	GE	
A T PROTEIN	T		1
ALUMINUM			5
ANTIMONY			9
ARGON			12
ARSENIC			15
ASBESTOS		-	
BARITE		-	18
BERYLLIUM			21
BISMUTH			24
BORON			27
BROMINE			30
CADMIUM			33
CARBON	.I	-	37
CEMENT			41
CESIUM			44
CHROMIUM	.I	_	47
CLAYS	.I	-	51
COAL	.I	-	55
COBALT	.I	_	61
COLUMBIUM	.I	_	65
COPPER	.I	-	68
CORUNDUM & EMERY			72
DIAMOND - INDUSTRIAL			75
DIATOMITE			78
FELDSPAR			81
FLUORSPAR			84
GALLIUM	.I	_11	88
GARNET	. T		91
GEMSTONES			
GERMANIUM			
GOLD			
GRAPHITE (NATURAL)			
GYPSUM			
HAFNIUM			
HELIUM			
INDIUM			
IODINE			
IRON			
KYANITE AND RELATED MINERALS			
LEAD			
LIME			
LITHIUM			
MAGNESIUM	1.	-	141

COMMODITY

MANGANESEI	- 145
MERCURY I	- 148
MICA, SCRAP AND FLAKE	
MICA, SHEET	
MOLYBDENUM	
NATURAL GAS	
NATURAL GAS PLANT LIQUIDS	
NICKEL	
NITROGENI	
OXYGENI	
PEATI	
PERLITEI	
PETROLEUM, CRUDE	
PHOSPHATE ROCKI	
PLATINUM-GROUP METALSI	
POTASHI	- 205
PUMICE	- 208
QUARTZ CRYSTAL, ELECTRONIC GRADE	- 211
RADIUM	
RARE EARTHSI .	
RHENIUM	
RUBIDIUM	
SALT	
SAND AND GRAVEL	
SCANDIUM	
SELENIUMI	
SHALE OIL	
SILICON	
SILVERI	
SODIUM CARBONATE	
SODIUM SULFATE	
STONEI	
STRONTIUMI	- 257
SULFURI	- 259
TALC, SOAPSTONE AND PYROPHYLLITE	- 263
TANTALUMI	- 266
TELLURIUM	- 269
THALLIUM	
THORIUM	
TIN	
TITANIUM	
TUNGSTEN	
URANIUM	
VANADIUM	
VERMICULITEI	
YTTRIUMI	
ZINC	
ZIRCONIUM	- 308