

**BENEFICIATION OF A COLOMBIAN OOLITIC IRON ORE
THROUGH GRAVITATIONAL SEPARATION, FLOTATION,
MAGNETIC ROASTING, MAGNETIC SEPARATION, AND
CHEMICAL DIGESTION**

by


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A thesis submitted to the Faculty and the Board of Trustees of the Colorado School of Mines in partial fulfillment of the requirements for the degree of Masters of Science in Metallurgical and Materials Engineering.

Golden, Colorado

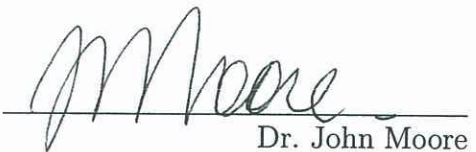
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ABSTRACT

The El Uvo iron ore deposit in Colombia is owned and mined by Acerias Paz Del Rio. This ore, containing approximately 45 wt% iron, is fed without beneficiation to the company's blast furnace located nearby. The company purchases high grade iron ore as supplemental feed to the iron blast furnace. Successful beneficiation of the El Uvo ore will reduce the need for expensive supplemental feed. The oolitic structure of the ore is a challenge to liberation and efficient beneficiation. This work presents a detailed characterization of the ore. It also examines the potential for beneficiation using various process technologies, such as flotation, magnetic separation, magnetizing roasts, and caustic silica digestion. Chemical analysis of the feed and products produced in the investigation provide an understanding of the effectiveness of the various beneficiation techniques.

TABLE OF CONTENTS

ABSTRACT	iii
LIST OF FIGURES	viii
LIST OF TABLES	xi
ACKNOWLEDGMENT	xiv
CHAPTER 1 INTRODUCTION	1
CHAPTER 2 LITERATURE REVIEW	4
2.1 Pyrometallurgical Production of Iron	4
2.1.1 Iron Reduction	4
2.1.2 Slag Formation	5
2.1.3 Other Elements Affecting Pyrometallurgical Processing	5
2.2 Oolitic Ore Characteristics	5
2.2.1 El Uvo Oolitic Ore Mineral	6
2.3 Flotation	6
2.3.1 Surface Chemistry for Flotation	7
2.3.2 Depressant or Collector Chemicals	7
2.3.3 Dispersant	8
2.3.4 Bubble Production and Frother Chemicals	8
2.3.5 Modifiers	9
2.4 Effect of Eh	10
2.4.1 Reverse Flotation	11
2.4.2 Flocculants	12
2.4.3 Elutriation During Flotation	13
2.4.4 Flotation Characteristics of the El Uvo Ore Mineral	13
2.5 Hematite to Magnetite Conversion	14
2.5.1 Magnetic Roasting	14
2.5.2 CO and CO ₂ Gas Production	18
2.5.3 Magnetic Separation	18
2.6 Silicon Digestion	19
2.7 Analytical Techniques	20
2.7.1 Lithium Borate Fusion	21
2.7.2 Atomic Absorption Spectrophotometry (AAS)	21
2.7.3 Inductively Coupled(ICP)	22

CHAPTER 3 ORE CHARACTERIZATION	24
3.1 Chemical or Mineralogical Examination of the Ore	24
3.1.1 Bond Work Index	25
3.1.2 Mineral Liberation Analysis	26
3.1.3 Scanning Electron Microscope (SEM)	29
3.1.4 QEMSCAN	31
3.1.5 Comparison Between MLA and QEMSCAN	35
3.2 Thermal Behavior Testing of the El Uvo Ore Mineral	35
3.2.1 Differential Scanning Calorimetry	35
3.2.2 Differential Thermal and Thermal Gravimetric Analysis	36
CHAPTER 4 EXPERIMENTAL PROCEDURES	38
4.1 Ore Preparation	38
4.1.1 Crushing	38
4.2 Blending and Splitting	39
4.2.1 Lab Scale Cone and Quartering of the Sample	40
4.2.2 Jaw Crushing Results	40
4.2.3 Grinding	41
4.2.4 Desliming	42
4.2.5 Slimes Chemical Analysis	43
4.3 Gravity Separation	43
4.3.1 Shaking Table Tests	43
4.3.2 Shaking Table Results	44
4.4 Flotation	44
4.4.1 Grinding and Particle Size Distribution	45
4.5 Batch Mechanical Flotation Experiments	46
4.5.1 Acidic Flotation	47
4.5.2 Alkali Flotation	47
4.5.3 Alkali Flotation Results	48
4.5.4 Selective Flocculation	51
4.5.5 Selective Flocculation Procedure	52
4.5.6 Selective Flocculation Results	53
4.5.7 Selective Flocculation with Reverse Flotation Procedure	56
4.5.8 Selective Flocculation with Reverse Flotation Results	56
4.6 Column Flotation	59
4.6.1 Column Construction	59
4.6.2 Ore Preparation	60
4.6.3 Flocculation	60
4.6.4 Column Flotation Test Matrix	61
4.6.5 Froth Flotation Procedure	62
4.6.6 Froth Flotation Results	63
4.6.7 Trend Matching and Statistics on the Froth Float Tests	64
4.7 Magnetic Roast Conversion - Hematite to Magnetite	67
4.7.1 Crushing for Magnetic Ore Preparation	67
4.7.2 Hematite to Magnetite Roasting	67

4.7.3	Roasting Data and Results	71
4.7.4	Characterization of Roast Products	74
4.8	Grinding of Magnetizing Roast Product	76
4.8.1	Roasted Product Analysis	79
4.9	Magnetic Separation of Magnetic Roast Product	80
4.9.1	Dry Magnetic Separation - Frantz	80
4.9.2	Frantz Dry Magnetic Separation Results	81
4.9.3	Davis Tube Low Intensity Magnetic Separation	81
4.9.4	Davis Tube Tests	81
4.9.5	Davis Tube - Magnetic Separation Results	83
4.9.6	Sala - Low Intensity Drum Magnetic Separator	85
4.9.7	Sala Results	87
4.10	Silicon removal through Caustic digestion	88
4.10.1	Silicon Digestion Data and Results	90
4.11	Analytical Techniques	93
4.11.1	Fusions	93
4.11.2	Dilutions	95
4.11.3	Atomic Absorption Spectrophotometry (AAS)	96
4.11.4	Inductively Coupled Plasma	98
CHAPTER 5 FLOW DIAGRAMS AND BALANCES		103
5.1	Flotation Flow Sheet	103
5.1.1	Crushing and Grinding for Flotation	104
5.1.2	Mechanical Flotation	106
5.1.3	Column Flotation	106
5.2	Magnetic Separation Flow Sheet	108
5.2.1	Crushing, Roasting, and Grinding for Magnetic Separation	108
5.3	Magnetic Beneficiation Flow Sheets	111
5.3.1	Magnetic Separation Flow Sheet	111
5.3.2	Silicon Digestion	113
5.4	Mass and Energy Balances	113
5.4.1	Mass Balance	113
5.4.2	Energy Balance	114
CHAPTER 6 CONCLUSIONS		119
CHAPTER 7 FUTURE AND RECOMMENDED RESEARCH		122
7.1	Microwave Processing	122
7.2	Addition of a Sodium Compound for Silicon and Aluminum Solubility	122
7.3	Additional Flotation Research	123
7.4	Additional Mineral Processing Trials	123
REFERENCES		124