



SELECTED PUBLICATIONS - ACTIVE RESEARCH AREAS

SULFUR RECOVERY

Small-Scale Sulfur Recovery

New Technologies for Sulfur Recovery at the 1-10 ton/day Scale

P.D. Clark, M. Huang, N.I. Dowling and M. Shields, pp. 5-13.

ASR Quarterly Bulletin

Vol. XLIV, No. 4, January – March 2008, pp. 5 – 13.

A Review of Small Scale Sulfur Recovery and Methods for Conversion of H₂S by Direct Oxidation

M. Shields

ASR Quarterly Bulletin

Vol. XLV, No. 3, October – December 2008, pp. 2-32.

Claus Furnace Chemistry

Optimizing Hydrogen Concentration in Oxygen Blown Claus Plants

N.I. Dowling, J.B. Hyne and D.M. Brown

AIChE Meeting, Denver, August 1988

38th Canadian Chemical Engineering Conference, Edmonton, October 1988

ASR Quarterly Bulletin

Vol. XXIV, Nos. 3 & 4, October 1987 - March 1988, pp. 16 - 31

Chemistry of the Claus Front-End Reaction Furnace:

Hydrocarbon Reactions and the Formation and Destruction of CS₂

P.D. Clark, N.I. Dowling and M. Huang

ASR Quarterly Bulletin

Vol. XXXIII, No. 4, January - March 1997, pp. 1 - 49

Understanding Claus Furnace Chemistry:

Development of a "Modified" Claus for Low-Content Acid Gases

N.I. Dowling, J.B. Hyne and M. Huang

ASR Quarterly Bulletin

Vol. XXXIV, No. 2, July - September 1997, pp. 1 - 22

Mechanisms of Ammonia Destruction in the Claus Front-End Furnace

N.I. Dowling, J.B. Hyne and M. Huang

ASR Quarterly Bulletin

Vol. XXXIV, No. 4, January - March 1998, pp. 1 - 50

Mechanisms of CO and COS Formation in the Claus Furnace
P.D. Clark, N.I. Dowling and M.Huang (ASRL)
W.Y Svrcek and W.D. Monnery (Dept of Chemical/Petroleum Engineering,
University of Calgary)
ASR Quarterly Bulletin
Vol. XXXVI, No. 2, July - September 1999, pp. 1 - 34

Chemical Mechanisms and Kinetics in the Claus Furnace
P.D. Clark, N.I. Dowling and M.Huang
ASR Quarterly Bulletin
Vol. XXXVI, No. 3, October - December 1999, pp. 35 - 51

Claus Catalysis

The Chemistry of Sulfur Recovery by the Claus Process
N.I. Dowling, J.B. Hyne, M. Huang, J. Cooper and G. Butlin
ASR Quarterly Bulletin
Vol. XXXV, No. 3, October - December 1998, pp. 1 - 15

Conversion of CS₂ Over Alumina and Titania Under Claus Process Conditions:
How It Really Works and Commercial Implications
P.D. Clark, N.I. Dowling and M. Huang
ASR Quarterly Bulletin
Vol. XXXVI, No. 4, January - March 2000, pp. 1 - 17

Catalytic Options for the Disposal of Ammonia in Refineries and Oil Sands Facilities:
Conversion to Nitrogen and Hydrogen or Oxidation by Sulfur Dioxide or Air to Nitrogen,
Water and Sulfur
P.D. Clark, N.I. Dowling, M. Huang and K.L. Lesage
ASR Quarterly Bulletin
Vol. XXXVII, No. 1, April - June 2000, pp. 15 - 37

Fundamental and Practical Aspects of Claus Converter Catalysis
P.D. Clark
ASR Quarterly Bulletin
Vol. XLIV, No. 1, April - June 2007, pp. 27 - 35

Mechanisms and Thermodynamic Analysis of Ammonia Destruction in the Claus Furnace
P.D. Clark and N.I. Dowling
ASR Quarterly Bulletin
Vol. XLIV, No. 4, January - March 2008, pp. 14 - 16

Mechanisms of BTX Conversion in the Claus Furnace
P.D. Clark, N.I. Dowling and M. Huang
ASR Quarterly Bulletin
Vol. XLV, No. 4, January - March 2009, pp. 3 - 12.

Tail Gas Treating & Incineration

Removal of NO_x from Combustion Tail Gas by Conversion to N₂ using H₂S

A.D. Nielsen

ASR Quarterly Bulletin

Vol XLII No. 2, July – September 2005, pp. 12 – 56

A New Approach to High Efficiency Claus Tail Gas Processing: Studies of Adsorption of Sulfur Dioxide on Solid Substrates.

Z. Premji and P.D. Clark.

ASR Quarterly Bulletin

Vol. XLIV, No. 2, July – September 2007, pp. 15 – 30.

The Chemistry and Kinetics of Claus Tail Gas Incineration -Improving Incineration Efficiency

N.I. Dowling, M. Huang and P.D. Clark.

ASR Quarterly Bulletin

Vol. XLV, No. 2, July – September 2008, pp. 21 – 55.