PROCEEDINGS

ID: 1
CONTINUOUS IMPROVEMENT OF THE RETURN AIR RAISE SILENCER SYSTEM AT TOTTEN MINE
ENRIQUE AGUNA, ANDREW DUGSON, CHERYL ALLEN

ID: 2
STUDY OF RE-ENTRY TIME POST BLASTING AT CIGUHA PT ANTAM UBPE PONGKOR UNDERGROUND GOLD MINE
PUTRA HANIF ABDULLAH, NUNINDIO PRIHAGUNG WIDO ODO, T. SITORUS

ID: 4
EMERGENCY PLAN METHODOLOGY FOR MINE FIRE SIMULATIONS IN CHUICAMATA UNDERGROUND MINE
ROBERTO ALVAREZ, J. D. STINNETTE, J. E. CARRASCO

ID: 7
NEW MINE FIRE LOCATION MODEL UTILIZING REAL-TIME GAS MONITORING DATA
DAVIDO BAHRAMI, LIMING YUAN, LIHONG ZHOU, JAMES H. ROWLAND

ID: 9
SELF-HEATING BEHAVIOUR OF A HEAT-AFFECTED COAL SEAM
BASIL BEAMISH, J. THEILER

ID: 10
PREVENTING AND MANAGING FIRES AT DEEP LEVELS IN ULTRA-DEEP LEVEL GOLD MINES
MORNE BEURES

ID: 13
VENTILATION DESIGN AND OPERATING ISSUES RELATING TO UNDERGROUND MINES WITH HIGH ELEMENTAL SULPHUR CONTENT
D. J. RUSSELL

ID: 14
EFFICIENT MINE VENTILATION SYSTEMS THROUGH PROPER FAN DESIGN
JAVIER FERNANDEZ, DARA BRETUMER, LUIS JAVIER DIAZ, LOUIS VAN WIJK

ID: 15
INVESTIGATION OF THE TECHNO-ECONOMIC FEASIBILITY OF RECOVERING WASTE HEAT OF DIESEL GENERATOR EXHAUST FOR HEATING MINE INTAKE AIR
MARCO BRITO, ALI MADSEH, DURJOY BARDIA

ID: 17
DIESEL AND WELDING AEROSOLS IN AN UNDERGROUND MINE
ALEKSANDAR BUCARSKI, TERESA BARTONE, JON HUMMER

ID: 18
AUXILIARY VENTILATION LAYOUTS FOR HARD ROCK MINES
FELIPE CAIOLA, S. BHATTACHARYYA

ID: 19
MINING VENTILATION ON DEMAND SYSTEM AT NICKEL RIM SOUTH MINE; TESTING PROCEDURES, SYSTEM MAINTENANCE, AND RESULTS
JOFFRE SANFENNIEROS, C. CAMBRON, E. MCLAFFEN, H. DELLO SERRA
ID: 20
NUMERICAL STUDY ON DPM DISPERSION AND DISTRIBUTION IN AN UNDERGROUND DEVELOPMENT FACE BASED ON DYNAMIC MESH
GUANG XU, JINLIN HUANG, PING CHANG

ID: 24
COMPUTATIONAL ENERGY DYNAMICS MODEL FOR MINE CLIMATE SIMULATIONS
GEORGE DANKO

ID: 25
THE EFFECTS OF THERMAL HISTORY ON MINE CLIMATE SIMULATION RESULTS
GEORGE DANKO, CHAO LU

ID: 27
A PRAGMATIC METHODOLOGY FOR MINE VENTILATION PLANNING
EULAR DESOUZA, ROBERT CLARKE

ID: 28
AERIALFLOW REQUIREMENTS FOR MODERN DIESEL AND ELECTRIC EQUIPMENT
EULAR DESOUZA, J. DANIEL STINNETT, JULIAN VASACHIN

ID: 29
UNDERGROUND BOOSTER FAN PLACEMENT STRATEGIES
EULAR DESOUZA, KYLE PENDER

ID: 30
VENTILATION MISTAKES AND CONSEQUENCES - REAL LIFE EXPERIENCES
EULAR DESOUZA

ID: 31
PERFORMANCE ASSESSMENT OF A FIBER OPTIC METHANE SENSOR EXPOSED TO COAL SMOKE
HEATHER OXENREIDER, THOMAS DUBANOWICZ, MINQING LI

ID: 32
DEVELOPMENT OF PRACTICAL RENEWABLE (SUSTAINABLE) ENERGY EFFICIENT COOLING SYSTEMS AND STRATEGIES
JON FOX, KAROLY (CHARLES) ROCZC

ID: 33
A PRELIMINARY INVESTIGATION OF RESPIRABLE SILICA PARTICLE SURFACE IN CENTRAL APPALACHIAN COAL MINE DUST
LEAH FROST, EMILY SVIERER, CIGDEM KILES

ID: 34
FAN INLET AIR VELOCITY PROFILE AND THE NEED FOR CAREFULLY DESIGNED DUCTWORK SYSTEMS
GEORGE GAMBLE

ID: 35
ENERGY SAVING STRATEGIES IN MINE COOLING: DISTRIBUTED VS CENTRALIZED COOLING SYSTEMS
MORY GHOMSHI

ID: 36
BETTER PREDICTIONS OF HEAT TRANSFER INTO THE GROUND AND IMPACT ON TUNNEL THERMAL CONDITIONS
MARK GILBERT, RICHARD BAY, D. BIRKS, J. A. THOMPSON

ID: 38
COAL MINE ROCK DUST DISPERSIBILITY TESTS AFTER ABSORBING MOISTURE
RICHARD GILMORE, JURGEN BRUNE

ID: 39
DESIGN AND CONSTRUCTION OF A 1/40TH SCALE LONGWALL MINE MODEL FOR PHYSICAL TESTING OF METHANE EXPLOSIONS
RICHARD GILMORE, JASON MCMACK, CASEY DEROSE, GREGORY ROGIN JR., JURGEN BRUNE
ID: 42  
NORDIC VENTILATION SYSTEM AND REGULATION: AN OVERVIEW  
ADRIAN HAUH, TOMAS BOLSOY, SINNA KLEMO

ID: 46  
DIESEL EMISSION REDUCTION  
KEVIN HEDGES

ID: 48  
MOISTURE CONTENT'S EFFECT ON FRACTURE DEVELOPMENT IN COAL UNDER MICROWAVE IRRADIATION  
JINXIU HUANG, GUANG XIU, PING CHANG, GUODONG HU

ID: 49  
HEAT GENERATION IN BATTERY ELECTRIC UNDERGROUND HAUL TRUCKS  
BRIAN HUFF

ID: 51  
SHOCK LOSSES CHARACTERIZATION OF SPLITS AND JOINTS FOR AUXILIARY VENTILATION PARALLEL DUCTS  
JUAN HURTADO, HAROLD LEÓN-CADENAS

ID: 52  
A STRATEGY TO REDUCE NITROUS GASES FROM BLAST FUMES IN UNDERGROUND MINING  
ALEXANDER HUTWALKER, O. LANGEFELD, T. PLETT, E. CLAUSEN

ID: 53  
COMPARISON OF MINE VENTILATION SOFTWARE TOOLS FOR UNDERGROUND COAL MINES IN HARSH CONDITIONS  
THOMAS IMERGUND, SEBASTIAN SPURK, ANDREAS BISCHOFF

ID: 54  
LALOR MINE: IMPACTS AND IMPLICATIONS OF A 2500HP MAIN EXHAUST FAN FAILURE  
TYLER BEVING

ID: 55  
DISCRETE MODELING OF A LONGWALL COAL MINE GOB FOR CFD SIMULATION  
ABHAY JUGANDA, CLAIRE STREIBINGER, JÜRGEN BRUNE, GREGORY DOOM JR.

ID: 57  
REDUCING HEAT-INDUCED HEALTH AND SAFETY PROBLEMS IN UNDERGROUND METAL MINES USING BY MEANS OF TECHNOLOGIES AND RENEWABLE ENERGY-BASED COOLING SYSTEMS  
KAROL (CHARLES) KOKSIS, J. PRABHSH, M. TEIXEIRA, R. SCIALIS

ID: 59  
RE-UTILIZATION OF UNDERGROUND BULK-AIR-COOLER SPRAY WATER IN MINE AIR THERMAL PRE-CONDITIONING  
ALI KUYUK, ALI MAIDHAN, FERRI HASSANI

ID: 60  
DEVELOPMENT OF A MODIFIED PREDICTED HEAT STRAIN MODEL FOR HOT WORK ENVIRONMENTS  
FALOMA LAZARO, MOE MOMAYEZ

ID: 61  
SIMULATION OF AIRFLOW CHANGES IN A VOD SYSTEM AND EVALUATION OF ENERGY BENEFITS THROUGH VREX MODELING  
GARY LI

ID: 63  
MINE VENTILATION AIRFLOW DEMAND ESTIMATING AND PLANNING  
JAN LOOMIS

ID: 65  
AIRWAY VELOCITY "RULES OF THUMB": MORE GUIDELINES THAN HARD AND FAST RULES  
KARIE MANNS, R. VILJOEN, L. VAN DEN BERG

ID: 67  
VENTILATION STRATEGY RELATED TO BATTERY EQUIPMENT AT MACASSA MINE  
MIKE MARYHEW, S. ROSS
ID: 69  JOHNSON MATTHEY’S MINING CRT TECHNOLOGY BRINGS LOW-NO₂ PM CONTROL TO THE EXISTING FLEET OF DIESEL ENGINES OPERATING IN THE MINING SECTOR
JOSHUA MCGC, BONA AIELLO, STAN MACK, PETER WERTH

ID: 70  DIRECT COMPARISON OF HEAT PRODUCED BY BATTERY VS. DIESEL LHD
CHRIS MCGUIRE, K. MACDONALD, J. ARMBURGER, J. BAUMANN

ID: 76  EFFECTIVE MINE VENTILATION MANAGEMENT WITHOUT COMPROMISING MINE HEALTH AND SAFETY AND PRODUCTIVITY
WILLIAM OHKING, MARY CHOMSHAI

ID: 77  DESIGN AND IMPLEMENTATION OF A SUPPLEMENTAL ATOMIZING SPRAY SYSTEM FOR DUST CONTROL IN DEEP CUT CONTINUOUS MINING
TUDOR PETROIU, ZACH BROWN, JOSH DULECK, DAVID TURKIN, JUSTIN RATLIEF

ID: 78  IMPLEMENTATION OF ADVANCED CONTROL STRATEGIES USING VENTISMICONTROL AT SAN JULIANINE
JOSE PINEDA, DANIEL TORRES ESPINOZA

ID: 79  DESIGNING COAL PANELS IN THE CONDITIONS OF ASSOCIATED METHANE AND SPONTANEOUS FIRE HAZARDS
STANISLAW PILSEK, EUGENIOUZ KRAUSE, JACEK SKIBA

ID: 81  ROADHEADER SHAFT SINKING - VENTILATION AND REFRIGERATION SYSTEMS
ALEX JAYWING

ID: 82  INCORPORATING VENTILATION FAN PLANTS IN RAIL AND VEHICULAR ROADWAY OVERBUILDS
RICHARD RAY

ID: 83  USE OF REVERSIBLE JET FANS IN SHAFTS FOR “PUSH-PULL” EMERGENCY VENTILATION
RICHARD RAY, ETHAN FOSTER

ID: 84  IMPROVING VENTILATION AT HOYLE POND MINE WITH MONITORING AND CONTROL SYSTEM
JAYCE RICO PACE, BARRY HOPE

ID: 85  HEAT MANAGEMENT IN MINING INDUSTRY: PERSONAL RISK FACTORS, MITIGATION PRACTICES, AND INDUSTRY ACTIONS
PEDOBI ROOANECHI, TALEH TALEBI, BEHROOZ ABBASI

ID: 86  DESIGN OF PACKED ROCK BED THERMAL STORAGE TO REDUCE VENTILATION HEATING AND COOLING DEMANDS IN UNDERGROUND MINES IN Extreme Climatic Regions
ALBERTO ROMERO

ID: 87  A TECHNO-ECONOMIC ANALYSIS OF THE USE OF ELECTRIC LOADING AND HAULING TECHNOLOGIES IN CANADIAN UNDERGROUND MINES
ALBERTO ROMERO, D. L. MILLAR, M. CARVALHO

ID: 88  THE IMPORTANCE OF ACCURATE ROCK PROPERTY AND VIRGIN ROCK TEMPERATURE DATA IN VENTILATION AND COOLING PLANNING REQUIREMENTS
ALEXANDER RUSELL, FRANK VON GLENN, ANDREW BRANCH, MOHNE BEUKES

ID: 89  RISK ANALYSIS FOR VENTILATION NETWORK OPTIMISATION PROCESSES IN KAZAKHSTAN METAL MINES
SERGEI SAJADOV, Y. TUBUSIBIKOV, A. KAROHAU, B. AIALMZHAROV
ID: 91
RESPONSE OF THE FLIR AIRTEC MONITOR TO AIRBORNE COAL DUST
EMILY SARVER, CYCDEM RIELES, EMANUELE CAUDA, KEVIN PHILLIPS

ID: 92
UTILIZATION AND IMPLEMENTATION OF GEOTHERMAL SYSTEMS AND GROUND SOURCE HEAT PUMPS FOR
UNDERGROUND MINE COOLING
KYLE SCALISE, MARCELO TEIXEIRA, KAROLY (CHARLES) KOCSEI, KEITH ROBERTSON

ID: 93
CASE STUDY: USING POLYMER DUCTING FOR FACE VENTILATION OF COAL MINE
MICHAEL SCHULTE, BRYON CERBLESKIE

ID: 94
DESIGN OF A WATER CURTAIN TO REDUCE ACCUMULATIONS OF FLOAT COAL DUST IN LONGWALL RETURNS
CLAIRA SEALMAN, MICHAEL R. SHAWAN, TIMOTHY W. BECK, STEVEN L. MISCHLER

ID: 97
CASE STUDY - VENTILATION DUCT CRITERIA PRO'S AND CON'S. HOW TO EFFECTIVELY LOWER OPERATING
COSTS DURING THE TENDER PROCESS
MICHAEL SHEARER, JOHANNES HOLZHAUSEN

ID: 98
PERFORMANCE ANALYSIS OF SURFACE GOAF HOLE GAS DRAINAGE SYSTEMS AND USE OF TRIGGERS FOR
SPONTANEOUS COMBUSTION RISK MANAGEMENT IN AUSTRALIAN COAL MINES
GUANGXU WU, BRAHMA BELLE

ID: 99
OPTIMIZED MODEL BASED CONTROL OF MAIN MINE VENTILATION AIR FLOWS WITH MINIMIZED ENERGY
CONSUMPTION
STEPAF JOKSTROM, E. KUNTENÄS, P. JOHANSSON, J. NYKVIST

ID: 100
OVERVIEW OF ACTIVE EXPLOSION BARRIER SYSTEMS FOR NORTH AMERICAN UNDERGROUND COAL MINES
AREND SPATH, LAURA STEEVE, JHON SILVA, INOKA ERANDA PERERA

ID: 101
VENTILATION SYSTEMS IN UNDERGROUND COPPER MINES IN POLAND IN TERMS OF PREVENTING
AEROLOGICAL THREATS
Radoslaw Stach, S. Gola, K. Soroło, P. Jozefiński

ID: 102
IMPROVEMENT OF CLIMATIC CONDITIONS IN THE UNDERGROUND EXCAVATIONS IN THE ASPECT OF TYPES
VENTILATION DAMS WHICH ARE USED IN SEALING ABANDONED AREA IN POLISH COPPER MINES.
Radoslaw Stach, K. Soroło, P. Jozefiński, S. Gola

ID: 103
SENSITIVITY ANALYSIS OF VENTILATION MODELS - WHERE NOT TO TRUST YOUR STIMULATION
MARTIN GRIFFITH, CRAIG STEWART

ID: 104
IMPROVING THE PERFORMANCE OF THE HARRY CROSS ALGORITHM FOR LARGE VENTILATION MODELS
CRAIG STEWART, SABIR AMIN, JAMAL SARBOUI, MEHMET KEZIL

ID: 105
CFD MODELING OF METHANE FLAME INTERACTION WITH A SIMULATED LONGWALL COAL MINE GOB
CLAIRE STRESINGER, GREGORY BOGUN JR., JÜRGEN BRUNE

ID: 106
APPLICATION OF PLASTIC VENTILATION DUCTING IN MINE TUNNELING
REMI THEBAULT, DARRYL WITOW, DANIEL LAMOREUX, DAN KULCHYSKI

ID: 107
AN OVERVIEW OF COAL SPONTANEOUS COMBUSTION STUDIES IN CHINA
JERRY TIE, YINGJIAO CAO
ID: 108
HEAT LOAD ESTIMATION OF CONVEYED ORE IN UNDERGROUND MINES
KEVIN TOM, JANE LI

ID: 109
TECHNO-ECONOMIC OF AN ICE STOPE THERMAL STORAGE FOR MINE HEATING AND COOLING IN SUB-ARCTIC CLIMATES
KIM TRAPANI

ID: 110
MONITORING AND ASSESSMENT OF UNDERGROUND CLIMATIC CONDITIONS USING SENSORS AND GIS TOOLS
PURUSHOTHAM TUKKARAJA, ANKIT JHA

ID: 111
COMPUTATIONAL AND EXPERIMENTAL INVESTIGATION OF CAVE CHARACTERISTIC CURVES IN A BLOCK CAVING MINE
PURUSHOTHAM TUKKARAJA, Y. PAN, R. BHARGAVI, R. KATZENSTEIN

ID: 116
VENTILATION SYSTEM DESIGN FOR THE WASSA UNDERGROUND MINE
KEITH WALLACE, BRIAN PROSSER, R. REDDEN, A. ARANSOBE

ID: 119
DISTURBANCES OF AIR PARAMETERS CAUSED BY THE OPERATION OF THE SHEARER IN THE LONGWALL STANISLAW WASKOWSKI, W. EZURUDIENZE, A. KRACH, T. PAULA

ID: 122
NEW THRESHOLD LIMIT VALUES FOR GASES IN EUROPE AND RESULTING PROBLEMS IN MINES
JUERGEN WILDE

ID: 123
AN ANALYSIS OF A DETAILED ENGINEERING STUDY IN ACCORDANCE WITH IESO IAP REQUIREMENTS
NATHAN WINCHERGER, J. JOOKUN

ID: 124
CHARACTERIZATION OF NOISE PROPAGATION IN A HARD ROCK MINE VENTILATION APPLICATION
DARRYL WIDOW, CODY GOBBS, JOSH LAM, WENDY HARRIS, ELEANOR MAGDEZINSKI, MERVYN CHOW, ABEL KADAVI

ID: 125
LUNDIN EAGLE EAST PROJECT - MINE VENTILATION UPDATE
DARRYL WIDOW, CODY GOBBS, JOSH LAM, WENDY HARRIS

ID: 128
HYBRID CFD-NETWORK METHODOLOGY FOR IMPROVED DPM MODELLING
HONGBIN ZHANG, LORRIE PAVA, MING CAI, NICK VAVENAS, ENRIQUE ACUÑA

ID: 131
STUDY ON INTEGRATION OF REAL-TIME ATMOSPHERIC MONITORING SYSTEM MONITORING DATA AND MFIRESIMULATION
LIHONG ZHOU, DAVIDE BAHRAMI, LIMING YUAN, RICHARD A. THOMAS, GREGORY P. COLE, JAMES H. ROWLAND

ID: 134
EUROPEAN LEGAL FRAMEWORK RELATED TO UNDERGROUND MINING AND TUNNELING CONCERNING COMMISSION DIRECTIVE (EU) 2017/164, 31 JANUARY ESTABLISHING A FOURTH LIST OF INDICATIVE OCCUPATIONAL EXPOSURE LIMIT VALUES
MIQUEL TARDI URIQUDE

ID: 135
RESEARCH ON TURBULENT FLAME PROPAGATION STATES OF GAS EXPLOSION IN PIPE BASED ON IMAGE PROCESSING
BAIYING NIE, CHAO PENG, JIE GONG, YE WANG, XIANGCHUN LI

ID: 137
CHALLENGES OF MINES RESCUE IN EXPANDING MINE OPERATIONS
KENT ARMSTRONG, C. FEYEBEND
NEW SECONDARY MINE VENT FAN DESIGN
REMY ROUBICER

FRICITION FACTOR CORRELATION FOR AIR FLOW THROUGH BROKEN ROCKS AND ITS APPLICATIONS IN MINE VENTILATION
LEYLA AMIRI, FERID KASSAMI, AGUS SASMITO, ALI MADIREF

EVALUATION OF DIESEL OXIDATION CATALYSTS ON NO2 PRODUCTION FROM MINING VEHICLES
JOSEF STACHULAC, CHERYL ALLEN

DIESEL ENGINE EXHAUST AND CANCER IN MINING
PAUL DEMERS, JOANNE KIM, VICTORIA ARRANDALE, KATE JORDINE