Tube Bundle Systems

Hazardous Area Certified in accordance with ASNZS 60079-10.1 2009
SYSTEM FLOW DIAGRAM

Underground Sample Point

Underground Marshalling Frame

Tube Entry Panel

Gas Analyser - Gas Sampled With Analog Signals Sent To PLC

Sampling System Sequences Through Solenoids Feeding Selected Point Into Gas Conditioning System

Gas Conditioning System

Bypass Pumps - Draws Sample From Underground And Through Sampling System
ADT will tailor the Tube Bundle System requirements to the customers needs. From previous experience we have designed a variety of different methods to adhere to customer specifications.

For example:

- ADT developed a bypass pump system to draw the gas sample from underground at 12km distance
- Utilised a 100 Lpm sample pump in order to match sample times with bypass times for individual tube analysis
- Installed extraction pumps at underground marshalling frame to decrease delay times
- Installed process GC inline with sample system for total hydrocarbon analysis
- Developed a fast switching 4 point system for gas drainage plant in order to monitor incoming samples to the plant
- Integrate CMTS SmartGas Connect software into the ADT system. Simple to use, well presented software meeting all coal mine requirements at a reasonable price

SOFTWARE SMARTGAS CONNECT

Basic Software Overview

- Ability to interface with various mine monitoring systems and collect gas data from gas monitoring locations including interface between real time and tube bundle
- Display gas monitoring locations on imported mine plan
- Display live data from the gas monitoring points
- Set security level access for authorised personnel
- Allow alarm setting for each monitoring point by authorised personnel
- Allow acknowledgement of alarms by authorised personnel
- Trend / graph data from monitoring points
- Trend / graph relevant ratios and indices
- Ability to produce relevant reports
- Comply with relevant regulatory requirements
ANALYSER AVAILABLE WITH OUR SYSTEMS

- Fuji Multigas analyser for up to 5 gases, the industry standard using double beam Infra-red for CO, CO₂ and CH₄ with Paramagnetic Oxygen measurement for very specific and stable analysis with low and high ranges of gases. Fully Automatic Calibration is available.

- GC Portable Gas Chromatograph for all gases developed specifically for the coal mining industry to identify and quantify the presence of Hydrocarbons which occur under changing fire conditions.

- Peak Analyser integral Tube Bundle GC for Hydrocarbons where this version becomes part of the sequenced sample tubes being fully integrated into the system.

- CAI FTIR Process Fourier Transform for very fast multi gas analysis showing all gas species over the selected wave numbers, identifying 345 different gas species.

- Gasera Photoacoustic Infra Red multigas analysers, another method of measuring multi gas species from PPB to higher percentage ranges.

ADT EXPERIENCE

- BHP Billiton: Mine Gas Monitoring
- Shell: Laser Perimeter Monitoring
- BP: Laser Perimeter Monitoring
- Ta Shan: Mine Gas Monitoring
- Sth Blackwater Coal: Mine Gas Monitoring
- Sth Bulga Coal: Mine Gas Monitoring
- Muswellbrook Coal: Mine Gas Monitoring
- Rio Tinto: Pot Line Laser Monitoring
- FloTech: Bio Remediation
- Coal & Allied: Mine Gas Monitoring
- Beltana Coal: Mine Gas Monitoring
- Alcan: Furnace Analysis
- BHP Pacific Colliery: Mine Atmosphere
- Boral: Area Monitor
- BP: Methane Drainage
- Colgate: Stack Analysis
- CSIRO: Fermentation
- Methanol Research
- Process Control
- Ford Motors: Area Monitor
- GMH: Vehicle Analysis
- Hoescht: Process Analysis
- ICI: Methanol Research
- Toxic Air
- Mt Isa Mines: Mine Diesel Analysis