'SMARTGAS – Connect'
Mine Trending Software Project

Peter Mason
Manager
Coal Mines Technical Services

CS Coal Services Pty Limited

Project scope

Develop a cost effective mine gas monitoring software package

- **Ability to interface with various mine monitoring systems and collect gas data from gas monitoring locations**
- **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**
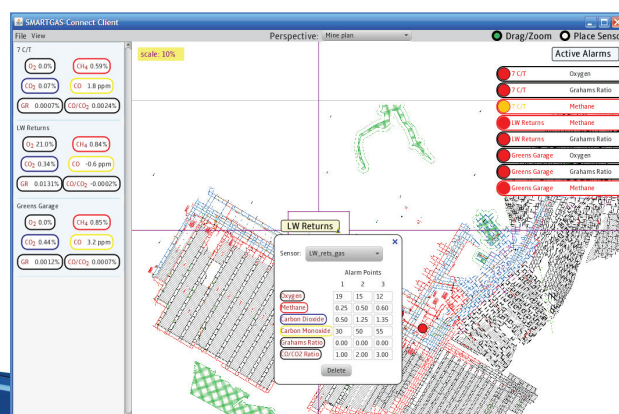
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Typical data displayed

- **Gas data/ trending for each monitoring point for:**
  - Oxygen
  - Methane
  - Carbon monoxide
  - Carbon dioxide
- **Air flow/ quantities**
- **Barometric pressure**
- **Ratios/ indices including:**
  - CO make
  - Graham's ratio
  - CO/CO2 ratio
  - Explosibility trending
  - User defined

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Mine plan display

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Alarm point setting

	O2			CH4			CO2			CO			CO Make	Graham's ratio			CO/CO2 ratio		
7 C/T	19	15	12	0.25	0.50	0.60	0.50	1.25	1.35	30	50	55		0.00	0.00	0.00	1.00	2.00	3.00
LW Returns	19	15	12	0.25	0.50	0.60	0.50	1.25	1.35	30	50	55		0.00	0.00	0.00	1.00	2.00	3.00
Greens Garage	19	15	12	0.25	0.50	0.60	0.50	1.25	1.35	30	50	55		0.00	0.00	0.00	1.00	2.00	3.00

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Alarm point acknowledgement

	ACK Time	Alarm Point	Acknowledger	Reading Time	Reading Value
Sensor Location 2, Carbon Dioxide	11/11/10 18:06:17	1	NOBODY	11/11/10 18:06:12	1
Sensor Location 2, Methane	11/11/10 18:06:15	1	NOBODY	11/11/10 18:06:12	0
Sensor Location 2, Carbon Dioxide	11/11/10 18:06:11	1	NOBODY	11/11/10 18:06:08	1
Sensor Location 2, Oxygen	11/11/10 18:06:09	3	NOBODY	11/11/10 18:06:04	8
Sensor Location 2, Oxygen	09/11/10 17:03:01	3	NOBODY	09/11/10 17:02:52	10

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Typical trending of data
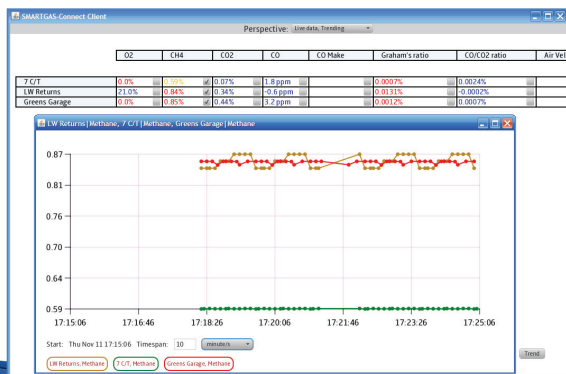
Ongoing project development

- **Refine graphics and user operation**
- **Import gas chromatographic data**
- **Maintenance reminder system for gas sensors**
- **Format for International market (i.e. China, USA)**
- **CCTV display from U/G locations**
- **Greenhouse emission calculations**