IDENTIFICATION OF FUGITIVE METHANE FROM OPEN PIT COAL MINING

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BACKGROUND

- Indonesia is the largest exporter of steaming coal. Coal mining releases methane, a green house gas. Identification of methane gas is required in order to find a method to mitigate emission of methane.
- Indonesian coal mainly is low rank coal and exploited using open pit coal mined method
- The quantity of methane emitted per tone of mined coal depends upon several factors including coalification degree (coal rank), the permeability of coal and gas diffusion rate, and the mining method employed.

OBJECTIVE AND METHODS

OBJECTIVE : To measure methane emitted from Indonesian coal mined and to compare the result with IPCC method for calculating methane emission

Method 1 : Measuring Ambient Concentration of methane

Method 2 : Measuring Concentration of methane in drilling core

Ambient Methane Analyses

Coal Drilling

Core

RESULTS

Ambient concentration of methane in Indonesia coal mines was less than 4 ppm

Locations	T (°C)	Prssure (mmHg)	Elevation (m)	Concentration (ppm)
A1	39	752	-72	2,5
A2	39	752	-85	2,5
A3	40	752	-91	3,7
A4	40	752	-95	2,5
B1	41	751	40	2,2
B2	40	751	60	1,9
B3	40	751	84	2,5

RESULTS

Methane concentration in coal drilling core is less than of concentration on IPCC Standard

		Methane concentration	
Location	Depth (m)	This Works Nm^3/ton-coal	IPCC Standard Nm^3/ton-coal
A1	60-82	0.85	1.2
A2	30-38	0.59	1.2
B1	0-2	0.17	1.2

CONCLUDING REMARKS

OUR INSTITUTE IS WILLING TO COOPERATE FOR R&D ACTIVITIES TO MITIGATE FUGITIVE METHANE FROM COAL MINING