

# Coal Mine Methane Recovery at Active U.S. Coal Mines: Current Projects and Potential Opportunities



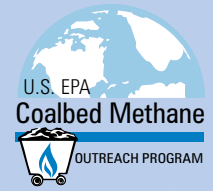
The information presented in this document is a condensed version of CMOP's report *Identifying Opportunities for Methane Recovery at U.S. Coal Mines: Profiles of Selected Gassy Underground Coal Mines 2002-2006*. While the report was last revised in 2009, mine data reported in this matrix were updated in November 2010, to reflect the 2009 production year.

Alabama						
Mine Name	Company	VAM Emissions <sup>1</sup>	Drained Gas	Drained Gas Utilized <sup>1</sup>	End Use	GHG Emissions Avoided <sup>2</sup>
Blue Creek No. 4 (U)	Jim Walter Resources, Inc. (Walter Industries Inc.)	12.2	19.1	100%	Natural gas pipeline injection	2,820,561
Blue Creek No. 7 (U)	Jim Walter Resources, Inc. (Walter Industries Inc.)	29.0	11.0	100%	Natural gas pipeline injection	1,629,510
North River Mine (U)	Chevron Mining Inc. (Chevron Corporation)	3.1	N/A	N/A	N/A	N/A
Oak Grove Mine (U)	Oak Grove Resources LLC (Cleveland-Cliffs LLC)	7.5	5.6	73%	Natural gas pipeline injection	599,542
Shoal Creek (U)	Drummond Company Inc.	7.6	2.7	100%	Previously natural gas pipeline injection	391,547

(U) - Underground Mine  
(S) - Surface Mine

<sup>1</sup> Million cubic feet per day (2009)  
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Colorado						
Mine Name	Company	VAM Emissions <sup>1</sup>	Drained Gas	Drained Gas Utilized <sup>1</sup>	End Use	GHG Emissions Avoided <sup>2</sup>
Bowie No. 2 (U)	Bowie Resources LLC (Union Pacific)	8.4	5.6	0%	N/A	0
Elk Creek Mine (U)	Oxbow Mining LLC (Oxbow Carbon & Materials Inc.)	5.8	5.8	0%	N/A	0
McClane Canyon Mine (U)	McClane Canyon Mining LLC (Wexford Capital LLC)	N/A	N/A	N/A	N/A	N/A
West Elk Mine (U)	Mountain Coal Co. (Arch Coal Inc.)	5.0	1.7	28%	Mine air heating	68,727

Illinois						
Mine Name	Company	VAM Emissions <sup>1</sup>	Drained Gas	Drained Gas Utilized <sup>1</sup>	End Use	GHG Emissions Avoided <sup>2</sup>
Galatia (U)	The American Coal Company (Murray Energy Corp.)	8.2	N/A	N/A	N/A	N/A
Pattiki (U)	White County Coal LLC (Alliance Resource Partners LLC)	2.2	N/A	N/A	N/A	N/A
Willow Lake Portal (U)	Bay Ridge Inc. (Peabody Energy Corp.)	2.4	N/A	N/A	N/A	N/A

Indiana						
Mine Name	Company	VAM Emissions <sup>1</sup>	Drained Gas	Drained Gas Utilized <sup>1</sup>	End Use	GHG Emissions Avoided <sup>2</sup>
Gibson (U)	Gibson County Coal LLC (Alliance Resource Partners LP)	4.6	N/A	N/A	N/A	N/A

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Kentucky						
Mine Name	Company	VAM Emissions <sup>1</sup>	Drained Gas	Drained Gas Utilized <sup>1</sup>	End Use	GHG Emissions Avoided <sup>2</sup>
Dotiki (U)	Webster Country Coal LLC (Alliance Resource Partners LP)	1.8	N/A	N/A	N/A	N/A
E3-1 (U)	Perry County Coal Corp. (Teco Coal Co.)	2.2	N/A	N/A	N/A	N/A
Elk Creek Mine (U)	Hopkins County Coal LLC (Alliance Resource Partners LP)	1.7	N/A	N/A	N/A	N/A
Jones Fork E3 (U)	CONSOL of Kentucky Inc. (CONSOL Energy Inc.)	0.9	N/A	N/A	N/A	N/A
Mine No. 2 (U)	Excel Mining LLC (Alliance Resource Partners LP)	0.5	N/A	N/A	N/A	N/A
No. 3 Mine (U)	Excel Mining LLC (Alliance Resource Partners LP)	2.0	N/A	N/A	N/A	N/A

Montana						
Mine Name	Company	VAM Emissions <sup>1</sup>	Drained Gas	Drained Gas Utilized <sup>1</sup>	End Use	GHG Emissions Avoided <sup>2</sup>
Rosebud (S)	Western Energy Company (Westmoreland Coal Company)	N/A	N/A	N/A	N/A	N/A

New Mexico						
Mine Name	Company	VAM Emissions <sup>1</sup>	Drained Gas	Drained Gas Utilized <sup>1</sup>	End Use	GHG Emissions Avoided <sup>2</sup>
San Juan South (U)	San Juan Coal Company (BHP Billiton)	5.5	3.7	0%	N/A	0

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Ohio						
Mine Name	Company	VAM Emissions <sup>1</sup>	Drained Gas	Drained Gas Utilized <sup>1</sup>	End Use	GHG Emissions Avoided <sup>2</sup>
Century (U)	American Energy Corporation (Murray Energy Corp)	3.9	N/A	N/A	N/A	N/A
Powhatan No. 6 Mine (U)	Ohio Valley Coal Company (Murray Energy Corp.)	2.3	N/A	N/A	N/A	N/A

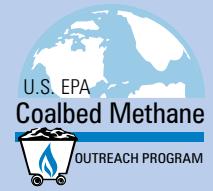
Oklahoma						
Mine Name	Company	VAM Emissions <sup>1</sup>	Drained Gas	Drained Gas Utilized <sup>1</sup>	End Use	GHG Emissions Avoided <sup>2</sup>
South Central Mine (U)	South Central Coal Company Inc.	1.4	N/A	0	---	0

Pennsylvania						
Mine Name	Company	VAM Emissions <sup>1</sup>	Drained Gas	Drained Gas Utilized <sup>1</sup>	End Use	GHG Emissions Avoided <sup>2</sup>
Balley Mine (U)	CONSOL Pennsylvania Coal Company (CONSOL Energy Inc.)	10.5	1.8	0%	N/A	0
Cumberland (U)	Cumberland Coal Resources LLP (Alpha Natural Resources)	13.0	4.0	92%	Natural gas pipeline injection	539,809
Eighty-Four Mine (U)	Eighty-Four Mining Company (CONSOL Energy Inc.)	4.1	N/A	N/A	N/A	N/A
Emerald (U)	Emerald Coal Resources LP (Alpha Natural Resources)	6.6	2.2	91%	Natural gas pipeline injection	301,289
Enlow Fork (U)	CONSOL Pennsylvania Coal Company (CONSOL Energy Inc.)	14.3	0	0%	VAM oxidation	0

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Utah						
Mine Name	Company	VAM Emissions <sup>1</sup>	Drained Gas	Drained Gas Utilized <sup>1</sup>	End Use	GHG Emissions Avoided <sup>2</sup>
Dugout Canyon (U)	Canyon Fuel Co. LLC (Arch Coal)	4.3	1.4	0%	N/A	0
West Ridge Mine (U)	West Ridge Resources Inc. (Murray Energy Corp.)	4.8	1.6	0%	N/A	0

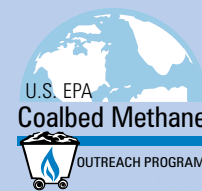
Virginia						
Mine Name	Company	VAM Emissions <sup>1</sup>	Drained Gas	Drained Gas Utilized <sup>1</sup>	End Use	GHG Emissions Avoided <sup>2</sup>
Buchanan Mine (U)	Consolidation Coal Company (CONSOL Energy Inc.)	6.2	60.8	100%	Natural gas pipeline injection, coal drying, 88 MW peaking power plant	8,967,441
Deep Mine #26 (U)	Paramount Coal Company Virginia LLC (Alpha Natural Resources)	3.9	N/A	N/A	N/A	N/A
No. 2 (U)	Black Dog Coal Company (Alpha Natural Resources LLC)	1.7	N/A	N/A	N/A	N/A

West Virginia						
Mine Name	Company	VAM Emissions <sup>1</sup>	Drained Gas	Drained Gas Utilized <sup>1</sup>	End Use	GHG Emissions Avoided <sup>2</sup>
American Eagle Mine (U)	Speed Mining Inc. (Patriot Coal Corp.)	3.0	N/A	N/A	N/A	N/A
Bekley Crystal (U)	Baylor Mining Inc.	2.2	N/A	N/A	N/A	N/A

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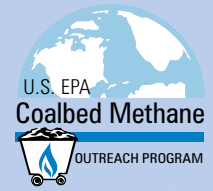


West Virginia						
Mine Name	Company	VAM Emissions <sup>1</sup>	Drained Gas	Drained Gas Utilized <sup>1</sup>	End Use	GHG Emissions Avoided <sup>2</sup>
Beckley Pocahontas Mine (U)	ICG Beckley, LLC	4.0	0	0%	N/A	0
Blacksville No. 2 (U)	Consolidation Coal Company (CONSOL Energy Inc.)	9.5	1.7	100%	Natural gas pipeline injection	244,653
Eagle Mine (U)	Newtown Energy Inc.	1.4	N/A	N/A	N/A	N/A
Federal No. 2 (U)	Eastern Associated Coal LLC (Patriot Coal Corp.)	5.9	1.0	46%	Natural gas pipeline injection	70,991
Justice #1 (U)	Independence Coal Company Inc. (Massey Energy Company)	2.0	N/A	N/A	N/A	N/A
Loveridge No. 22 (U)	Consolidation Coal Company (CONSOL Energy Inc.)	10.6	1.2	100%	Natural gas pipeline injection	183,489
McElroy Mine (U)	McElroy Coal Company (CONSOL Energy Inc.)	12.6	2.2	5%	Natural gas pipeline injection	16,575
Pinnacle (U)	Pinnacle Mining Company LLC (Cleveland-Cliffs Inc.)	5.8	5.7	82%	Natural gas pipeline injection	688,079
Robinson Run No. 95 (U)	Consolidation Coal Company (CONSOL Energy Inc.)	7.3	0	0%	N/A	0
Shoemaker (U)	Consolidation Coal Company (CONSOL Energy Inc.)	2.8	N/A	N/A	N/A	N/A

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Wyoming						
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Antelope (S)	Kennecott Energy (Rio Tinto Energy America)	N/A	N/A	N/A	N/A	N/A
Belle Ayr (S)	Foundation Coal West Incorporated (Alpha Natural Resources LLC)	N/A	N/A	N/A	N/A	N/A
Black Thunder (S)	Thunder Basin Coal Company LLC (Arc Coal Inc.)	N/A	N/A	N/A	N/A	N/A
Buckskin (S)	Kiewit Mining Group (Kiewit Peter Sons' Incorporated)	N/A	N/A	N/A	N/A	N/A
Caballo (S)	Caballo Coal Company (Peabody Energy)	N/A	N/A	N/A	N/A	N/A
Cordero Rojo Complex (S)	Kennecott Energy (Rio Tinto Energy America)	N/A	N/A	N/A	N/A	N/A
Eagle Butte (S)	Foundation Coal West Incorporated (Alpha Natural Resources LLC)	N/A	N/A	N/A	N/A	N/A
North Antelope Rochelle (S)	Peabody Energy	N/A	6.9	100%	Natural gas pipeline injection	1,018,021

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