PINCOCK perspectives

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CALENDAR

- **Northwest Mining Assoc. 106th Annual Meeting**
  December 4-8, 2000
  Spokane, Washington
  e-mail: nwma@nwma.org
  PAH Booth #104
- **B.C. & Yukon Chamber of Mines - 18th Annual Cordilleran Exploration Roundup**
  January 23-26, 2001
  Hotel Vancouver
  Vancouver, B.C., Canada
  e-mail: chamber@chamberofmines.bc.ca
- **"2001 - A Mining Odyssey"**
  SME Annual Meeting
  February 26-28, 2001
  Colorado Convention Center
  Denver, Colorado
  e-mail: meetings@smenet.org
  PAH Booth #516
- **Prospectors and Developers Association of Canada 2001 Trade Show and Investors Exchange**
  March 11-14, 2001
  Metro Toronto Convention Centre
  Toronto, Canada
  e-mail: info@pdac.ca
  PAH Booth #312

Consolidation in the Global Coal Industry

The buying and selling of coal production assets over the past decade has been quite remarkable. The assets have not been small individual properties or companies but were the stalwarts of the industry. Over the last 25 years the coal industry watched while oil companies purchased coal assets, but now, with the departure of Phillips, we have almost witnessed their complete exit. Companies such as Arco, Exxon, Chevron, Mobil, Phillips, Shell, and Sun Oil have decided to leave the coal sector. Of this group, only Exxon, Chevron, and Shell continue to own producing operations, but all have sold or have indicated their desire to sell their coal assets. Although the concept of investing windfall profits into an integrated natural resource company made sense, the oil companies realized, over time, that the profit margins in the coal sector were far too thin to risk capital investment. Now, even the coal companies are weary of the thin margins.

The exit of the oil companies from the coal sector has only added fuel to the fire. There is a frenzy involved as the coal industry completes this reorganization and the frenzy is global in nature. Not only are companies in the United States (U.S.) being sold and resold, but assets in Australia are also on the auction block. Poor coal prices tend to be the primary cause, but the strong U.S. dollar and foreign exchange rates have also had a strong impact.

Table 1 (on the back page) provides a fairly complete history of coal producing entities that have been sold since 1991. Often, for good reason, there is sketchy information on the details regarding acquisitions. Therefore, it is difficult to accurately calculate the total acquisition prices paid on a global basis. With our internal databases and information tracking system, we have estimated that the total capital expenditure for the companies shown in Table 1 lies somewhere in the range of US $14 to $15 billion.

The English and Swiss companies Billiton and Glencore have been very active in expanding operations in both Australia and Columbia. Table 1 shows heavy selling activity in the leading coal-producing countries of Canada, Columbia, South Africa, and the U. S. What is not shown here is the dramatic change of ownership from state ownership as privatization begins in the

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- **RIO ALGOM LIMITED NOW A SUBSIDIARY OF BILLITON PLC**
On October 16, 2000, a long-established Canadian mining company became part of the global merger and acquisition scenario with Rio Algom Limited becoming a subsidiary of British-based Billiton Plc. A total of 62.7 million shares representing 95.7 percent of total shares were tendered. In this acquisition, Billiton has acquired significant base metal interests including a 33.75 percent interest in the Antamina deposit in Peru, 100 percent of the Cerro Colorado copper mine and the Spence development project in Chile, and 33.6 percent of the Highland Valley copper mine in British Columbia, Canada.

- **BEMA GOLD CORP. NEEDS BETTER GOLD PRICE FOR CHILEAN PROPERTY DEVELOPMENT**
The two projects that were the future of gold production for Bema in Chile are now on hold due to the cash costs exceeding the current market price of gold! At the Refugio Mine in Chile, jointly owned 50 percent by Bema and Kinross Gold Corp., Kinross decided in early November to idle operations, since the cash costs of US $320 per ounce were much higher than those originally presented in the feasibility study, with the added burden of lower recoveries from the leach pads. The Cerro Casale project, in which Bema has a 24 percent interest along with Placer Dome (51%) and Arizona Star (25%), has also been placed on hold by Placer Dome, due to the low gold prices. The economic production of gold at the Cerro Casale project was based on a market price of US $350 per ounce of gold.

- **CAMBIOR SELLS LA GRANJA INTEREST TO BILLITON PLC**
Billiton Plc of London is the purchaser of Cambior's 100-percent interest in the La Granja copper property in Peru, for approximately US $35 million. The transaction is the result of a public auction structured by Empresa Minera del Peru S.A. (Minero Peru) after Cambior Inc. announced in September that they planned to return their corporate focus to gold production. Billiton has also acquired for an additional US $15 million the 5-percent royalty stake held by Minero Peru. It is estimated that La Granja reserves are more than 2.0 billion tonnes averaging 0.6 percent copper.

countries of the Former Soviet Union, Russia, India, and China. Privatization in the developing countries is in such a stage of infancy that mature industry economic principles such as consolidation have little meaning.

Within this on-going reorganization, the coal industry is consolidating. If we use the U.S. as an example, we can see that consolidation of the industry is a fact. Table 2 shows coal production in the U.S. growing from 875 to 1,118 million between the years of 1984 and 1998, for a total growth of 28 percent. During this time, the share of production from the top 15 producers grew from 376 to 778 million tons as their share of the market grew from 43 to 70 percent. The 1998 statistics show that the share of production for the top five, middle five, and lower five tier groups are 46.6, 15.4, and 7.6 percent respectively. Therefore, the lion's share, almost 50 percent belongs to the top five producers in the U.S while the top ten producers control 62 percent of the market. This contrasts to 23.5, 11.3, and 34.8 percent respectively for the top five, middle five, and the top ten producers in 1984. These simple statistics show how U.S. coal production has been significantly consolidated within the top 15 producers. It can also be seen that the largest market share owned by any single company for 1998 was 15 percent, which has more than doubled, from 7.4 percent in 1984. These data indicate that although there has been a major consolidation of the industry, no major supplier enjoys a controlling portion of the U.S. coal market.

It is interesting to note that the top five producers in the U.S. control 521 million tons or 47 percent of the market. This contrasts to 206 million tons or 24 percent control in 1984. The rate of production growth within the top five producers, from

Table 2
Pincock, Allen, & Holt
United States Coal Production
15 Year Production Contrast

	1984			1998		
Rank	Company	MM Tons	Percent	Company	MM Tons	Percent
1	Peabody Group	64	7.4%	Peabody Group	169	15.1%
2	Consol Energy	47	5.3%	Arch Coal	105	9.4%
3	Amax Group	41	4.7%	Kennecott Energy	103	9.2%
4	Texas Utilities	29	3.3%	Consol Energy	74	6.6%
5	ARCO	24	2.8%	RAG American Coal	70	6.3%
6	A.T. Massey	24	2.7%	AEI Resources	51	4.6%
7	Exxon	23	2.7%	A.T. Massey	38	3.4%
8	North American Coal	19	2.1%	North American Coal	32	2.8%
9	Kerr-McGee	17	1.9%	Texas Utilities	28	2.5%
10	Nerco	16	1.9%	PacifiCorp	22	2.0%
11	Utah International	15	1.7%	Pittsburgh & Midway	22	2.0%
12	Pittston	15	1.7%	Triton coal	17	1.5%
13	Old Ben	15	1.7%	MAPCO	16	1.4%
14	American Electric Power	14	1.5%	BHP Minerals	16	1.4%
15	Pittsburgh & Midway	13	1.5%	Kiewit Mining Group	15	1.3%
	Subtotal	376	43.0%		778	69.6%
	Other Producers	499	57.0%		340	30.4%
	Total	875	100.0%	Total	1118	100.0%
				Percent of 1984		127.7%

206 to 521 million tons, was 253 percent. This figure, in contrast to the industry market growth rate of 28 percent, shows the significant consolidation that has occurred during the 14-year period. It is also of great interest to note that, of the top five producers, every entity has been deeply involved in the ownership revolution and that all entities, other than Arch Coal, have been or are now owned by foreign entities. There is no doubt the coal industry is a global market, not only in terms of production and marketing, but in terms of ownership as well.

Over the last decade, we have witnessed the sale of the major American coal producers such as Consol, Peabody Coal, Arco, and Cyprus Amax with some entities being sold more than once. Obviously, there is not much interest in owning and retaining coal companies these days. Poor coal prices resulting from supply and demand principles have resulted in coal companies that have difficulty maintaining profitability, let alone solubility. Given that all of these entities have been the targets of recent acquisitions, it is obvious that additional profitability pressures have been brought to bear either in the form of additional interest payments necessary to fund the acquisitions or new owner return on investment requirements.

Coal prices are now subject to increase in order to meet the needs of making acquisition interest payments or return on investment demands. In addition, the historically low profit margins and return on equity require increases in order to maintain a healthy coal industry. In reviewing current coal industry financial conditions, it appears that financial improvements resulting from the technological gains made by the coal sector over the past 25 years have mostly been transferred to coal buyers because competition has been so keen. It is, therefore, necessary to consolidate and discipline production in order to raise prices to a level wherein the financial problems facing coal companies can be properly solved.

Given the historical financial condition of the coal sector, it is impossible to see why those who are predicting that deregulation of the power sector will result in more price pressure upon coal producers are making any sense. To understand those arguments, it makes more sense to analyze the economics of coal-fired versus natural gas-fired power stations, while keeping a firm eye on natural gas reserves and natural gas prices. Given the recent pricing of natural gas, it may appear we are again traveling on the well-worn road wherein gas prices are far too volatile for long-term heavy consumption projects. But then again, this is another topic requiring other facts in order to make an intelligent observation. Meanwhile, given the arguments above, we believe it is highly reasonable and logical to expect coal prices to increase.

This month's article was provided by John Kyle, Senior Mining Engineer,
john.kyle@pincock.com

- ***MAZARIN INC. TO ACQUIRE NIOBIUM PROPERTIES IN QUEBEC***
  Mazarin Inc. is a Quebec-based natural resource company that specializes in the mining and processing of industrial minerals. Mazarin has announced the planned purchase of Teck Corporation's 50-percent interest in the Niobec Mine in Quebec, Canada, for $47 million, as well as an option on Teck's 25-percent interest in the Oka Niobium Project in Quebec, subject to Niocan Inc.'s right of first refusal. This purchase will place Mazarin Inc. as the owner of the third most important source of niobium in the world and the primary source in North America. The two primary sources of niobium are in Brazil. Niobium is used by the steel industry to provide strength in steel used in pipelines and automobiles.

INDUSTRY UPDATE— Global Coal Online Marketplace

The advent of internet trading of mined commodities has really impacted the coal industry. For example, during the 4th Quarter 2000, three new coal e-market sites have appeared.

The first, and probably largest is that of the alliance of Rio Tinto Plc, Anglo American Plc and Billiton Plc with Swiss-based commodity trader Glencore International AG, to create ***Globalcoal.com****. This site will serve worldwide producers and users of thermal coal and will offer a neutral marketplace for the sale and purchase of coal. It is planned that the site will be accessible by March 2001.*

The second site of note is ***oz-coal.com*** *a B2B site for the procurement and marketing of Australian coals. This site also provides access to services involved in the coal supply and distribution process including transportation, market information, foreign exchange and port services.*

The third site is ***coalhub.com****, which offers three types of competitive auctions and a forum for posting unsolicited offers for sale. CoalHub has interactive sessions for bidding and also offers sealed bidding events.*

Table 1
Pincock Allen & Holt
Global Coal Acquistion History
Primary Acquistions

Date	Country	Acquirer	Seller	Entity/ Mine
Nov-00	Columbia	Billiton/Glencore/Anglo	Columbian Government	Cerrejon Zona Norte 50%
Nov-00	Australia	Coal & Allied	Exxon (Esso)	Lemington Mine
Nov-00	Canada	Consol Group	Luscar	Line Creek Mine 50%
Nov-00	Australia	RAG(60%)/Theiss(40%)	Sumisho Coal	North Goonyella
Nov-00	USA	Teco Coal	Perry County Coal	Perry County Coal
Oct-00	Australia	BHP/Metcoal	Santos	QCT
Oct-00	USA	NACCO/WFA/Kewit	Phillips Coal	Red River, Miss. Lig.
Sep-00	USA	Westmoreland	MDU Resources	Knife River Corp.
Sep-00	USA	Westmoreland	Montana Power	Rosebud & Jewett Mines
Sep-00	China	Yanzhou Coal Mining Co.	Yankuang Group (Govt.)	Jining III Coal Mine
Aug-00	Columbia	Billiton	Glencore/Amcoal	Cerrejon Centrale
Jul-00	Australia	Anglo American	Shell Coal Holdings	International Coal Mines
Apr-00	Canada	Hillsborough Resources	Marubeni Coal	Quinsam and T'Sable Interests
Mar-00	Australia	Glencore	Phelps Dodge	Cyprus Austrailia Coal
Sep-99	Australia	RAG Coal International	Portman	Burton Down Coal Mine
Aug-99	Australia	Peabody Coal	BHP	Moura Mine (55%)
Jun-99	USA	RAG Coal International	Cyprus Amax	WY, PA, UT, CO, & IL mines
Feb-99	USA	Vulcan Coal	AEI Resources	Triton Coal
Dec-98	USA	AEI Resources	Mapco	Martiki
Sep-98	USA	AEI Resources	Zeigler	Zeigler Coal - 55 mines
Sep-98	USA	AEI Resources	Kindill Mining Inc.	Kentucky Operations
Sep-98	Canada	Luscar	Manalta Coal Income Trust	Manalta Coal
Sep-98	USA	Rheinbraun	Dupont	Consol Group
Jul-98	USA	American Energy	Kerr-McGee	Galatia
Jul-98	Australia	Glencore	BHP	Hunter Valley Coal
Jun-98	Australia	Billiton	COAL	Mount Arthur, Bayswater
Jun-98	USA	Coal Ventures	Cyprus Amax	11 Coal Mines
Jun-98	USA	Consol Group	Rochester & Pittsburgh	R&P Coal Operations
Jun-98	USA	Rio Tinto/Kennecott Energy	Kerr-McGee	Jacobs Ranch
May-98	USA	P&L Coal Holdings, Inc.	Texas Utilities, Inc.	Peabody Coal Company
Mar-98	USA	Addington Coal	Cyprus Amax	6 Appalachian Coal Mines
Mar-98	USA	Arch Coal	ARCO	ARCO Coal
Sep-97	Venezuela	Pittsburg & Midway Coal	Inter-American Coal	Carbozulia
Jul-97	USA	Arch Coal	Ashland	Ashland Coal
Jul-97	USA	Pittsburg & Midway Coal	FMC Corp.	Skull Point Mine
Feb-97	S. Africa	JCI	Shell	Shell SA Coal
Jan-97	USA	Rio Tinto/Kennecott Energy	Drummond	Caballo Rojo/Ft.Union Mines
Nov-96	USA	ARCO	Coastal	Utah Operations
Nov-96	Australia	Ingwee	AMP Investments	Coal Mines Australia Ltd.
Feb-96	USA	Beacon Group	Mapco	Mapco Coal
Jul-94	USA	Rio Tinto/Kennecott Energy	Grace Energy	Colowyo Mine
Jul-93	USA	Rio Tinto/Kennecott Energy	Nerco	Antelope, Decker, Sp. Creek
Jul-93	USA	Rio Tinto/Kennecott Energy	Sun Oil	Cordero Mine
Apr-93	Australia	Peabody Coal	Costain	Costain Australian Coal Mines
Jul-91	USA	Rheinbraun	Dupont	Consol Coal Group

COMING NEXT MONTH:

- Chemicals in the Mining Industry: New Hazard Communication Rules Explained

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