

CLIFFS NATURAL RESOURCES INC.

Form 424B5

May 12, 2009

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Filed Pursuant to Rule 424(b)(5)
Registration No. 333-159162

This preliminary prospectus supplement relates to an effective registration statement under the Securities Act of 1933, but is not complete and may be changed. This preliminary prospectus supplement and the accompanying prospectus are not an offer to sell these securities and they are not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

Subject to Completion, dated May 12, 2009

Prospectus Supplement

(To Prospectus dated May 12, 2009)

12,000,000 Common Shares

Common Shares

We are offering 12,000,000 of our common shares, par value \$0.125 per share.

Our common shares are listed on the New York Stock Exchange (NYSE), the Professional Segment of NYSE Euronext Paris (Euronext) and the Chicago Stock Exchange under the symbol CLF. The last reported sale price of our common shares on the NYSE on May 11, 2009 was \$28.78 per share.

Investing in our common shares involves risks. See Risk factors beginning on page S-12 of this prospectus supplement and the risk factors set forth in Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2008 and Item 1A of our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2009, which are incorporated by reference into this prospectus supplement and the accompanying prospectus.

Neither the Securities and Exchange Commission (SEC) nor any state securities commission has approved or disapproved of the securities or passed upon the accuracy or adequacy of this prospectus supplement or the accompanying prospectus. Any representation to the contrary is a criminal offense.

	Per Share	Total
Public offering price	\$	\$
Underwriting discounts and commissions	\$	\$
Proceeds, before expenses, to us	\$	\$

We have granted the underwriters an option to purchase, within the 30-day period from the date of this prospectus supplement, up to an additional 1,800,000 common shares to cover over-allotments.

We expect to deliver the common shares to purchasers on or about May , 2009.

J.P.Morgan

May , 2009

Merrill Lynch & Co.

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About this prospectus supplement

We provide information to you about this offering in two separate documents. The accompanying prospectus provides general information about us and the common shares we may offer from time to time, some of which may not apply to this offering. This prospectus supplement describes the specific details regarding this offering and certain other matters relating to us and our financial condition. Additional information is incorporated by reference in this prospectus supplement. If information in this prospectus supplement is inconsistent with the accompanying prospectus, you should rely on this prospectus supplement.

You should rely only on information contained or incorporated by reference into this prospectus supplement, in the accompanying prospectus or in any free writing prospectus that we may provide to you. We have not, and the underwriters have not, authorized anyone to provide you with different information. You should not assume that the information contained in this prospectus supplement, the accompanying prospectus or any document incorporated by reference is accurate as of any date other than the date mentioned on the cover page of these documents. We are not, and the underwriters are not, making offers to sell the securities in any jurisdiction in which an offer or solicitation is not authorized or in which the person making such offer or solicitation is not qualified to do so or to anyone whom it is unlawful to make an offer or solicitation.

Before you invest in our common shares, you should read the registration statement to which this document forms a part and this document, including the documents incorporated by reference herein.

References in this prospectus supplement to the terms we, us, our, the Company or Cliffs or other similar terms mean Cliffs Natural Resources Inc. and its consolidated subsidiaries, unless we state otherwise or the context indicates otherwise. As used in this prospectus supplement, the term ton means a long ton (equal to 2,240 pounds) when referring to our North American Iron Ore business segment, the term ton means a short ton (equal to 2,000 pounds) when referring to our North American Coal business segment and the term tonne means a metric ton (equal to 1,000 kilograms or 2,205 pounds).

Where you can find more information

We are subject to the informational reporting requirements of the Securities Exchange Act of 1934, as amended (Exchange Act). We file reports, proxy statements and other information with the SEC. Our SEC filings are available over the Internet at the SEC's web site at <http://www.sec.gov>. You may read and copy any reports, statements and other information filed by us at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call 1-800-SEC-0330 for further information on the Public Reference Room. You may also inspect our SEC reports and other information at the New York Stock Exchange, 20 Broad Street, New York, New York 10005, or at our web site at <http://www.cliffsnaturalresources.com>. We do not intend for information contained in our web site to be part of this prospectus supplement or the accompanying prospectus, other than documents that we file with the SEC that are incorporated by reference in this prospectus supplement or the accompanying prospectus.

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Information we incorporate by reference

The SEC allows us to incorporate by reference the information we file with them, which means:

incorporated documents are considered part of this prospectus supplement;

we can disclose important information to you by referring you to those documents; and

information that we file with the SEC after the date of this prospectus supplement will automatically update and supercede the information contained in this prospectus supplement and incorporated filings.

We incorporate by reference the documents listed below that we filed with the SEC under the Exchange Act:

our Annual Report on Form 10-K for the fiscal year ended December 31, 2008;

our Quarterly Report on Form 10-Q for the period ended March 31, 2009;

our Current Reports on Form 8-K filed on January 14, 2009, February 2, 2009, February 25, 2009, April 1, 2009, April 13, 2009, May 5, 2009 and May 12, 2009;

the description of our common shares contained in the Current Report on Form 8-K/A filed on May 21, 2008, including any subsequently filed amendments and reports updating such description; and

the description of the common share purchase rights under the rights agreement contained in Form 8-A filed on October 14, 2008, including any subsequently filed amendments and reports updating such description.

Our Current Report on Form 8-K filed on May 12, 2009 in connection with our adoption of Statement of Financial Accounting Standards No. 160, *Noncontrolling Interests in Consolidated Financial Statements, an amendment of ARB No. 51 (SFAS 160)*, updates Items 6, 7, 8, 9A and 15 of our Annual Report on Form 10-K for the year ended December 31, 2008.

We also incorporate by reference each of the documents that we file with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus supplement until the offering of the securities terminates. We will not, however, incorporate by reference in this prospectus supplement any documents or portions thereof that are not deemed filed with the SEC, including any information furnished pursuant to Item 2.02 or Item 7.01 of our Current Reports on Form 8-K after the date of this prospectus unless, and except to the extent, specified in such Current Reports.

We will provide you with a copy of any of these filings (other than an exhibit to these filings, unless the exhibit is specifically incorporated by reference into the filing requested) at no cost, if you submit a request to us by writing or telephoning us at the following address and telephone number:

Cliffs Natural Resources Inc.

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Investor Relations

200 Public Square

Suite 3300

Cleveland, Ohio 44114

Telephone Number: (216) 694-5700

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Disclosure regarding forward-looking statements

This prospectus supplement and the accompanying prospectus, including the documents incorporated by reference, contain statements that constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements may be identified by the use of predictive, future-tense or forward-looking terminology, such as believes, anticipates, expects, estimates, intends, may, will or similar terms. These statements speak only as of the date of the prospectus supplement, the accompanying prospectus, or the date of the document incorporated by reference, as applicable, and we undertake no ongoing obligation, other than that imposed by law, to update these statements. These statements appear in a number of places in this prospectus supplement and the accompanying prospectus, including the documents incorporated by reference, and relate to, among other things, our intent, belief or current expectations of our directors or our officers with respect to: our future financial condition, results of operations or prospects; estimates of our economic iron ore and coal reserves; our business and growth strategies; and our financing plans and forecasts. You are cautioned that any such forward-looking statements are not guarantees of future performance and involve significant risks and uncertainties, and that actual results may differ materially from those contained in or implied by the forward-looking statements as a result of various factors, some of which are unknown, including, without limitation:

trends affecting our financial condition, results of operations or future prospects;

the outcome of any contractual disputes with our customers;

our actual economic iron ore and coal reserves;

the success of our business and growth strategies;

our ability to successfully identify and consummate any strategic investments;

adverse changes in currency values;

the outcome of any contractual disputes with our significant energy, material or service providers;

the success of our cost-savings efforts;

our ability to successfully implement our financing plans;

our ability to maintain appropriate relations with unions and employees;

environmental laws, regulations and court decisions affecting our business, directly and indirectly, including those relating to mine reclamation and restoration, greenhouse gas emissions and other emissions to the air and water and human exposure to

hazardous substances used, released or disposed of by us;

uncertainties associated with unanticipated geological conditions related to underground mining;

the potential existence of significant deficiencies or material weakness in our internal control over financial reporting; and

the risk factors referred to or described in the Risk factors section of this prospectus supplement.

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These factors and the other risk factors described in this prospectus supplement and the accompanying prospectus, including the documents incorporated by reference, are not necessarily all of the important factors that could cause actual results to differ materially from those expressed in any of our forward-looking statements. Other unknown or unpredictable factors also could harm our results. Consequently, there can be no assurance that the actual results or developments anticipated by us will be realized or, even if substantially realized, that they will have the expected consequences to or effects on us. Given these uncertainties, prospective investors are cautioned not to place undue reliance on such forward-looking statements.

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Summary

This summary highlights information about us and the common shares being offered by this prospectus supplement. This summary is not complete and may not contain all of the information that you should consider prior to investing in our common shares. For a more complete understanding of our company, we encourage you to read this entire document, including the information incorporated by reference in this document and the other documents to which we have referred.

Our company

Cliffs Natural Resources Inc. is an international mining and natural resources company serving the global steel industry. We are the largest producer of iron ore pellets in North America, a major supplier of direct-shipping lump and fines iron ore out of Australia and a significant producer of metallurgical coal. Each of these is a critical raw material for the production of steel in blast furnaces. Our company is organized according to product category and geographic location: North American Iron Ore, North American Coal, Asia Pacific Iron Ore, Asia Pacific Coal and Latin American Iron Ore.

The North American business unit is comprised of six iron ore mines owned or managed in Michigan, Minnesota and Eastern Canada, and two coking coal mining complexes located in West Virginia and Alabama.

The Asia Pacific business unit is comprised of two iron ore mining complexes in Western Australia, serving the Asian iron ore markets with direct-shipping fines and lump ore, and a 45% economic interest in Sonoma, a coking and thermal coal mine located in Queensland, Australia. In Latin America, we have a 30% interest in Amapá, a Brazilian iron ore project.

The following map shows our locations:

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North American Iron Ore

We are the largest producer of iron ore pellets in North America. Our six owned or managed iron ore mines in North America have a rated capacity of 38.1 million tons of iron ore pellet production annually, representing approximately 46% of total North American pellet production capacity. Based on the percentage ownership of the mines we operate, our share of the North American rated pellet production capacity is approximately 30%, or 25.5 million tons of capacity annually.

Our North American Iron Ore revenues are primarily derived from sales of iron ore pellets to the North American integrated steel industry, consisting of four major customers: ArcelorMittal, Algoma (a subsidiary of Essar Steel Holdings), Severstal and U.S. Steel Canada Inc. Our supply agreements are typically multi-year contracts, many of which include minimum purchase obligations or take-or-pay provisions and have an average duration of six years. In many cases, we are the sole supplier of iron ore pellets to the customer.

Each of our North American Iron Ore mines is located near the Great Lakes or, in the case of Wabush, the plant is located near the St. Lawrence Seaway, which is connected to the Great Lakes. The majority of our iron ore pellets are transported via railroads to loading ports for shipment via vessel to steelmakers in the U.S. or Canada.

For the year ended December 31, 2008, we produced a total of 35.2 million tons of iron ore pellets, including 22.9 million tons for our account and 12.3 million tons on behalf of joint venture partners, that in the case of ArcelorMittal and U.S. Steel Canada Inc. are also our customers.

At the end of 2008, our North American Iron Ore mines had proven and probable mineral reserves totaling approximately 950 million tons.

We expect to maintain our leadership position in North American iron ore through continued capital investments and by increasing the productivity and efficiency of our operations. We have been a leader in iron ore mining technology for more than 160 years. We pioneered early open-pit and underground mining methods. From the first application of electrical power in Michigan's underground mines to the use of today's sophisticated computer networks and global positioning satellite systems, we have been a leader in the application of new technology to the centuries-old business of mineral extraction.

We will continue to leverage our strong technical competencies in the mining, processing and concentrating of lower-grade ores into high quality products that are critical inputs depended on by North American integrated steel producers.

North American Coal

We are a leading supplier of metallurgical coal in North America. We own and operate two North American coal mining complexes located in West Virginia and Alabama. Each mine produces high-quality, low-volatility metallurgical coal, which is used to make coke, a key component in the steelmaking process. Metallurgical coal generally sells at a premium over the more prevalent and mined, steam coal, which is generally used to generate electricity. Metallurgical coal receives this premium because of its coking characteristics, which include

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expansion and contraction when heated, and volatility, which refers to the loss in mass when coal is heated in the absence of air. Coals with lower volatility produce more efficient coke for steelmaking and are more highly valued than coals with a higher volatility, all else equal. Cliffs currently has over 240 million tons of high-quality, low-volatility in-place proven and probable reserves. For the year ended December 31, 2008, we sold a total of 3.2 million tons, compared with 1.2 million tons for the five months ended December 31, 2007. Each of our North American coal mines are positioned near rail or barge lines providing access to international shipping ports, which allows for export of our coal production. Exports and domestic sales represented 56% and 44%, respectively, of our North American Coal sales in 2008.

Asia Pacific Iron Ore

Our Asia Pacific Iron Ore operations are located in Western Australia and include our 100% owned Koolyanobbing complex and our 50% equity interest in Cockatoo Island. We serve the Asian iron ore markets with direct-shipping fines and lump ore. Production in 2008 (including our 0.4 million tonne share of Cockatoo Island) was 7.7 million tonnes, compared with 8.4 million tonnes in 2007.

We have over 90 million tonnes of proven and probable reserves in our Asia Pacific Iron Ore business. In recent years, through a near-mine drilling program our reserve base has remained relatively constant, despite annual production of approximately eight million tonnes of iron ore.

We have five-year term supply agreements with steel producers in China and Japan that account for approximately 74% and 26%, respectively, of sales. Sales volume under the agreements is partially dependent on customer requirements. Each agreement is priced based on benchmark pricing established for Australian producers. During 2008, 2007 and 2006, we sold 7.8 million, 8.1 million and 7.4 million tonnes of iron ore, respectively, from our Western Australia mines. Sales in 2008 were to 16 Chinese and three Japanese customers.

Our strategic transformation

In recent years, we have undergone a strategic transformation from our historic business model as predominantly a manager of iron ore mines for the integrated steel industry in North America to an international mining and natural resources company. Today, we are focused on growing and diversifying our business through strategic investments and acquisitions in politically stable regions around the world serving high growth markets. Our investments in Australia and Latin America, as well as acquisitions in minerals outside of iron ore, such as metallurgical coal, illustrate the successful execution of this strategy.

In fiscal year 2003, we generated revenues of \$825 million almost entirely from sales of iron ore in North America. For fiscal year 2008, our revenues totaled \$3.6 billion, with over one-third of our revenue generated from new regions or new minerals. Over the past five years, we have generated approximately \$2 billion in net cash from operating activities, enabling us to finance most of our growth internally and maintain what we believe is a conservative capital structure. We believe we remain well positioned to continue the execution of our strategy.

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A summary of our significant initiatives since 2005 follows:

April 2005 We completed the acquisition of an 80.4% interest in Portman, then Australia's third-largest iron ore producer. The acquisition increased our customer base in China and Japan and established our presence in the Australian mining industry. Through a series of actions in 2008, we acquired the remaining interest in Portman that we did not previously own. Portman subsequently adopted the brand Cliffs Natural Resources and now comprises our Asia Pacific Iron Ore business segment.

March 2007 We acquired a 30% minority interest in Amapá, an iron ore project in Brazil consisting of a mineral deposit, 192-kilometer railway and an existing port facility. Our 70% majority partner and operator of the mine is Anglo-American plc. The project commenced construction in 2007 and has a measured/indicated resource base anticipated to be at least 70 million tonnes. In 2008, the project continued ramping toward design capacity and produced 1.2 million tonnes of iron ore product.

April 2007 We completed the acquisition of a 45% stake in Sonoma in Queensland, Australia. The project commenced operations in January 2008, with expected production of hard coking and thermal coal of between three to four million tonnes annually in 2010 and beyond. Sonoma has economically recoverable reserves of 43 million tonnes.

June 2007 We entered into an alliance whereby Kobe Steel agreed to license its patented ITmk[®] iron-making technology to us. The alliance, which has a 10-year term, provides us with the technology to convert our low-grade iron ore reserves to high-purity iron nuggets that can be used in an electric arc furnace, a market in which we do not currently compete.

July 2007 We completed the acquisition of PinnOak, a privately-owned U.S. mining company with two high-quality, low-volatile metallurgical coal mining complexes. The acquisition furthered our growth strategy and expanded our diversification of products for the integrated steel industry.

November 2007 We acquired a 70% controlling interest in Renewafuel. Founded in 2005, Renewafuel produces high-quality, dense fuel cubes made from renewable and consistently available components such as corn stalks, switch grass, grains, soybean and oat hulls, wood, and wood byproducts.

July 2008 We acquired the remaining 30% interest in United Taconite. United Taconite is an iron ore mine located on Minnesota's Mesabi Iron Range and includes concentrator and pelletizing facilities with annual production capacity of 5.4 million tons of iron ore pellets.

Potential drivers for additional profit and free cash flow growth

Positioned to benefit from improvement in steel demand

We are poised to benefit from our position as the largest supplier of iron ore to the North American steel industry as well as from our recently solidified position in Western Australia, selling into higher growth Asian steel markets.

In response to the current economic environment, according to the American Iron & Steel Institute, North American capacity utilization has fallen from approximately 90% in May 2008 to

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approximately 42% in May 2009. As of May 2, 2009, year-to-date North American steel output has declined approximately 53% from 37.6 million tons to 17.7 million tons. Cliffs owned and managed mines account for approximately 46% of North American iron ore output capacity and we expect to benefit from an increase in demand for steel production in North America.

Chinese steel consumption growth has slowed in conjunction with the current global economic slowdown, but is expected to resume in line with general economic growth and development in China.

Focus on cost cutting and investment discipline

We have long established six-sigma and business improvement programs through which we focus on maximizing throughput while addressing our costs. This allowed us to take timely and effective action at the onset of the current global macroeconomic recession in the fall of 2008. In October 2008, we began a series of actions in our North American Iron Ore and North American Coal businesses to balance current production with current demand. These actions are intended to reduce expense and unnecessary use of cash to build inventories, while still maintaining Cliffs' ability to quickly resume production in the event of an improvement in the current economic environment.

We also continue to scrutinize capital spending in the current environment and recently reduced our 2009 expected capital expenditures budget by \$70 million to \$130 million from a previous expectation of \$200 million.

In addition, our focus on cost control and ongoing cash conservation has resulted in estimated 2009 selling, general and administrative expenses of \$140 million, which represents a decline of nearly 30% from \$189 million in 2008.

Recent developments

First quarter 2009 results

On April 29, 2009, we reported first-quarter results for the period ended March 31, 2009. Consolidated revenues in the seasonally slow first quarter were \$464.8 million, down 6% from \$494.4 million in the same quarter last year. The decrease was driven by lower year-over-year sales in Cliffs' North American Iron Ore and North American Coal segments, partially offset by higher sales in Asia Pacific Iron Ore and a \$53.3 million revenue contribution from Cliffs' economic interest in Sonoma.

Operating income for the first quarter was \$11.4 million, versus \$42.6 million in the same quarter last year. Operating income was lower year over year due to reduced sales volumes and pricing in North American Iron Ore and North American Coal. Margins also declined as a result of idle costs and the impact of lower production levels. Partially offsetting these factors was a nearly 30% decrease in selling, general and administrative expenses to \$31.8 million from \$44.6 million in the first quarter last year.

First-quarter 2009 net loss attributable to Cliffs was \$7.4 million, or \$0.07 per diluted share, down from net income of \$16.7 million, or \$0.16 per diluted share, in the first quarter of 2008.

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The net loss for the 2009 quarter reflected lower leverage over fixed costs in our North American business segments and a \$9.1 million equity loss related to our investment in Amapá.

Dividend reduction and board, executive and salaried employee compensation reductions

On May 12, 2009, as part of proactive initiatives designed to enhance financial flexibility, our board of directors elected to enact a 55% reduction in our quarterly common share dividend to \$0.04 from \$0.0875. The action is expected to result in an annual cash savings of approximately \$22 million. In addition, Cliffs also indicated that its board of directors and senior executive team have made the decision to make the following reductions to compensation, each effective July 1, 2009:

Cliffs' board of directors fee compensation and Chief Executive Officer, Joseph Carrabba's base compensation will both be reduced by 10%.

All executives at the Senior Vice President level or higher will have their base compensation reduced by 7%.

Other salaried employees will have their compensation reduced by 3% to 5%, depending on position.

In addition, we will suspend all 401(k) company contributions for salaried employees. The above changes are expected to result in savings of approximately \$15 million in 2009.

Outlook

Our priority in 2009 remains the generation and preservation of cash in order to maintain the highest degree of financial and operating flexibility. As a result, the management team continues to take action to bring production levels at each of our businesses in line with current demand.

Negotiations for the benchmark settlements of iron ore pellets, lump and fines continue between major producers and major consumers. The soft global macroeconomic environment throughout the first quarter, including stagnant capacity utilization among steelmakers in North America, continues to negatively impact demand for steelmaking raw materials.

North American Iron Ore Outlook

Cliffs has contractual obligations for approximately 18 million tons of sales volume in 2009. These commitments, combined with eventual revenue recognition of a previously disclosed 1.2 million tons deferred in 2008, total approximately 19 million tons of anticipated sales volume for 2009. This sales volume total assumes the recognition of bill and hold sales anticipated to occur in the fourth quarter of 2009, which may be impacted by the high level of uncertainty in the current economic environment. Accordingly, we acknowledge that there may be practical implications upon Cliffs and some of our customers in stockpiling physical inventories throughout the supply chain.

With annual price settlements for iron ore in 2009 not yet concluded, we are unable to provide guidance on average revenue per ton in our North American Iron Ore business segment. We previously indicated our average 2009 revenue per ton in this segment will benefit from

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contractual base-price adjustments, lag-year adjustments and price caps and floors contained in most of our current supply agreements. Actual realized average revenue per ton will ultimately depend on sales volume mix, World Pellet Prices, producer price indices and/or steel prices (all of which are factors in our formula-based pricing in contracts for the North American Iron Ore business segment).

We are currently operating at an annualized production rate of approximately 15 million equity tons notwithstanding that we are contracted to receive payment for the sale of approximately 18 million tons. In total, all owned or managed North American Iron Ore mines are operating at an annualized rate of approximately 50% of 38.1 million tons of capacity. Equity production across our North American Iron Ore mine portfolio is approximately 58% of 25.5 million tons of capacity, compared with non-equity production of approximately 35% of 12.6 million tons of capacity.

North American Iron Ore 2009 cost per ton is expected to be \$70 to \$80. The expected increase from 2008 cost per ton is the result of reduced leverage over fixed costs resulting from lower year-over-year production and sale levels.

North American Coal Outlook

In addition to actions announced in mid-April to match production with demand, we are deferring mine development activities at both the Pinnacle Complex in West Virginia and the Oak Grove Mine in Alabama.

We expect the business segment to produce and sell approximately 2 million tons of coal for the year at average revenue of approximately \$100 per ton, which includes production earmarks to fulfill obligations for tons deferred as a result of past production disruptions. Lower expected year-over-year volume and the related reduction in leverage over fixed costs, combined with significant depreciation and amortization in the segment, are expected to result in average cost of sales per ton in 2009 of \$125 to \$135.

Asia Pacific Iron Ore Outlook

In 2009, Asia Pacific Iron Ore sales and production volumes are expected to be 8.0 million tonnes and 8.2 million tonnes, respectively. With annual price settlements for iron ore in 2009 not yet concluded, we are currently unable to provide guidance on average revenue per tonne in our Asia Pacific Iron Ore business segment. We expect Asia Pacific Iron Ore costs per tonne of approximately \$45 to \$55.

Sonoma Coal Project Outlook

We expect total sales and production volumes of approximately 3.3 million tonnes and 3.1 million tonnes, respectively for 2009, with our equity share totaling approximately 1.5 million tonnes and 1.4 million tonnes, respectively. Production estimates have been reduced from a previous estimate of 3.5 million tonnes (1.6 million tonnes for Cliffs' equity share), as a result of a change in our current mine plan. Sonoma is expected to have an approximate 60/40 mix between thermal and metallurgical coal. Per-tonne costs at Sonoma are expected to be \$75 to \$85, down

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from a previous expectation of \$85 to \$95. The decrease from previous expectations is a result of lower-than-anticipated contract mining costs and royalties.

Amapá Iron Ore Project Update

Amapá commenced construction in 2007 and is currently ramping toward design capacity. Year to date, Amapá has demonstrated significant progress measured by improving operating metrics, including plant recovery, concentrate production and safety. In the first quarter of 2009, our share of the equity loss related to the project was \$9.1 million. We had previously provided a full-year estimate of \$50 million to \$60 million in equity losses related to the project.

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The offering

Issuer	Cliffs Natural Resources Inc.
Common Shares offered by us	12,000,000 shares.
Over-allotment option	1,800,000 shares.
Common Shares to be outstanding immediately after this offering	125,725,151 shares. ¹
Use of proceeds	We estimate that the net proceeds from the sale of common shares in this offering will be approximately \$ million (or \$ million if the over-allotment option is exercised in full). We intend to use the net proceeds from this offering for general corporate purposes, which may include, among other things, funding certain capital expenditures, repayment of indebtedness or strategic transactions. See Use of proceeds.
Risk factors	See Risk factors and other information included or incorporated by reference in this prospectus supplement and the accompanying prospectus for a discussion of factors you should carefully consider.
Exchange listing	Our common shares trade on the NYSE, Euronext and the Chicago Stock Exchange under the symbol CLF.

¹ Based on 113,725,151 common shares outstanding as of April 27, 2009 and assumes no exercise of the underwriters over-allotment option. Excludes any common shares issuable under our equity compensation plans.

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The table below sets forth a summary of our financial and other statistical data for the periods presented. We derived the financial data for the years ended December 31, 2006, 2007 and 2008 from our audited financial statements incorporated by reference into this prospectus supplement. The financial data for the three months ended March 31, 2008 and 2009 are derived from our unaudited financial statements incorporated by reference into this prospectus supplement. The interim unaudited financial data have been prepared on the same basis as the annual financial and other statistical data and include, in the opinion of management, all adjustments, consisting of normal and recurring adjustments, necessary to present fairly the data for such periods and may not necessarily be indicative of full year results. Prospective investors should read the summary of financial and other statistical data in conjunction with our consolidated financial statements, the related notes and other financial information incorporated by reference into this prospectus supplement.

	Year Ended December 31,			Three Months Ended March 31,	
	2006	2007(1)	2008(2)	2008	2009
Financial data (in millions, except per share amounts)					
Revenue from product sales and services	\$ 1,921.7	\$ 2,275.2	\$ 3,609.1	\$ 494.4	\$ 464.8
Cost of goods sold and operating expenses	(1,507.7)	(1,813.2)	(2,449.4)	(412.0)	(422.4)
Other operating expense	(48.3)	(80.4)	(220.8)	(39.8)	(31.0)
Operating income	365.7	381.6	938.9	42.6	11.4
Income (loss) from continuing operations	296.9	285.4	537.0	19.8	(7.6)
Income (loss) from discontinued operations	0.3	0.2			
Net income (loss)	297.2	285.6	537.0	19.8	(7.6)
Less: Net income (loss) attributable to noncontrolling interest	17.1	15.6	21.2	3.1	(0.2)
Net income (loss) attributable to Cliffs	280.1	270.0	515.8	16.7	(7.4)
Preferred stock dividends	(5.6)	(5.2)	(1.1)	(0.9)	
Income (loss) attributable to Cliffs common shareholders	274.5	264.8	514.7	15.8	(7.4)
Earnings (loss) per common share attributable to Cliffs shareholders basic(3)(4)	3.26	3.19	5.07	0.18	(0.07)
Earnings (loss) per common share attributable to Cliffs shareholders diluted(3)(4)	2.60	2.57	4.76	0.16	(0.07)
Total assets	1,939.7	3,075.8	4,111.1	3,301.0	4,025.8
Long-term obligations	47.2	490.9	580.2	668.0	618.8
Net cash from (used by) operating activities	428.5	288.9	853.2	(120.0)	(44.8)
Redeemable cumulative convertible perpetual preferred stock	172.3	134.7	0.2	110.7	
Distributions to preferred shareholders cash dividends	5.6	5.5	1.1	1.1	
Distributions to common shareholders cash dividends					
Per share(3)(4)	0.24	0.25	0.35	0.09	0.09
Total	20.2	20.9	36.1	7.9	9.9
Repurchases of common shares	121.5	2.2			
Iron ore and coal production and sales statistics					
(tons in millions North America; tonnes in millions Asia-Pacific)					
Production tonnage North American iron ore	33.6	34.6	35.2	8.3	5.8
North American coal		1.1	3.5	1.0	0.4
Asia-Pacific iron ore	7.7	8.4	7.7	1.9	1.7
Production tonnage North American iron ore (Cliffs share)	20.8	21.8	22.9	5.2	3.9

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Sales tonnage	North American iron ore	20.4	22.3	22.7	2.7	2.0
	North American coal		1.2	3.2	1.0	0.5
	Asia-Pacific iron ore	7.4	8.1	7.8	2.1	2.2
Common shares outstanding (millions)(3)(4)						
	Average for year	84.1	83.0	101.5	89.9	113.2
	At year-end	81.8	87.2	113.5	90.5	113.7

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- (1) On July 31, 2007, we completed the acquisition of Cliffs North American Coal LLC (formerly PinnOak), a producer of high-quality, low-volatile metallurgical coal. Results for 2007 include PinnOak's results since the acquisition.

- (2) On April 19, 2005, we completed the acquisition of 80.4% of Portman, an iron ore mining company in Australia. On May 21, 2008, Portman authorized a tender offer to repurchase shares, and as a result, our ownership interest in Portman increased from 80.4% to 85.2% on June 24, 2008. On September 10, 2008, we announced an off-market takeover offer to acquire the remaining shares in Portman, which closed on November 3, 2008. We subsequently proceeded with a compulsory acquisition of the remaining shares and had full ownership of Portman as of December 31, 2008. Results for 2008 reflect the increase in our ownership of Portman since the date of each step acquisition. Effective July 1, 2008, we acquired the remaining 30% interest in United Taconite. Upon consummation of the purchase, our ownership interest in United Taconite increased from 70% to 100%. Results for 2008 reflect the increase in our ownership of United Taconite since the date of the step acquisition.

- (3) On March 11, 2008, our board of directors declared a two-for-one stock split of our common shares. The record date for the stock split was May 1, 2008 with a distribution date of May 15, 2008. Accordingly, all common shares and per share amounts for all periods presented have been adjusted retroactively to reflect the stock split.

- (4) On May 9, 2006, our board of directors approved a two-for-one stock split of our common shares. The record date for the stock split was June 15, 2006 with a distribution date of June 30, 2006. Accordingly, all common shares and per share amounts for all periods presented have been adjusted retroactively to reflect the stock split.

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Risk factors

Investing in our common shares involves risk. Prior to making a decision about investing in our common shares, you should carefully consider the following risk factors, as well as the risk factors discussed under the heading Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2008 and in our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2009, which are incorporated herein by reference. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our operations. If any of these risks actually occurs, our business, results of operations and financial condition could suffer. In that case, the trading price of our common shares could decline, and you could lose part of your investment.

The current global economic crisis has resulted in increasing downward pressure on prices for iron ore and metallurgical coal.

The current global economic crisis has resulted in a great deal of pressure from customers, particularly in China, for a roll back of the 2008 price increases for seaborne iron ore and metallurgical coal. The 2008 record price increase was driven by high demand for iron ore and coking coal, historically high levels of global steel production, and tight supply conditions for iron ore and coking coal due to production and logistics constraints. With the current global economic crisis, none of these conditions existed in early 2009; and the market now is characterized by a collapse in steel demand and limited global demand for iron ore and coking coal. Reduced demand for iron ore and coking coal will likely result in decreased demand for our products and decreasing prices, resulting in lower revenue levels in 2009, and decreasing margins as a result of decreased production, adversely affecting our results of operations, financial condition and liquidity.

Negative economic conditions may adversely impact the ability of our customers to meet their obligations to us on a timely basis or at all.

Although we have contractual commitments for sales in our North American Iron Ore business for 2009 and beyond, the recent decline in the economy, as well as any further decline, may adversely impact the ability of our customers to meet their obligations to us on a timely basis or at all. In light of the current economic environment, we are in continual discussions with our customers regarding our supply agreements. These discussions may result in the modification of our supply agreements. Any modifications to our supply agreements could adversely impact our sales, margins, profitability and cash flows. These discussions or actions by our customers could also result in contractual disputes, which could ultimately require arbitration or litigation, either of which could be time consuming and costly. Any such disputes could adversely impact our sales, margins, profitability and cash flows.

Although we currently have adequate liquidity, if the current global economic crisis extends beyond 2009, we may have difficulty maintaining adequate liquidity.

Based on our current borrowing capacity and the actions we have taken in response to the global economic crisis to conserve cash, we have adequate liquidity and expect to fund our business obligations from available cash, current operations and borrowing under our current credit facilities. However, if the current economic crisis deepens into a long-term downturn, it is

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possible that we will face liquidity issues that will negatively impact our borrowing capacity or cash flow and, in turn, our ability to remain in compliance with certain financial covenants contained in the agreements governing our debt instruments. In such circumstances, we may be forced to access higher cost forms of capital, thereby reducing the availability of cash to fund working capital, capital expenditures, dividends and other general corporate purposes.

Coal mining is complex due to geological characteristics of the region.

The geological characteristics of coal reserves, such as depth of overburden and coal seam thickness, make them complex and costly to mine. As mines become depleted, replacement reserves may not be available when required or, if available, may not be capable of being mined at costs comparable to those characteristic of the depleting mines, and in turn, decisions to defer mine development activities may adversely impact our ability to substantially increase future coal production. These factors could materially adversely affect our mining operations and cost structures, which could adversely affect our sales, profitability and cash flows.

Sales, or the availability for sale, of substantial amounts of our common shares, could adversely affect the value of our common shares.

No predictions can be made as to the effect, if any, that future sales of our common shares, or the availability of common shares for future sales, will have on the market price of our common shares. Sales of substantial amounts of our common shares in the public market and the availability of shares for future sale could adversely affect the prevailing market price of our common shares. This in turn would adversely affect the fair value of the common shares and could impair our future ability to raise capital through an offering of our equity securities.

Our common share price may be volatile.

The price at which our common shares trade may be volatile and may fluctuate due to factors such as:

our historical and anticipated quarterly and annual operating results;

variations between our actual results and analyst and investor expectations or changes in financial estimates and recommendations by securities analysts;

investor perceptions of our company and comparable public companies; and

the cyclical nature of the global integrated steel industry and trends in general market conditions. Fluctuations may be unrelated to or disproportionate to company performance. These fluctuations may result in a material decline in the trading price of our common shares.

Anti-takeover provisions could make it more difficult for a third party to acquire us.

Our rights plan may make it more difficult for a third party to acquire us in a transaction not approved by our board of directors. Additionally, Ohio corporate law provides that certain notice and informational filings and special shareholder meeting and voting procedures must be followed prior to consummation of a proposed control share acquisition as defined in the Ohio Revised Code. Assuming compliance with the prescribed notice and information filings, a

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proposed control share acquisition may be made only if, at a special meeting of shareholders, the acquisition is approved by both a majority of our voting power represented at the meeting and a majority of the voting power remaining after excluding the combined voting of the interested shares, as defined in the Ohio Revised Code. Our rights plans and the application of these provisions of the Ohio Revised Code could have the effect of delaying or preventing a change of control.

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Use of proceeds

We estimate that the net proceeds from the sale our common shares in this offering will be approximately \$ million (or \$ million if the over-allotment option is exercised in full), after deducting estimated underwriting discounts and our expenses related to this offering. We intend to use the net proceeds from this offering for general corporate purposes, which may include, among other things, funding certain capital expenditures, repayment of indebtedness or strategic transactions.

Pending final use, we may invest the net proceeds from this offering in short-term, investment grade, interest-bearing securities.

Certain of the underwriters and/or their affiliates are lenders under our credit facility and may receive a portion of the net proceeds from this offering if such proceeds are applied to repay such indebtedness. Consequently, this offering will be made pursuant to the applicable provisions of FINRA Rule 5110(h) and in compliance with the requirements of NASD Rule 2720. See Underwriting.

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Capitalization

The following table sets forth our unaudited cash and cash equivalents and consolidated capitalization as of March 31, 2009:

on a historical basis; and

on a pro forma basis to give effect to the offering of common shares and the application of the estimated net proceeds from the sale of these shares as described under Use of proceeds.

You should read this table in conjunction with our consolidated financial statements, the related notes and other financial information contained in our Current Report on Form 8-K filed on May 12, 2009 in connection with our adoption of SFAS 160 and our Quarterly Report on Form 10-Q for the quarter ended March 31, 2009, which are incorporated by reference into this prospectus supplement and the accompanying prospectus.

As of March 31, 2009

(dollars in millions)	Actual	Pro forma as adjusted
Cash and cash equivalents	\$97.3	\$
Capitalization:		
Short-term debt	10.1	
Long-term debt	618.8	
Redeemable convertible preferred stock		
Common shareholders' equity	\$1,737.6	\$
Total capitalization	\$2,366.5	\$

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Price range of common shares and dividend policy

Our common shares are listed on the NYSE, Euronext and the Chicago Stock Exchange under the symbol CLF. The following table sets forth, for the period indicated, the high and low sales prices per common share as reported on the NYSE and the dividends declared per common share.

	Price range of common shares		Cash dividend per common share
	High	Low	
2007			
First Quarter	\$ 32.42	\$ 23.00	\$ 0.0625
Second Quarter	\$ 46.03	\$ 32.10	\$ 0.0625
Third Quarter	\$ 45.00	\$ 28.20	\$ 0.0625
Fourth Quarter	\$ 53.15	\$ 36.75	\$ 0.0625
2008			
First Quarter	\$ 63.89	\$ 38.63	\$ 0.0875
Second Quarter ¹	\$ 121.95	\$ 57.32	\$ 0.0875
Third Quarter	\$ 118.10	\$ 42.16	\$ 0.0875
Fourth Quarter	\$ 53.30	\$ 13.73	\$ 0.0875
2009			
First Quarter	\$ 32.48	\$ 11.80	\$ 0.0875
Second Quarter (through May 11, 2009) ²	\$ 32.14	\$ 17.18	

(1) On March 11, 2008, our board of directors declared a two-for-one stock split of our common shares. The record date for the stock split was May 1, 2008 with a distribution date of May 15, 2008. Accordingly, all common shares and per share amounts for all periods presented have been adjusted retroactively to reflect the stock split.

(2) On May 12, 2009, our board of directors declared a dividend of \$0.04 per share payable on June 1, 2009 to holders of record as of the close of business on May 22, 2009.

The last reported sale price of our common shares on the NYSE on May 11, 2009 was \$28.78 per share. As of March 31, 2009, there were 113,721,069 of our common shares outstanding held by approximately 1,508 shareholders of record.

Holders of our common shares are entitled to receive such dividends as our board of directors from time to time may declare out of funds legally available therefore. Our board of directors has no obligation to declare dividends under Ohio law or our amended articles of incorporation. As noted above under Summary Recent Developments, on May 12, 2009, as part of proactive initiatives designed to enhance financial flexibility, our board of directors reduced our quarterly common share dividend to \$0.04 from \$0.0875. Any determination by our board of directors to pay dividends in the future will be based on various factors, including our financial condition, results of operations and current and anticipated cash needs.

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Material U.S. federal income tax consequences to non-U.S. holders

General

The following is a general discussion of the material U.S. federal income tax consequences of the acquisition, ownership, and disposition of our common shares by a non-U.S. holder, as defined below, that acquires our common shares pursuant to this offering. This discussion assumes that a non-U.S. holder will hold our common shares issued pursuant to this offering as a capital asset within the meaning of Section 1221 of the Internal Revenue Code of 1986, as amended, (the Code). This discussion does not address all aspects of U.S. federal income taxation that may be relevant to a particular investor in light of the investor's individual circumstances. In addition, this discussion does not address (a) U.S. federal non-income tax laws, such as gift or estate tax laws, (b) state, local or non-U.S. tax consequences, (c) the special tax rules that may apply to certain investors, including, without limitation, banks, insurance companies, financial institutions, controlled foreign corporations, passive foreign investment companies, broker-dealers, taxpayers who have elected mark-to-market accounting, tax-exempt entities, regulated investment companies, real estate investment trusts, taxpayers whose functional currency is not the U.S. dollar, or U.S. expatriates or former long-term residents of the United States, (d) the special tax rules that may apply to an investor that acquires, holds, or disposes of our common shares as part of a straddle, hedge, constructive sale, conversion or other integrated transaction, or (e) the impact, if any, of the alternative minimum tax. Additionally, the discussion does not consider the tax treatment of partnerships or other pass-through entities or persons who hold our common shares through such entities.

This discussion is based on current provisions of the Code, applicable U.S. Treasury regulations promulgated thereunder, judicial opinions, and published rulings of the Internal Revenue Service, the IRS, all as in effect on the date of this prospectus and all of which are subject to differing interpretations or change, possibly with retroactive effect. We have not sought, and will not seek, any ruling from the IRS or any opinion of counsel with respect to the tax consequences discussed herein, and there can be no assurance that the IRS will not take a position contrary to the tax consequences discussed below or that any position taken by the IRS would not be sustained.

As used in this discussion, the term non-U.S. holder means a person or entity that is, for U.S. federal income tax purposes, (i) a non-resident alien individual, other than certain former citizens and residents of the United States subject to tax as expatriates; (ii) a foreign corporation; or (iii) a foreign estate or trust. A non-U.S. holder does not include an individual who is present in the United States for 183 days or more in the taxable year of disposition and is not otherwise a resident of the United States for U.S. federal income tax purposes. Such an individual is urged to consult his or her own tax advisor regarding the U.S. federal income tax consequences of the sale, exchange or other disposition of common stock.

The tax treatment of a partnership and each partner thereof will generally depend upon the status and activities of the partnership and such partner. A holder that is treated as a partnership for U.S. federal income tax purposes should consult its own tax advisor regarding the U.S. federal income tax consequences applicable to it and its partners of the purchase, ownership and disposition of our common shares.

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THIS DISCUSSION IS ONLY A SUMMARY OF MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES OF THE ACQUISITION, OWNERSHIP AND DISPOSITION OF OUR COMMON SHARES AND IS FOR GENERAL INFORMATION ONLY. IT IS NOT TAX ADVICE. EACH PROSPECTIVE INVESTOR SHOULD CONSULT ITS OWN TAX ADVISOR WITH RESPECT TO THE PARTICULAR TAX CONSEQUENCES OF THE ACQUISITION, OWNERSHIP AND DISPOSITION OF OUR COMMON SHARES, INCLUDING THE APPLICABILITY AND EFFECT OF ANY STATE, LOCAL, AND NON-U.S. TAX LAWS, AS WELL AS U.S. FEDERAL ESTATE AND GIFT TAX LAWS, AND ANY APPLICABLE TAX TREATY.

Tax consequences of an investment in common shares

Distributions on common shares

If we pay cash or property distributions to holders of our common shares, such distributions generally will constitute dividends for United States federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Distributions in excess of current and accumulated earnings and profits will constitute a return of capital that will be applied against and reduce (but not below zero) the holder's adjusted tax basis in our common shares. Any remaining excess will be treated as gain from the sale or exchange of the common shares and will be treated as described under "Gain or Loss on Sale, Exchange or Other Taxable Disposition of Common Shares" below.

Dividends paid to a non-U.S. holder that are not effectively connected with the non-U.S. holder's conduct of a trade or business in the United States generally will be subject to withholding of U.S. federal income tax at the rate of 30% or such lower rate as may be specified by an applicable income tax treaty. A non-U.S. holder that wishes to claim the benefit of an applicable tax treaty withholding rate generally will be required to (a) complete IRS Form W-8BEN (or other applicable form) and certify under penalties of perjury that such holder is not a U.S. person and is eligible for the benefits of the applicable tax treaty or (b) if our common shares are held through certain foreign intermediaries, satisfy the relevant certification requirements of applicable U.S. Treasury regulations. These forms may need to be periodically updated.

A non-U.S. holder eligible for a reduced rate of withholding of U.S. federal income tax pursuant to an income tax treaty may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. Non-U.S. holders should consult their own tax advisors regarding their entitlement to benefits under an applicable income tax treaty and the manner of claiming the benefits of such treaty (including, without limitation, the need to obtain a U.S. taxpayer identification number).

Dividends that are effectively connected with a non-U.S. holder's conduct of a trade or business in the United States, and, if required by an applicable income tax treaty, attributable to a permanent establishment or fixed base maintained by the non-U.S. holder in the United States, are subject to U.S. federal income tax on a net income basis at the U.S. federal income tax rates generally applicable to a U.S. holder and are not subject to withholding of U.S. federal income tax, provided that the non-U.S. holder establishes an exemption from such withholding by complying with certain certification and disclosure requirements. Any such effectively connected dividends (and, if required, dividends attributable to a U.S. permanent establishment or fixed base) received by a non-U.S. holder that is treated as a foreign corporation for U.S. federal income tax purposes may be subject to an additional branch profits tax at a 30% rate, or such lower rate as may be specified by an applicable income tax treaty.

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Gain or loss on sale, exchange or other taxable disposition of common shares

Any gain recognized by a non-U.S. holder on a sale or other taxable disposition of our common shares generally will not be subject to U.S. federal income tax unless: (i) the gain is effectively connected with a trade or business of the non-U.S. holder in the United States (and, if required by an applicable income tax treaty, is attributable to a U.S. permanent establishment or fixed base of the non-U.S. holder), (ii) the non-U.S. holder is an individual who is present in the United States for 183 days or more in the taxable year of that disposition, and certain other conditions are met, or (iii) we are or have been a United States real property holding corporation, or USRPHC, for U.S. federal income tax purposes at any time during the shorter of the five-year period ending on the date of disposition or the period that the non-U.S. holder held the common shares, and, in the case where the common shares are regularly traded on an established securities market, the non-U.S. holder holds or held (at any time during the shorter of the five-year period ending on the date of disposition or the non-U.S. holder's holding period) more than 5% of our common shares. A corporation generally is a USRPHC if the fair market value of its United States real property interests equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests plus its other assets used or held for use in a trade or business. Based upon a review of our financial statements, we are not certain that we are not a USRPHC, and accordingly gain on a sale or other taxable disposition of our common shares might be subject to U.S. tax. Because our common shares are regularly traded on the NYSE, we should satisfy the requirement that the common shares be regularly traded on an established securities market.

Any gain recognized by a non-U.S. holder that is described in clause (i) or (iii) of the preceding paragraph generally will be subject to tax at the U.S. federal income tax rates generally applicable to a U.S. holder. Any such gains of a corporate non-U.S. holder also may be subject to an additional branch profits tax at a 30% rate, or such lower rate as may be specified by an applicable income tax treaty. An individual non-U.S. holder that is described in clause (ii) of such paragraph generally will be subject to a flat 30% tax (or a lower applicable tax treaty rate) on the U.S. source capital gain derived from the disposition, which may be offset by U.S. source capital losses during the taxable year of the disposition.

Information reporting and backup withholding

We generally must report annually to the IRS and to each non-U.S. holder of our common shares the amount of dividends paid to such holder on our common shares and the tax, if any, withheld with respect to those dividends. Copies of the information returns reporting those dividends and withholding may also be made available to the tax authorities in the country in which the non-U.S. holder is a resident under the provisions of an applicable income tax treaty or agreement. Information reporting also is generally required with respect to the proceeds from sales and other dispositions of our common shares to or through the U.S. office (and in certain cases, the foreign office) of a broker.

Under some circumstances, U.S. Treasury regulations require backup withholding of U.S. federal income tax, currently at a rate of 28%, on reportable payments with respect to our common shares. A non-U.S. holder generally may eliminate the requirement for information reporting (other than in respect to dividends, as described above) and backup withholding by providing certification of its foreign status, under penalties of perjury, on a duly executed applicable IRS Form W-8 or by otherwise establishing an exemption.

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Back-up withholding is not an additional tax. Rather, the amount of any backup withholding will be allowed as a credit against a non-U.S. holder's U.S. federal income tax liability and may entitle such holder to a refund, provided that certain required information is timely furnished to the IRS. Non-U.S. holders are urged to consult their own tax advisors regarding the application of backup withholding and the availability of and procedure for obtaining an exemption from backup withholding in their particular circumstances.

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Underwriting

We are offering the common shares described in this prospectus supplement through a number of underwriters. J.P. Morgan Securities Inc. and Merrill Lynch, Pierce, Fenner & Smith Incorporated are acting as joint book-running managers of the offering and as representatives of the underwriters. We have entered into an underwriting agreement with the underwriters. Subject to the terms and conditions of the underwriting agreement, we have agreed to sell to the underwriters, and each underwriter has severally agreed to purchase, at the public offering price less the underwriting discounts and commissions set forth on the cover page of this prospectus supplement, the number of common shares listed next to its name in the following table:

Name	Number of shares
J.P. Morgan Securities Inc.	
Merrill Lynch, Pierce, Fenner & Smith Incorporated	
Total	12,000,000

The underwriters are committed to purchase all the common shares offered by us if they purchase any shares. The underwriting agreement also provides that if an underwriter defaults, the purchase commitments of non-defaulting underwriters may be increased or the offering may be terminated.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act of 1933.

The underwriters are offering the shares, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel, including the validity of the shares, and other conditions contained in the underwriting agreement, such as the receipt by the underwriters of officers' certificates and legal opinions. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

The underwriters propose to offer the common shares directly to the public at the public offering price set forth on the cover page of this prospectus supplement and to certain dealers at that price less a concession not in excess of \$ _____ per share. Any such dealers may resell shares to certain other brokers or dealers at a discount of up to \$ _____ per share from the public offering price. After the initial public offering of the shares, the offering price and other selling terms may be changed by the underwriters. Sales of shares made outside of the United States may be made by affiliates of the underwriters.

The underwriters have an option to buy up to 1,800,000 additional common shares from us to cover sales of shares by the underwriters which exceed the number of shares specified in the table above. The underwriters have 30 days from the date of this prospectus supplement to exercise this over-allotment option. If any shares are purchased with this over-allotment option, the underwriters will purchase shares in approximately the same proportion as shown in the table above. If any additional common shares are purchased, the underwriters will offer the additional shares on the same terms as those on which the shares are being offered.

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The underwriting fee is equal to the public offering price per common share less the amount paid by the underwriters to us per common share. The underwriting fee is \$ _____ per share. The following table shows the per share and total underwriting discounts and commissions to be paid to the underwriters assuming both no exercise and full exercise of the underwriters' option to purchase additional shares.

	Without over-allotment exercise	With full over-allotment exercise
Per Share	\$	\$
Total	\$	\$

We estimate that the total expenses of this offering, including registration, filing and listing fees, printing fees and legal and accounting expenses, but excluding the underwriting discounts and commissions, will be approximately \$500,000.

A prospectus supplement in electronic format may be made available on the web sites maintained by one or more underwriters, or selling group members, if any, participating in the offering. The underwriters may agree to allocate a number of shares to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the representatives to underwriters and selling group members that may make Internet distributions on the same basis as other allocations.

We have agreed that, we will not (i) offer, pledge, announce the intention to sell, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase or otherwise transfer or dispose of, directly or indirectly, any common shares or any securities convertible into or exercisable or exchangeable for our common shares, or (ii) enter into any swap or other arrangement that transfers all or a portion of the economic consequences associated with the ownership of any common shares (regardless of whether any of these transactions are to be settled by the delivery of common shares, or such other securities, in cash or otherwise), in each case without the prior written consent of J.P. Morgan Securities Inc. and Merrill Lynch, Pierce, Fenner & Smith Incorporated for a period of 90 days after the date of this prospectus supplement, other than (1) common shares to be sold pursuant to this offering, (2) common shares issued upon the exercise or settlement of any equity awards under our equity compensation plans existing on the date of the agreement, (3) the grant of options or other equity awards under our equity compensation plans existing on the date of the agreement and (4) common shares to be sold to our deferred compensation plans and savings plans existing on the date of the agreement. Notwithstanding the foregoing, if (1) during the last 17 days of the 90-day restricted period, we issue an earnings release or material news or a material event relating to our company occurs; or (2) prior to the expiration of the 90-day restricted period, we announce that we will release earnings results during the 16-day period beginning on the last day of the 90-day period, the restrictions described above shall continue to apply until the expiration of the 18-day period beginning on the issuance of the earnings release or the occurrence of the material news or material event, except that such extension will not apply if, within three business days prior to the 15th calendar day before the last day of the 90-day period, we deliver a certificate, signed by our Chief Financial Officer or Chief Executive Officer, certifying on our behalf that the common shares are actively traded securities (as defined in Regulation M) and each of the underwriters has Rule 139 under the Rules and Regulations of the Securities Act of 1933, available to them for publications or distributions of research reports about us.

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Our directors and executive officers have entered into lock-up agreements with the underwriters pursuant to which each of these persons, with limited exceptions, for a period of 90 days after the date of this prospectus supplement, may not, without the prior written consent of J.P. Morgan Securities Inc. and Merrill Lynch, Pierce, Fenner & Smith Incorporated, (1) offer, pledge, announce the intention to sell, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, any of our common shares or any securities convertible into or exercisable or exchangeable for common shares (including, without limitation, common shares which may be deemed to be beneficially owned by such directors and officers in accordance with the rules and regulations of the SEC and securities which may be issued upon exercise of a stock option or warrant) or (2) enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of the common shares, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of common shares or such other securities, in cash or otherwise or (3) make any demand for or exercise any right with respect to the registration of any common shares or any security convertible into or exercisable or exchangeable for common shares without the prior written consent of J.P. Morgan Securities Inc. and Merrill Lynch, Pierce, Fenner & Smith Incorporated, in each case other than (A) the transfer of common shares to us to satisfy any payment or withholding obligations in connection with the exercise or settlement of any equity awards under our equity compensation plans existing on the date of the agreement; (B) the transfer of common shares by will or intestacy; (C) transfers of common shares as a bona fide gift or gifts; and (D) transfers of common shares to any trust for the direct or indirect benefit of the undersigned or the immediate family of the undersigned (immediate family shall mean any relationship by blood, marriage or adoption, not more remote than first cousin); *provided* that in the case of any transfer or distribution pursuant to clause (B), (C) or (D), each transferee shall execute and deliver to J.P. Morgan Securities Inc. and Merrill Lynch, Pierce, Fenner & Smith Incorporated a lock-up letter in the form of this paragraph; and *provided, further*, that in the case of any transfer or distribution, no filing by any party (donor, donee, transferor or transferee) under the Exchange Act, or other public announcement shall be required or shall be made voluntarily in connection with such transfer or distribution (other than a filing on a Form 5 made after the expiration of the 90-day restricted period referred to above or for transfers made pursuant to clause (A) above a filing on Form 4 made when required). Notwithstanding the foregoing, if (1) during the last 17 days of the 90-day restricted period, we issue an earnings release or material news or a material event relating to our company occurs; or (2) prior to the expiration of the 90-day restricted period, we announce that we will release earnings results during the 16-day period beginning on the last day of the 90-day period, the restrictions described above shall continue to apply until the expiration of the 18-day period beginning on the issuance of the earnings release or the occurrence of the material news or material event, except that such extension will not apply if, within three business days prior to the 15th calendar day before the last day of the 90-day period, we deliver a certificate, signed by our Chief Financial Officer or Chief Executive Officer, certifying on our behalf that the common shares are actively traded securities (as defined in Regulation M) and each of the underwriters has Rule 139 under the Rules and Regulations of the Securities Act of 1933, available to them for publications or distributions of research reports about us.

In connection with this offering, the underwriters may engage in stabilizing transactions, which involves making bids for, purchasing and selling common shares in the open market for the purpose of preventing or retarding a decline in the market price of the common shares while this

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offering is in progress. These stabilizing transactions may include making short sales of common shares, which involves the sale by the underwriters of a greater number of common shares than they are required to purchase in this offering, and purchasing common shares on the open market to cover positions created by short sales. Short sales may be covered shorts, which are short positions in an amount not greater than the underwriters' over-allotment option referred to above, or may be naked shorts, which are short positions in excess of that amount. The underwriters may close out any covered short position either by exercising their over-allotment option, in whole or in part, or by purchasing common shares in the open market. In making this determination, the underwriters will consider, among other things, the price of common shares available for purchase in the open market compared to the price at which the underwriters may purchase common shares through the over-allotment option. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the common shares in the open market that could adversely affect investors who purchase in this offering. To the extent that the underwriters create a naked short position, they will purchase common shares in the open market to cover the position.

The underwriters have advised us that, pursuant to Regulation M of the Securities Act of 1933, they may also engage in other activities that stabilize, maintain or otherwise affect the price of the common shares, including the imposition of penalty bids. This means that if the representatives of the underwriters purchase common shares in the open market in stabilizing transactions or to cover short sales, the representatives can require the underwriters that sold those common shares as part of this offering to repay the underwriting discount received by them.

These activities may have the effect of raising or maintaining the market price of the common shares or preventing or retarding a decline in the market price of the common shares, and, as a result, the price of the common shares may be higher than the price that otherwise might exist in the open market. If the underwriters commence these activities, they may discontinue them at any time. The underwriters may carry out these transactions on the NYSE, in the over-the-counter market or otherwise.

Other than in the United States, no action has been taken by us or the underwriters that would permit a public offering of the common shares offered by this prospectus supplement in any jurisdiction where action for that purpose is required. The common shares offered by this prospectus supplement may not be offered or sold, directly or indirectly, nor may this prospectus supplement or any other offering material or advertisements in connection with the offer and sale of any such common shares be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus supplement comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus supplement. This prospectus supplement does not constitute an offer to sell or a solicitation of an offer to buy any common shares offered by this prospectus supplement in any jurisdiction in which such an offer or a solicitation is unlawful.

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a Relevant Member State), from and including the date on which the Prospectus Directive is implemented in that Relevant Member State (the Relevant Implementation Date) an offer of common shares described in this prospectus supplement may not be made to the public in that Relevant Member State prior to the publication of a prospectus in relation to the common shares which has been approved by the competent authority in that

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Relevant Member State or, where appropriate, approved in another Relevant Member State and notified to the competent authority in that Relevant Member State, all in accordance with the EU Prospectus Directive, except that it may, with effect from and including the Relevant Implementation Date, make an offer of shares to the public in that Relevant Member State at any time:

to any legal entity which is authorized or regulated to operate in the financial markets or, if not so authorized or regulated, whose corporate purpose is solely to invest in securities;

to any legal entity which has two or more of the following criteria: (1) an average of at least 250 employees during the last financial year; (2) a total balance sheet of more than 43,000,000 and (3) an annual net turnover of more than 50,000,000, as shown in its last annual or consolidated accounts;

to fewer than 100 natural or legal persons per Relevant Member State (other than qualified investors as defined in the Prospectus Directive) subject to obtaining the prior consent of the book-running managers for any such offer; or

in any other circumstances which do not require the publication by us of a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an offer of common shares to the public in relation to any common share in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the common shares to be offered so as to enable an investor to decide to purchase or subscribe for the common shares, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State and the expression Prospectus Directive means Directive 2003/71/EC and includes any relevant implementing measure in each Relevant Member State.

This prospectus has not been prepared in the context of an offer of securities to the public (*offre au public*) in France within the meaning of Article L.411-1 and seq. of the French *Code Monétaire et Financier* and Articles 211-1 and seq. of the *Autorité des marchés financiers* (AMF) Regulations and has therefore not been submitted to the AMF for prior approval or otherwise.

The securities have not been offered or sold and will not be offered or sold, directly or indirectly, to the public in France except to permitted investors (Permitted Investors) consisting of persons licensed to provide the investment service of portfolio management for the account of third parties, qualified investors (*investisseurs qualifiés*) acting for their own account and/or investors belonging to a limited circle of investors (*cercle restreint d investisseurs*) acting for their own account, with qualified investors and limited circle of investors having the meaning ascribed to them in Articles L. 411-2, D. 411-1, D. 411-2, D. 411-4, D. 744-1, D. 754-1 and D. 764-1 of the French *Code Monétaire et Financier*. None of this prospectus or any other materials related to the offering or information contained therein relating to the securities has been released, issued or distributed to the public in France except to Permitted Investors; and the direct or indirect resale to the public in France of any securities acquired by any Permitted Investors may be made only as provided by Articles L. 411-1, L. 411-2, L. 412-1 and L. 621-8 to L. 621-8-3 of the French *Code Monétaire et Financier* and applicable regulations thereunder.

In relation to the United Kingdom, this document is only being distributed to and is only directed at persons in the United Kingdom that are qualified investors within the meaning of Article 2(1)(e) of the Prospectus Directive that are also (i) investment professionals falling within Article

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19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the Order) or (ii) high net worth entities, and other persons to whom it may lawfully be communicated, falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as relevant persons). The common shares are only available to, and any invitation, offer or agreement to subscribe, purchase or otherwise acquire such securities will be engaged in only with, relevant persons. Any person who is not a relevant person should not act or rely on this document or any of its contents.

This document has not been lodged with the Australian Securities & Investments Commission and is only directed to certain categories of exempt persons. Accordingly, if you receive this document in Australia:

you confirm and warrant that you are either:

a sophisticated investor because the offer meets the requirements under section 708(8)(a) or (b) of the Corporations Act 2001 (Cth) of Australia (Corporations Act);

a sophisticated investor because the offer meets the requirements under section 708(8)(d) of the Corporations Act or you have provided a certificate given by a qualified accountant no more than 6 months before the offer is made, that meets the requirements set out in section 708(8)(c)(i) or (ii) of the Corporations Act and related regulations;

a person associated with the company because you meet the descriptions set out under section 708(12) (a) or (b) of the Corporations Act; or

professional investor because you meet the requirements of section 708(11)(a) or (b) of the Corporations Act, and to the extent that you are unable to confirm or warrant that you are a sophisticated investor, person associated with the company or professional investor under the Corporations Act (as set out above) any offer made to you under this document is void and incapable of acceptance.

you warrant and agree that you will not offer any of the shares issued to you pursuant to this document for resale in Australia within 12 months of those shares being issued unless any such resale offer is exempt from the requirement to issue a disclosure document under section 708A of the Corporations Act.

Certain of the underwriters and their affiliates have provided in the past to us and our affiliates and may provide from time to time in the future certain commercial banking, financial advisory, investment banking and other services for us and such affiliates in the ordinary course of their business, for which they have received and may continue to receive customary fees and commissions. In particular, affiliates of J.P. Morgan Securities Inc. and Merrill Lynch, Pierce, Fenner & Smith Incorporated are parties to and lenders under our credit facility. Our credit facility was negotiated on an arms length basis and contains customary terms pursuant to which the lenders receive customary fees. The proceeds from this offering will be used for general corporate purposes, which may include the repayment of indebtedness, including indebtedness outstanding under our credit facility. Accordingly, because more than 10% of the net proceeds from this offering could potentially be paid to affiliates of the underwriters, this offering will be made pursuant to the applicable provisions of FINRA Rule 5110(h) and in compliance with the requirements of NASD Rule 2720. See Use of proceeds. In addition, from time to time, certain of the underwriters and their affiliates may effect transactions for their own account or the account of customers, and hold on behalf of themselves or their customers, long or short positions in our debt or equity securities or loans, and may do so in the future.

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Legal matters

Jones Day will pass upon the validity of the common shares for Cliffs. Certain legal matters relating to the offering of the common shares will be passed upon for the underwriters by Davis Polk & Wardwell.

Experts

The consolidated financial statements and the related financial statement schedule (Schedule II Valuation and Qualifying Accounts) as of December 31, 2008 and 2007, and for each of the three years in the period ended December 31, 2008, incorporated in this prospectus supplement by reference from Cliffs Natural Resources Inc.'s Current Report on Form 8-K filed on May 12, 2009, and the effectiveness of Cliffs Natural Resources Inc.'s internal control over financial reporting have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their reports (which, as to the report related to the consolidated financial statements expresses an unqualified opinion, and includes an explanatory paragraph relating to the adoption of new accounting standards), which are incorporated herein by reference. Such financial statements and financial statement schedule have been so incorporated in reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

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PROSPECTUS

Common Shares

We intend to offer from time to time our common shares. We may sell any amount of common shares in one or more offerings.

Each time we sell common shares, we will provide the specific terms of the offering in a supplement to this prospectus. You should read this prospectus and the applicable prospectus supplement carefully before you invest in our common shares.

We may sell the common shares directly or to or through underwriters or dealers, and also to other purchasers or through agents. The names of any underwriters or agents that are included in a sale of common shares to you, and any applicable commissions or discounts, will be stated in an accompanying prospectus supplement. In addition, the underwriters, if any, may over-allot a portion of the common shares.

Investing in any of our common shares involves risk. Please read carefully the section entitled Risk Factors on page 4 of this prospectus and the information included and incorporated by reference in this prospectus.

Our common shares are listed on the New York Stock Exchange (NYSE), the Professional Segment of NYSE Euronext Paris (Euronext) and the Chicago Stock Exchange under the symbol CLF. The last reported sale price of our common shares on the NYSE on May 11, 2009 was \$28.78 per share.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is May 12, 2009

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the SEC using a shelf registration process. Under this shelf process, we may from time to time sell any amount of the common shares described in this prospectus in one or more offerings.

This prospectus provides you with a general description of the common shares we may offer. Each time we sell common shares, we will provide a prospectus supplement that will contain specific information about the terms of that offering. For a more complete understanding of the offering of the common shares, you should refer to the registration statement, including its exhibits. The prospectus supplement may also add, update or change information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with additional information under the heading "Where You Can Find More Information" and "Information We Incorporate By Reference."

You should rely only on the information contained or incorporated by reference in this prospectus and in any prospectus supplement or in any free writing prospectus that we may provide you. We have not authorized anyone to provide you with different information. You should not assume that the information contained in this prospectus, any prospectus supplement, any document incorporated by reference or any free writing prospectus is accurate as of any date, other than the date mentioned on the cover page of these documents. We are not making offers to sell the common shares in any jurisdiction in which an offer or solicitation is not authorized or in which the person making such offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation.

References in this prospectus to the terms "we," "us," "our," "the Company" or "Cliffs" or other similar terms mean Cliffs Natural Resources Inc. and its consolidated subsidiaries, unless we state otherwise or the context indicates otherwise.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational reporting requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). We file reports, proxy statements and other information with the SEC. Our SEC filings are available over the Internet at the SEC's web site at <http://www.sec.gov>. You may read and copy any reports, statements and other information filed by us at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call 1-800-SEC-0330 for further information on the Public Reference Room. You may also inspect our SEC reports and other information at the New York Stock Exchange, 20 Broad Street, New York, New York 10005, or at our web site at <http://www.cliffsnaturalresources.com>. We do not intend for information contained in our web site to be part of this prospectus, other than documents that we file with the SEC that are incorporated by reference in this prospectus.

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INFORMATION WE INCORPORATE BY REFERENCE

The SEC allows us to incorporate by reference the information we file with them, which means:

incorporated documents are considered part of the prospectus;

we can disclose important information to you by referring you to those documents; and

information that we file with the SEC after the date of this prospectus will automatically update and supercede the information contained in this prospectus and incorporated filings.

We incorporate by reference the documents listed below that we filed with the SEC under the Exchange Act:

our Annual Report on Form 10-K for the year ended December 31, 2008;

our Quarterly Report on Form 10-Q for the quarter ended March 31, 2009;

our Current Reports on Form 8-K filed on January 14, 2009, February 2, 2009, February 25, 2009, April 1, 2009, April 13, 2009, May 5, 2009 and May 12, 2009;

the description of our common shares contained in the Current Report on Form 8-K/A filed on May 21, 2008, including any subsequently filed amendments and reports updating such description; and

the description of the common share purchase rights under the rights agreement contained in Form 8-A filed on October 14, 2008, including any subsequently filed amendments and reports updating such description.

Our Current Report on Form 8-K filed on May 12, 2009 in connection with our adoption of Statement of Financial Accounting Standards No. 160, *Noncontrolling Interests in Consolidated Financial Statements, an amendment of ARB No. 51*, updates Items 6, 7, 8, 9A and 15 of our Annual Report on Form 10-K for the year ended December 31, 2008.

We also incorporate by reference each of the documents that we file with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus until the offering of the securities terminates. We will not, however, incorporate by reference in this prospectus any documents or portions thereof that are not deemed filed with the SEC, including any information furnished pursuant to Item 2.02 or Item 7.01 of our Current Reports on Form 8-K after the date of this prospectus unless, and except to the extent, specified in such Current Reports.

We will provide you with a copy of any of these filings (other than an exhibit to these filings, unless the exhibit is specifically incorporated by reference into the filing requested) at no cost, if you submit a request to us by writing or telephoning us at the following address and telephone number:

Cliffs Natural Resources Inc.

Investor Relations

200 Public Square

Edgar Filing: CLIFFS NATURAL RESOURCES INC. - Form 424B5

Suite 3300

Cleveland, Ohio 44114

Telephone Number: (216) 694-5700

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DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the documents incorporated by reference, contains, and any prospectus supplement may contain, statements that constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements may be identified by the use of predictive, future-tense or forward-looking terminology, such as believes, anticipates, expects, estimates, intends, may, will or similar terms. These statements speak only as of the date of this prospectus or the date of the document incorporated by reference, as applicable, and we undertake no ongoing obligation, other than that imposed by law, to update these statements. These statements appear in a number of places in this prospectus, including the documents incorporated by reference, and relate to, among other things, our intent, belief or current expectations of our directors or our officers with respect to: our future financial condition, results of operations or prospects; estimates of our economic iron ore and coal reserves; our business and growth strategies; and our financing plans and forecasts. You are cautioned that any such forward-looking statements are not guarantees of future performance and involve significant risks and uncertainties, and that actual results may differ materially from those contained in or implied by the forward-looking statements as a result of various factors, some of which are unknown, including, without limitation:

trends affecting our financial condition, results of operations or future prospects;

the outcome of any contractual disputes with our customers;

our actual economic iron ore and coal reserves;

the success of our business and growth strategies;

our ability to successfully identify and consummate any strategic investments;

adverse changes in currency values;

the outcome of any contractual disputes with our significant energy, material or service providers;

the success of our cost-savings efforts;

our ability to successfully implement our financing plans;

our ability to maintain appropriate relations with unions and employees;

environmental laws, regulations and court decisions affecting our business, directly and indirectly, including those relating to mine reclamation and restoration, greenhouse gas emissions and other emissions to the air and water and human exposure to hazardous substances used, released or disposed of by us;

uncertainties associated with unanticipated geological conditions related to underground mining;

the potential existence of significant deficiencies or material weakness in our internal control over financial reporting; and

the risk factors referred to in the Risk Factors section of this prospectus.

These factors and the other risk factors described in this prospectus, including the documents incorporated by reference, are not necessarily all of the important factors that could cause actual results to differ materially from those expressed in any of our forward-looking statements. Other unknown or unpredictable factors also could harm our results. Consequently, there can be no assurance that the actual results or developments anticipated by us will be realized or, even if substantially realized, that they will have the expected consequences to or effects on us. Given these uncertainties, prospective investors are cautioned not to place undue reliance on such forward-looking statements.

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OUR BUSINESS

Founded in 1847, Cliffs is an international mining and natural resources company serving the global steel industry. Cliffs is the largest producer of iron ore pellets in North America, a major supplier of direct-shipping lump and fines iron ore out of Australia and a significant producer of metallurgical coal. In North America, Cliffs operates six iron ore mines owned or managed in Michigan, Minnesota and Eastern Canada, and two coking coal mining complexes located in West Virginia and Alabama. Operations in Asia Pacific are comprised of two iron ore mining complexes in Western Australia, serving the Asian iron ore markets with direct-shipping fines and lump ore, and a 45% economic interest in Sonoma, a coking and thermal coal mine located in Queensland, Australia. In Latin America, Cliffs has a 30% interest in Amapá, a Brazilian iron ore project. Cliffs' principal executive offices are located at: 200 Public Square, Suite 3300, Cleveland, Ohio 44114, and its telephone number is: (216) 694-5700.

RISK FACTORS

Investing in our common shares involves risk. Prior to making a decision about investing in our common shares, you should carefully consider the specific factors discussed under the heading "Risk Factors" in our most recent Annual Report on Form 10-K and in our most recent Quarterly Reports on Form 10-Q, which are incorporated herein by reference and may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future. The risks and uncertainties we have described are not the only risks we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our operations. If any of these risks actually occurs, our business, results of operations and financial condition could suffer. In that case, the trading price of our common shares could decline, and you could lose part of your investment.

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USE OF PROCEEDS

Unless we inform you otherwise in the applicable prospectus supplement, we expect to use the net proceeds from the sale of common shares for general corporate purposes. These purposes may include, but are not limited to:

reduction or refinancing of outstanding indebtedness or other corporate obligations;

additions to working capital;

capital expenditures; and

acquisitions and other strategic investments.

Pending any specific application, we may initially invest funds in short-term investment-grade, interest-bearing securities or apply them to the reduction of indebtedness.

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DESCRIPTION OF CAPITAL STOCK

The following is a summary of the terms and provisions of our capital stock. The rights of our shareholders are governed by the Ohio General Corporation Law, our amended articles of incorporation and regulations. This summary is qualified by reference to the governing corporate instruments of Cliffs to which we have referred you and applicable provisions of Ohio law. To obtain a copy of our amended articles of incorporation and regulations, see [Where You Can Find More Information](#).

Common Shares

General

We have authorized 224,000,000 common shares, par value \$0.125 per share. The holders of our common shares are entitled to one vote for each share on all matters upon which shareholders have the right to vote and, upon proper notice, are entitled to cumulative voting rights in the election of directors. Our common shares do not have any preemptive rights, are not subject to redemption and do not have the benefit of any sinking fund. Holders of our common shares are entitled to receive such dividends as our directors from time to time may declare out of funds legally available therefore. Entitlement to dividends is subject to the preferences granted to other classes of securities we have or may have outstanding in the future. In the event of our liquidation, holders of our common shares are entitled to share in any of our assets remaining after satisfaction in full of our liabilities and satisfaction of such dividend and liquidation preferences as may be possessed by the holders of other classes of securities we have or may have outstanding in the future.

Our common shares are listed on the NYSE, Euronext and the Chicago Stock Exchange under the symbol [CLF](#).

The transfer agent and registrar for our common shares is Computershare Trust Company, N.A.

Shareholder Rights Plan

On October 8, 2008, our directors authorized and declared a dividend consisting of one right for each of our common shares outstanding as of the close of business on October 29, 2008, or the rights record date. Each right initially represents the right to purchase one one-hundredth of one of our common shares at an exercise price per right of \$175, on the terms and subject to the conditions set forth in the Rights Agreement dated as of October 13, 2008, by and between Cliffs and Computershare Trust Company, N.A., as rights agent, or the rights agreement. The rights agreement also provides, subject to specified exceptions and limitations, that each of our common shares issued or delivered by us (whether originally issued or delivered from our treasury) after the rights record date will be entitled to and accompanied by one right. In the absence of further action by our directors, the rights generally will become exercisable upon the occurrence of certain triggering events, including the acquisition by a person or a group of beneficial ownership (as such term is defined in the rights agreement and includes, among other things, certain derivative or synthetic arrangements having characteristics of a long position in our common shares) of 10% or more of our outstanding common shares, or, in the case of a person or a group that currently beneficially owns 10% or more of Cliffs outstanding common shares, the acquisition by such person or group of beneficial ownership of any additional common shares of ours (whether or not such person or group has disposed of beneficial ownership of any of our common shares on or after the date of the rights agreement). We are entitled to redeem all (but not less than all) of the rights at a redemption price of \$0.001 per right at any time prior to the time the rights become exercisable. We are also entitled to exchange the rights for our common shares after the rights become exercisable, in which case we would issue one common share for each right, subject to adjustment in certain circumstances. The rights will expire on October 29, 2011, unless earlier redeemed or exchanged by us in accordance with the rights agreement.

After the date the rights become exercisable, if a person or group acquires or has already acquired a percentage of our common shares in excess of the relevant threshold, all holders of rights (except such person or

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group that acquires or has already acquired a percentage of our common shares in excess of the relevant threshold) may exercise their rights upon payment of the purchase price to purchase a number of our common shares (or other securities or assets as determined by our directors) having a market value of two times the purchase price of the rights. We refer to the event described in the immediately preceding sentence as a flip-in event. After the date the rights become exercisable, if a flip-in event has already occurred and we are acquired in a merger or similar transaction, all holders of rights (except such persons and groups that acquire or have already acquired a percentage of our common shares in excess of the relevant threshold) may exercise their rights upon payment of the purchase price, to purchase shares of the acquiring corporation with a market value of two times the purchase price of the rights.

Ohio Control Share Acquisition Statute

The Ohio Control Share Acquisition Statute requires the prior authorization of the shareholders of certain corporations in order for any person to acquire, either directly or indirectly, shares of that corporation that would entitle the acquiring person to exercise or direct the exercise of 20% or more of the voting power of that corporation in the election of directors or to exceed specified other percentages of voting power. In the event an acquiring person proposes to make such an acquisition, the person is required to deliver to the corporation a statement disclosing, among other things, the number of shares owned, directly or indirectly, by the person, the range of voting power that may result from the proposed acquisition and the identity of the acquiring person. Within 10 days after receipt of this statement, the corporation must call a special meeting of shareholders to vote on the proposed acquisition. The acquiring person may complete the proposed acquisition only if the acquisition is approved by the affirmative vote of the holders of at least a majority of the voting power of all shares entitled to vote in the election of directors represented at the meeting excluding the voting power of all interested shares. Interested shares include any shares held by the acquiring person and those held by officers and directors of the corporation as well as by certain others, including many holders commonly characterized as arbitrageurs. The Ohio Control Share Acquisition Statute does not apply to a corporation if its articles of incorporation or code of regulations state that the statute does not apply to a corporation. Neither our amended articles of incorporation nor our regulations contain a provision opting out of this statute.

Ohio Interested Shareholder Statute

Chapter 1704 of the Ohio Revised Code prohibits certain corporations from engaging in a chapter 1704 transaction with an interested shareholder for a period of three years after the date of the transaction in which the person became an interested shareholder, unless, among other things:

the articles of incorporation expressly provide that the corporation is not subject to the statute (we have not made this election); or

the board of directors of the corporation approves the chapter 1704 transaction or the acquisition of the shares before the date the shares were acquired.

After the three-year moratorium period, the corporation may not consummate a chapter 1704 transaction unless, among other things, it is approved by the affirmative vote of the holders of at least two-thirds of the voting power in the election of directors and the holders of a majority of the voting shares, excluding all shares beneficially owned by an interested shareholder or an affiliate or associate of an interested shareholder, or the shareholders receive certain minimum consideration for their shares. A chapter 1704 transaction includes certain mergers, sales of assets, consolidations, combinations and majority share acquisitions involving an interested shareholder. An interested shareholder is defined to include, with limited exceptions, any person who, together with affiliates and associates, is the beneficial owner of a sufficient number of shares of the corporation to entitle the person, directly or indirectly, alone or with others, to exercise or direct the exercise of 10% or more of the voting power in the election of directors after taking into account all of the person's beneficially owned shares that are not then outstanding.

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Preferred Stock

Our board of directors can, without approval of shareholders, issue one or more series of preferred stock. We have authorized up to 3,000,000 shares of Class A preferred stock and 4,000,000 shares of Class B preferred stock. The board can determine the number of shares of each series and the rights, preferences and limitations of each series, including dividend rights, voting rights, conversion rights, redemption rights and any liquidation preferences and the terms and conditions of issue. In some cases, the issuance of preferred shares could delay, defer or prevent a change in control and make it harder to remove present management, without further action by our shareholders. Under some circumstances, preferred shares could also decrease the amount of earnings and assets available for distribution to holders of our common shares if we liquidate or dissolve and could also restrict or limit dividend payments to holders of our common shares.

There are no shares of our Class A preferred stock or Class B preferred stock currently outstanding.

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PLAN OF DISTRIBUTION

We may sell the offered common shares in and outside the United States:

through underwriters or dealers;

directly to purchasers;

in a rights offering;

in at the market offerings, within the meaning of Rule 415(a)(4) of the Securities Act, to or through a market maker or into an existing trading market on an exchange or otherwise;

through agents; or

through a combination of any of these methods.

The prospectus supplement will include the following information:

the terms of the offering;

the names of any underwriters or agents;

the name or names of any managing underwriter or underwriters;

the purchase price or initial public offering price of the common shares;

the net proceeds from the sale of the common shares;

any delayed delivery arrangements;

any underwriting discounts, commissions and other items constituting underwriters' compensation;

any discounts or concessions allowed or reallocated or paid to dealers; and

any commissions paid to agents.

Sale through Underwriters or Dealers

If underwriters are used in the sale, the underwriters will acquire the common shares for their own account. The underwriters may resell the common shares from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. Underwriters may offer common shares to the public either through underwriting syndicates represented by one or more managing underwriters or directly by one or more firms acting as underwriters. Unless we inform you otherwise in the prospectus supplement, the obligations of the underwriters to purchase the common shares will be subject to certain conditions, and the underwriters will be obligated to purchase all the offered common shares if they purchase any of them. The underwriters may change from time to time any initial public offering price and any discounts or concessions allowed or reallocated or paid to dealers.

If we offer common shares in a subscription rights offering to our existing security holders, we may enter into a standby underwriting agreement with dealers, acting as standby underwriters. We may pay the standby underwriters a commitment fee for the common shares they commit to purchase on a standby basis. If we do not enter into a standby underwriting agreement, we may retain a dealer-manager to manage a subscription rights offering for us.

During and after an offering through underwriters, the underwriters may purchase and sell the common shares in the open market. These transactions may include over-allotment and stabilizing transactions and purchases to cover syndicate short positions created in connection with the offering. The underwriters may also impose a penalty bid, which means that selling concessions allowed to syndicate members or other broker-dealers for the offered common shares sold for their account may be reclaimed by the syndicate if the offered

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common shares are repurchased by the syndicate in stabilizing or covering transactions. These activities may stabilize, maintain or otherwise affect the market price of the offered common shares, which may be higher than the price that might otherwise prevail in the open market. If commenced, the underwriters may discontinue these activities at any time.

Some or all of the securities that we offer through this prospectus may be new issues of common shares with no established trading market. Any underwriters to whom we sell our common shares for public offering and sale may make a market in those common shares, but they will not be obligated to do so and they may discontinue any market making at any time without notice. Accordingly, we cannot assure you of the liquidity of, or continued trading markets for, any common shares that we offer.

If dealers are used in the sale of common shares, we will sell the common shares to them as principals. They may then resell those common shares to the public at varying prices determined by the dealers at the time of resale. We will include in the prospectus supplement the names of the dealers and the terms of the transaction.

Direct Sales and Sales through Agents

We may sell the common shares directly. In this case, no underwriters or agents would be involved. We may also sell the common shares through agents designated from time to time. In the prospectus supplement, we will name any agent involved in the offer or sale of the offered common shares, and we will describe any commissions payable to the agent. Unless we inform you otherwise in the prospectus supplement, any agent will agree to use its reasonable best efforts to solicit purchases for the period of its appointment.

We may sell the common shares directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act with respect to any sale of those common shares. We will describe the terms of any sales of these common shares in the prospectus supplement.

Remarketing Arrangements

Offered common shares may also be offered and sold, if so indicated in the applicable prospectus supplement, in connection with a remarketing upon their purchase, in accordance with a redemption or repayment pursuant to their terms, or otherwise, by one or more remarketing firms, acting as principals for their own accounts or as agents for us. Any remarketing firm will be identified and the terms of its agreements, if any, with us and its compensation will be described in the applicable prospectus supplement.

Delayed Delivery Contracts

If we so indicate in the prospectus supplement, we may authorize agents, underwriters or dealers to solicit offers from certain types of institutions to purchase common shares from us at the public offering price under delayed delivery contracts. These contracts would provide for payment and delivery on a specified date in the future. The contracts would be subject only to those conditions described in the prospectus supplement. The prospectus supplement will describe the commission payable for solicitation of those contracts.

General Information

We may have agreements with the agents, dealers, underwriters and remarketing firms to indemnify them against certain civil liabilities, including liabilities under the Securities Act, or to contribute with respect to payments that the agents, dealers, underwriters or remarketing firms may be required to make. Agents, dealers, underwriters and remarketing firms may be customers of, engage in transactions with or perform services for us in the ordinary course of their businesses.

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LEGAL MATTERS

Jones Day will pass upon the validity of the common shares being offered hereby.

EXPERTS

The consolidated financial statements and the related financial statement schedule (Schedule II Valuation and Qualifying Accounts) as of December 31, 2008 and 2007, and for each of the three years in the period ended December 31, 2008, incorporated in this prospectus by reference from Cliffs Natural Resources Inc.'s Current Report on Form 8-K filed on May 12, 2009, and the effectiveness of Cliffs Natural Resources Inc.'s internal control over financial reporting have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their reports (which, as to the report related to the consolidated financial statements expresses an unqualified opinion, and includes an explanatory paragraph relating to the adoption of new accounting standards), which are incorporated herein by reference. Such financial statements and financial statement schedule have been so incorporated in reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

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12,000,000 common shares

Common shares

Prospectus Supplement

J.P.Morgan
May , 2009

Merrill Lynch & Co.