FOR INFORMATION RELATED TO THE PROPOSED DEVELOPMENT, CONTACT:

BIRCH MOUNTAIN RESOURCES LTD.

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Visit our web site at www.birchmountain.com for updates and copies of application documents.

PUBLIC DISCLOSURE DOCUMENT • LIMESTONE QUARRY AND QUICKLIME PLANT
The Ancestors were sophisticated and efficient hunters. Canoes gave them wide-ranging access to the animals they hunted for food and clothing, and enabled them to explore the open grasslands and high prairie. Stone-tipped spears were used in hunting and defense and represented the leading-edge technology of the time.

A unique type of hard rock found in a number of locations in the Athabasca valley was prized by the Ancestors. At a newly discovered quarry-workshop complex located within Birch Mountain’s limestone lease, the Ancestors obtained rock for making spear points and other tools. Toolmakers quarried the hard rock using hammerstones and prys to excavate large pieces that were broken down to make the smaller cores and blanks. Smaller hammerstones and anvils were used to manufacture finished tools. The stone tools produced in the region were of high value and importance and were traded amongst the Ancestors as far away as southern Saskatchewan.

Today, the Hammerstone Project signifies a rediscovery of the resourcefulness of the Ancestors. Birch Mountain will use modern methods to quarry limestone, while ensuring the ancient quarries of the Ancestors remain undisturbed.

Limestone excavated from the Hammerstone Project will be processed to supply the robust demand for construction materials and concrete aggregates to build the roads and bridges and other facilities essential to the development of the region. High-quality limestone will be used to produce quicklime to purify air and water, thereby contributing to the sustainability of the oil sands industry. Following the example set by the Ancestors, our Hammerstone Project will strike a balance between human exploitation and protection of the natural environment.
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The Importance of Hammerstones
The Ancestors used hammerstones to quarry hard rock and form it into tools and points.

Hammerstone
A hammerstone is a hard oval-shaped rock.

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BIRCH MOUNTAIN

Birch Mountain Resources Ltd. is an innovative Calgary-based company focused on discovering and developing the mineral resources of the Athabasca region of northeastern Alberta.

Our mineral property is located near Fort McMurray in the heart of Alberta’s rapidly growing oil sands industry. Formed as a private company in 1994, Birch Mountain was publicly listed in 1995 and has since conducted exploration for industrial minerals, precious metals, base metals and diamonds in Western and Northern Canada. Since 2002, Birch Mountain has worked primarily on developing the industrial mineral potential of our Athabasca mineral properties.

Birch Mountain operates three divisions. The Industrial Mineral Division is pursuing the exceptional opportunities created by the oil sands industry’s increasing demand for material such as aggregate and quicklime. We intend to develop the $160 million Hammerstone Project to supply more than 50 years of forecasted oil sands industry demand for aggregate and quicklime. Birch Mountain filed an application in March 2004 for approval to construct and operate the Muskeg Valley Quarry (MVQ) for production and sale of limestone aggregate. Our plans are to put the quarry into production early in 2005, following receipt of regulatory approval. Further market evaluation has identified the opportunity to expand the quarry and to develop a plant for the production of quicklime. The Hammerstone Project, comprising the expanded quarry area and quicklime plant, will be located immediately south of the MVQ as illustrated on the adjacent page. Our Mineral Exploration and Mineral Technology divisions are involved in exploration and technology development, motivated by the discovery of precious metal nanoparticles in rocks from the Athabasca Property. Birch Mountain was granted a US patent in 2002 for processes to recover natural precious and non-precious metal nanoparticles.

Local resident Dena Doucet, working with our archeological team, discovered this 9,500-year-old spear point.
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HAMMERSTONE LOCATION

Birch Mountain holds metallic and industrial mineral leases in the Regional Municipality of Wood Buffalo. Our mineral rights are centered on the Athabasca River and extend from just north of the City of Fort McMurray to the Marguerite River Wildland Park, a distance of over 100 kilometres.

The Hammerstone Project is located approximately 60 kilometres north of Fort McMurray, about three kilometres east of Fort McKay, along the eastern bank of the Lower Muskeg River in Townships 94 and 95, Range 10 West of 4. The Project is ideally located to serve the oil sands operators in the region and the proposed transportation infrastructure that will require significant quantities of high-grade aggregate.

The boundaries of the Hammerstone Project reflect geological, environmental and economic constraints. The western boundary is set back 200 metres from the Muskeg River, consistent with setbacks adopted by adjacent oil sands lease holders (Shell, 2002). The southern boundary incorporates an area where limestone is interpreted to be at or near surface. The eastern boundary is in an area where the Cretaceous and Quaternary sediments covering the limestone reach thicknesses of more than 20 metres and is adjacent to an area to be mined as part of Shell’s expansion plans (Shell, 2004). The northern boundary of the Hammerstone Project is the southern edge of our Muskeg Valley Quarry (MVQ) area. The Project boundaries could be expanded to the south where mapping demonstrates geological continuity. Expansion to the east and west is unlikely.

An extension of the access road to be constructed into the MVQ, designed to support heavy truck traffic in and out of the quarry, will provide the access to the Hammerstone Project. A major utility corridor with both an electrical power transmission line and a natural gas pipeline borders the MVQ on the north. These utilities will be brought into the Project in a corridor paralleling the access road.

Birch Mountain’s leases overlap a portion of Shell Canada Ltd. Lease 90. Shell owns the mineral rights to the oil sands strata, and Birch Mountain holds the mineral rights to the underlying Devonian limestone. There is little or no oil sands on the Hammerstone leases, but the close proximity of the two developments will require careful planning. Birch Mountain has agreements in place with Albian Sands Energy Inc. (Shell Canada Ltd., Chevron Canada, and Western Oil Sands) that provide for cooperative exploration, environmental planning, development, extraction and production activities in areas where our leases overlap. Coordinated planning and project scheduling will ensure the development plans of both companies are fully realized.

South Dakota Access Road in discussion with Margaret McDonald and Lena Gallup at the Fort McKay Elders Picnic. Resource development has brought benefits, but consultation is crucial to ensure stakeholders understand projects and their input is given full consideration in planning and implementation.
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CONSULTATION

Consultation with the public and stakeholders living in the region is a high priority for Birch Mountain and is reflected by our commitment to have senior Birch Mountain personnel conduct the majority of the consultation. This arrangement has proven to be an effective way of addressing issues and concerns.

Building on relationships developed over many years, we are initiating a second phase of consultation to discuss plans for the Hammerstone Project with residents and stakeholders in the Regional Municipality of Wood Buffalo, including Fort McKay, Fort Chipewyan and Fort McMurray.

Consultation activities have ranged from kitchen table meetings with trapline holders and their families in Fort McKay to presentations to First Nations community Elders and Councils and the much-celebrated Elders Picnic held, in conjunction with Syncrude, on Birch Mountain’s lease overlooking the Muskeg River in August 2004. The Elders Picnic involved approximately 50 community elders, adults and youth and featured a presentation on significant archaeological finds and pre-contact history of the project area, opportunities to visit an archaeological dig site and traditional foods prepared by the community.

We will continue our consultation activities to share information and address issues relating to the Hammerstone Project in the same fashion, planning and coordinating them with an emphasis on mutual respect and understanding with the various communities and stakeholders. We are committed to documenting and addressing the issues of all stakeholders to ensure the Project is in the best interest of the Company, the community and the region.
During our archaeological fieldwork, we discovered an area in the northeastern portion of the Project consisting of a complex of Ancestral bedrock quarries, workshops and campsites dating from 7,500 to 9,500 years ago. In the opinion of our archaeological consultant, this new discovery is equivalent in significance to the Provincial Historic Resource sites at Beaver River and Creeburn Lake. We have excluded this area from our development plans and rerouted the access road to avoid this important archaeological heritage site.

Stakeholders in the region indicated they prefer the end-land use objective for the Muskeg Valley Quarry to be a clear water quarry-lake that will provide recreational opportunities, wildlife habitat and possibly a fishery. The reclamation plan for the Hammerstone Quarry will also be a clear water quarry-lake with shallow littoral zones suitable for waterfowl and fish rearing. It will include sections up to 45 metres deep, more than deep enough for fish to over-winter. We anticipate that only indigenous fish species such as pike, perch and walleye would be used to stock the quarry-lake.

In addition to the careful planning and management of environmental issues associated with the limestone quarry, the Hammerstone Project also includes a quicklime plant. Quicklime is used to remove sulphur dioxide, sulphur trioxide and heavy metals from air emissions produced by oil sands processing. Oil sands operators, particularly the SAGD (steam-assisted gravity drainage) in-situ producers, also use quicklime for water softening and recycling. Our product will be used to enhance the environmental performance of the oil sands industry.

To manufacture quicklime, limestone is heated to about 1100°C in a rotating kiln. The limestone (CaCO3) is converted to quicklime (CaO), and CO2 is released as a gas to the atmosphere. Quicklime is produced in a number of facilities in southern Canada and the northern US, and currently is transported into the region. However, meeting increased long-term demand by transporting quicklime over great distances would result in higher emissions compared to producing quicklime locally. The Hammerstone Project has the advantage of being located in the centre of the Athabasca region and will eliminate the CO2, NOx and particulate emissions caused by importing quicklime by truck into the region.

While natural gas is often used as a fuel for the kiln burners, Birch Mountain is examining the use of coke that is produced as a byproduct in oil sands upgrading as a primary fuel source and supplementing it with natural gas. Our use of coke to fuel kilns to produce quicklime will be one of the first commercial applications of this abundant energy source in the region. Coke as a fuel source in the oil sands industry has been limited because of its sulphur content, but coke is a common fuel in the quicklime industry where the sulphur released on burning is converted to gypsum in the kiln. To ensure there is no release of SO2 from burning coke, our facility will be equipped with an FGD (flue gas desulphurization) system using quicklime produced in the plant.

An important purpose of this Disclosure Document is to stimulate discussion with stakeholders. We encourage you to share your comments and suggestions to further improve the Project’s environmental planning and performance.
Planning for the Hammerstone Project represents a continuation of the environmental considerations demonstrated in the assessment and refinements to the Muskeg Valley Quarry. Birch Mountain has voluntarily adopted a 200-metre setback from the Muskeg River to provide for wildlife movement and to be consistent with the adjacent oil sands developments. The 200-metre setback extends for the full southern extension of the quarry and in places, the setback is almost 300 metres. To enhance the project area for wildlife, we have constructed and installed bat boxes, raptor nesting platforms and owl nest boxes in advance of project initiation.

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Birch Mountain’s proposed Hammerstone Project includes a limestone quarry with integral aggregate processing and a quicklime plant. Devonian limestone present at or near surface would be quarried, crushed, screened and in some cases washed to produce and sell aggregate for road building, construction and making concrete. High-grade limestone would be quarried, crushed, screened and calcined to produce quicklime.

The proposed Hammerstone Project covers an area of approximately 1,100 hectares, although the footprint and the environmental impact of the plant and quarry, will be smaller.

Industry surveys conducted in the Fort McMurray region indicate that current aggregate supplies are limited, particularly those aggregates suitable for producing concrete. Quicklime is not produced in the region and must be trucked 800-900 kilometres from southern Alberta. The design and capacity of the proposed mining and processing facilities of the Hammerstone Project will guarantee a consistent, reliable supply of high-quality quicklime and limestone aggregates to meet the long-term demands of the oil sands industry. Developing a local source of quicklime will ensure consistency of quality and assurance of supply for both aggregate and quicklime, enhancing value for the oil sands industry and resulting in substantial savings in truck traffic and exhaust emissions—an important value for all stakeholders in the region.

<table>
<thead>
<tr>
<th>Year</th>
<th>Aggregate (T)</th>
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<tbody>
<tr>
<td><strong>2005 Demand</strong></td>
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Depending on demand and availability of suitable materials, undersize rock from the aggregate plant would be processed to produce engineered sand for concrete or pulverized limestone for use in limestone FGD systems. We are also evaluating the possibility of reusing spent lime to solve the disposal problem faced by in-situ operators. The re-used material would again be used in the water treatment process.

The Project builds on, and will be integrated with, Birch Mountain’s Muskeg Valley Quarry Project (MVQ) for which an EIA and development application was submitted in March 2004. The Hammerstone Project is located immediately south of and adjacent to the MVQ Project.

Birch Mountain contracted the Canadian Energy Research Institute (CERI), Calgary, Alberta, to conduct an analysis of demand for aggregate and quicklime from the oil sands industry over the 66-year period, 2005-2070. CERI’s base-case scenario for crude bitumen supply from mining and in-situ operations in Athabasca and Cold Lake was 5 million barrels per day by 2040, remaining above this level to 2070. CERI’s high-case scenario has crude bitumen supply peaking at more than 7 million barrels per day by 2045. CERI developed parameters linking utilization of quicklime and aggregate to bitumen production, and these have been supplemented by estimates of non-oil sands demand. Forecasted demands for aggregate and quicklime for 2005-2070 are shown in the table below. Annual sales of aggregate and quicklime will reflect our market share over the life of the Hammerstone Project and are expected, in the long term, to approach those given in the table, a result of the lack of alternative local suppliers.

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**PROJECTED DEMAND FROM OIL SANDS PROJECTS**

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Quarry

A flow diagram for the Hammerstone Project, showing the integration of the aggregate and quicklime from a single quarry operation, is illustrated in the figure below.

The Quarry and aggregate processing facility will operate two shifts per day, ten months per year. Quarry operations will be suspended for a few months during the winter for annual maintenance. Current engineering design envisions a drill and blast operation with a mobile primary crush plant supplying base aggregate for direct sale and feeding two separate secondary processing facilities, one for aggregate and the other for calcinable limestone, using an in-pit conveyor system.

Clearing and Overburden Removal

Prior to starting quarry operations, trees will be harvested and provided to the holder of the Forest Management Agreement. Surface materials, including organic-rich topsoil and subsoils, will be stripped from the site of the initial pit and working areas and transferred to temporary reclamation material stockpiles. Later, topsoil and subsoil will be placed directly on reclaimed areas as part of the progressive reclamation plan.

Drill and Blast

Blasting will be required to fracture the limestone prior to crushing. Blast-holes will be drilled using a mobile drill rig, and qualified blasting contractors will deliver explosives to the site and conduct the blasting. No explosives will be stored on site. Blasting will follow a pre-determined schedule during daylight hours only to minimize any possible disruption to local residents.

Primary Crush and Convey

Blasted rock will be excavated by wheel loaders and loaded into two mobile primary crushers located near the working faces of the Quarry. Noise and dust levels will be minimized by using berms or other noise barriers and selecting appropriate crushing equipment such as low-speed sizers. Crushed rock passing through the primary crusher will be stockpiled for sale as base aggregate or conveyed to secondary crushing facilities. Diesel-electric generators will provide power for primary crushing and conveying facilities.

Secondary Crush and Wash

A relocatable secondary crushing facility will be established in the pit area and fed by conveyor from the primary crushers. High-quality top aggregates, concrete rock and concrete sand will be produced and stockpiled for sale. Concrete rock will be crushed, screened and washed, and undersized material will proceed to a classifier where it will be used to produce engineered concrete sand. Rejected material will initially be sent to a temporary storage area and will subsequently be direct-placed during progressive reclamation.

Aggregate Sales

Transport trucks will enter and exit the Quarry from the Canterra Road at the northern boundary of the Muskeg Valley Quarry. Aggregate loading facilities will be located at sales stockpiles near the secondary crushing facility. A scale-house for inbound and outbound truck weighing will be established near the entry point in the northern part of the Project area. We will place a high priority on maintaining the Quarry access road to minimize road dust and noise.

Maintaining a 200-metre setback will ensure the Muskeg River will not be affected by the Quarry development.
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Maintaining a 200-metre setback will ensure the Muskog River will not be affected by the Quarry development.
Quicklime Plant

The quicklime plant will operate continuously 12 months per year with a scheduled break in the winter for annual maintenance. Calcineable limestone will be conveyed to the quicklime plant and fed through a dedicated secondary crush facility to produce one or more size fractions for calcining. Undersize material will be placed in temporary stockpiles for progressive reclamation or further processed for sale.

Lime Kiln

Depending on design criteria, the quicklime plant will include one or more kilns for manufacturing quicklime. Quicklime kilns are steel tubes 4-5 metres (12-14 feet) in diameter and up to 90 metres (300 feet) long, with firebrick liners to protect against the white-hot temperatures required to calcine limestone. We plan to fuel the kilns with a mixture of coke and natural gas. Heat loss will be minimized by directing gases exiting from the kiln through a preheater to heat the calcineable limestone prior to its introduction into the kiln. After exiting the preheaters, the off-gases will pass through a regenerative thermal oxidizer to remove trace metals and an FGD (flue gas desulphurization) system to remove any residual sulphur dioxide prior to entering the baghouse where flyash and fine particles of gypsum are captured.

Quicklime Sales

Pebble quicklime will be stored onsite in weatherproof silos and transported to customers in covered blower trucks. Sufficient quicklime inventory will be maintained onsite to ensure uninterrupted delivery to customers through annual maintenance periods or unscheduled plant closures. As stated above, we are also evaluating an opportunity to recycle spent lime.
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The quicklime plant will operate continuously 12 months per year with a scheduled break in the winter for annual maintenance. Calcineable limestone will be conveyed to the quicklime plant and fed through a dedicated secondary crush facility to produce one or more size fractions for calcining. Undersize material will be placed in temporary stockpiles for progressive reclamation or further processed for sale.

**Lime Kiln**

Depending on design criteria, the quicklime plant will include one or more kilns for manufacturing quicklime. Quicklime kilns are steel tubes 4.5 metres (12-14 feet) in diameter and up to 90 metres (300 feet) long, with firebrick liners to protect against the white-hot temperatures required to calcine limestone. We plan to fuel the kilns with a mixture of coke and natural gas. Heat loss will be minimized by directing gases exiting from the kiln through a preheater to heat the calcineable limestone prior to its introduction into the kiln. After exiting the preheaters, the off-gases will pass through a regenerative thermal oxidizer to remove trace metals and an FGD (flue gas desulphurization) system to remove any residual sulphur dioxide prior to entering the baghouse where flyash and fine particles of gypsum are captured.

**Quicklime Sales**

Pebble quicklime will be stored onsite in weather-proof silos and transported to customers in covered blower trucks. Sufficient quicklime inventory will be maintained onsite to ensure uninterrupted delivery to customers through annual maintenance periods or unscheduled plant closures. As stated above, we are also evaluating an opportunity to recycle spent lime.

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**PROJECT SCHEDULE**

**TIMELINE FOR MUSKEG VALLEY QUARRY AND HAMMERSTONE PROJECT**

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| HAMMERSTONE PROJECT  |      |      |      |      |      |      |
| GEOLOGICAL EVALUATION |      |      |      |      |      |      |
| PLANNING/ENGINEERING |      |      |      |      |      |      |
| PUBLIC CONSULTATION  |      |      |      |      |      |      |
| ENVIRONMENTAL ASSESSMENT |      |      |      |      |      |      |
| APPLICATION & REGULATORY REVIEW |      |      |      |      |      |      |
| NRCB & AENV APPROVALS |      |      |      |      |      |      |
| CONSTRUCTION         |      |      |      |      |      |      |
| QUICKLIME PRODUCTION |      |      |      |      |      |      |

The Hammerstone Project development timeline above shows that geological, engineering, consultation and environmental components of this project, including an independent prefeasibility study by AMEC Americas Limited, are underway. These components share or build on work completed in the adjacent MVQ EIA Application. Aggregate production from the MVQ will begin early in 2005 following receipt of final regulatory approvals. The EIA and Application for the Hammerstone Project will be submitted to the Natural Resources Conservation Board and Alberta Environment in the spring of 2005, and final approvals are expected within a year. Construction of the Hammerstone quarry and quicklime plant should begin in the second quarter of 2006, with initial quicklime production scheduled for the fourth quarter of 2007. Aggregate and quicklime production are projected to continue to at least 2070.
The Hammerstone Project represents a diversification of the industrial base in the Regional Municipality of Wood Buffalo, in addition to the fact that the products from the plant will contribute to the enhanced environmental performance of the oil sands industry. We believe our project will be beneficial to the region, but we want to be certain that all affected communities and individual stakeholders express their views and assist with setting the final terms of reference for the Environmental Impact Assessment (EIA) and provide input to the process as we prepare the EIA.

I will make every effort to contact all parties interested in our Project to ensure that your views are fully considered, and I encourage you to contact me at (403) 262-1838 or dabbsd@birchmountain.com to ensure that no one is overlooked in this process.

Sincerely

Don L. Dabbs
Vice President
FOR INFORMATION RELATED TO THE PROPOSED DEVELOPMENT, CONTACT:

BIRCH MOUNTAIN RESOURCES LTD.
Don L. Dabbs, Vice President
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TEL 403.262.1838 FAX 403.263.9888 EMAIL dabbsd@birchmountain.com
Visit our web site at www.birchmountain.com for updates and copies of application documents

FOR THE PROPOSED Hammerstone project

78mm Lanceolate Spear Point discovered by Dena Doucet
September 19th, 2003