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Proxy — ARGENTEX MINING CORPORATION

**FOR THE ANNUAL MEETING OF STOCKHOLDERS
TO BE HELD ON OCTOBER 22, 2009**

THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS.

The undersigned stockholder of Argentex Mining Corporation (the "Company") hereby appoints Kenneth Hicks and Jenna Hardy, and each of them, as attorneys and proxies, each with the power to appoint his or her substitute, and authorizes each of them to represent and vote all of the shares of common stock of the Company that the undersigned stockholder is entitled to vote at the annual meeting of stockholders of the Company to be held on October 22, 2009 at 10 a.m., local time, at the office of the Company's law firm, Clark Wilson LLP, located at Suite 800, 885 West Georgia Street, Vancouver, British Columbia V6C 3H1, Canada or any adjournment thereof, on the matters set forth on the reverse side, and in his or her discretion on any other matters as may be properly brought before the meeting or any adjournment thereof, with all the powers which the undersigned stockholder would possess if personally present at the meeting or any adjournment thereof.

The shares represented by this proxy, when this proxy is properly executed, will be voted as directed by the undersigned stockholder or, if no such directions are made, the shares represented by this proxy will be voted for every item listed on the reverse side, and as the proxies deem advisable on any other matters as may be properly brought before the meeting or any adjournment thereof.