

**THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS
PROXY FOR THE ANNUAL MEETING OF SHAREHOLDERS OF
MESA LABORATORIES, INC.
TO BE HELD THURSDAY, SEPTEMBER 23, 2010**

The undersigned hereby appoints Luke R. Schmieder as the lawful agent and Proxy of the undersigned (with all powers the undersigned would possess if personally present, including full power of substitution), and hereby authorizes him to represent and to vote, as designated below, all the shares of Common Stock of Mesa Laboratories, Inc. held of record by the undersigned as of the close of business on August 4, 2010, at the Annual Meeting of Shareholders to be held on Thursday, September 23, 2010, or any adjournment or postponement thereof.

1. ELECTION OF DIRECTORS

- FOR all nominees listed below (except as marked to the contrary below) WITHHOLD AUTHORITY (to vote for all nominees listed below)

L. Schmieder, H.S. Campbell, M. Brooks, R.V. Dwyer, E. Guillemin, J. Sullivan

(INSTRUCTION: To withhold authority to vote for any nominees, write the nominees' names on the space provided below.)

2. To approve an amendment to our 2006 Stock Compensation Plan increasing the authorized number of shares of common stock from 400,000 to 800,000 (the "2006 Stock Compensation Plan Amendment Proposal").

_____ FOR _____ AGAINST _____ ABSTAIN

3. To ratify the appointment of Ehrhardt, Keefe, Steiner & Hottman, PC (EKS&H) as the Company's independent public accountants for fiscal 2011 (the "Ratification of Auditors Proposal").

_____ FOR _____ AGAINST _____ ABSTAIN

4. In his discretion, the Proxy is authorized to vote upon any matters which may properly come before the Meeting, or any adjournment or postponement thereof.

It is understood that when properly executed, this proxy will be voted in the manner directed herein by the undersigned shareholder. WHERE NO CHOICE IS SPECIFIED BY THE SHAREHOLDER, THIS PROXY WILL BE VOTED FOR THE ELECTION OF DIRECTORS PROPOSED IN ITEM (1), FOR THE 2006 STOCK COMPENSATION PLAN AMENDMENT PROPOSED IN ITEM (2) AND FOR RATIFICATION OF THE APPOINTMENT OF EKS&H PROPOSED IN ITEM (3).

The undersigned hereby revokes all previous proxies relating to the shares covered hereby and confirms all that said proxy or his substitutes may do by virtue hereof.

Please sign exactly as name appears below. When shares are held joint tenants, both should sign. When signing as attorney, executor, administrator, trustee or guardian, please give full title as such. If a corporation, please sign in full corporate name by President or other authorized officer. If a partnership, please sign in partnership name by authorized person.

Dated: _____

Signature

Signature if held jointly

PLEASE MARK, SIGN, DATE AND RETURN
THE PROXY CARD PROMPTLY USING THE
ENCLOSED ENVELOPE

PLEASE CHECK THIS BOX IF YOU INTEND TO BE PRESENT AT THE MEETING.