



Transmittal

February 5, 2002

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Dear Jeff:

Core samples from the lower portion of TCH 88-28 are enclosed. These samples were "high graded" during the field logging of the core hole for laboratory analysis. Please consider these samples for x-ray and petrographic analyses as part of your work on Calpine TCH 88-28. This core should be ultimately integrated with the other core, or used as part of a reference sample set once you have completed your work.

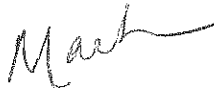
Questions on petrography and mineralogy identification during the field logging, are indicated by question marks (?) for the enclosed core. The answers to the questions will be helpful for: (1) determining the hydrothermal mineral suites and whether or not these are in equilibrium with present day temperatures; (2) how alteration varies between different lithologic units; (3) whether brecciated and vuggy flow tops preferentially serve as fluid conduits and if the degree of hydrothermal alteration between these is substantially less; and (4) the correct identification of the lithology so that future binocular core logging can be standardized.

- 3665': Epidote (?) and clay(?) filling veins and vugs.
- 3773.5': Zoned (?) vein filling of chloritized ? andesite. Much of the core from the deepening is easily scratched and this may be due to pervasive clay ? alteration.
- 3817.5': Amygdaloidal filling of quartz, calcite, epidote, and other ? hydrothermal minerals
- 3818.4': Zeolite (?) filled vugs
- 3827': 20+mm vesicle filled with zeolite (?) with propylitic (?) alteration rind.
- 3856.7': Identification of vug-filling minerals and clay alteration type is needed.
- 3871: Disseminated epidote (?) in rhyodacite (?) containing vein-filled fractures.
- 3903.5': Quartz, calcite, epidote, chlorite, and an unknown dark green mineral (?) replace clasts, fill veins, and are disseminated.

- 3969.5': Partly brecciated and flow-banded rhyolite (?) containing disseminated pyrite and steeply dipping vein-filled fractures.
- 4034.7: Except for a few gash veins containing quartz, epidote, and dark-green mineral(?), the rock does not seem to be as pervasively (?) altered as other units.
- 4097': Except for the abundant, white, zeolite (?) filling a vein, secondary mineralization of this rhyolite appears weak (?).
- 4144.8': Epidote and calcite partially fill abundant vesicles in basaltic andesite (?). Is there petrographic evidence for this rock being near the top of a flow?
- 4170.5': Propylitic alteration is common throughout this basaltic andesite (?) and vesicular and vein fillings of epidote+calcite appear to be consistently enclosed by calcite + quartz. Are these zoned fillings evidence for at least two generations of hydrothermal fluids in this rock?
- 4221.7': Spectacularly "juiced-up" amygdaloidal basalt (?) typical of this unit with vesicles filled with zoned hydrothermal minerals and propylitic alteration of the matrix. How much permeability remains evident in this unit, or does the rock now appear essentially sealed? Near 4391', zeolite (?) mineral(s) were observed; if so are these from a different (later ?) generation of hydrothermal fluids?

Please call me at (707) 431-6158 if you have any questions regarding these core.

Regards,



Mark Walters

cc.: Mitch Stark