

4 **D.R. Sherrod, W.E. Scott, P.H. Stauffer (eds): A volcano
5 rekindled: the renewed eruption of Mount St. Helens,
6 2004–2006**

7 **USGS Prof. Paper 1750, 2009. 856 pp, plus DVD with appended data and figures,
8 \$50 printed, downloadable for free**

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12 Viscous extrusion of lava domes involves crystal-rich silicic
13 degassed magmas which may be hot but solid rock when
14 extruded. It is a surprising and spectacular phenomenon
15 which is still being scientifically elaborated by real
16 observations. This new volume is a treasure for students
17 and scientists interested in the behavior and hazards of
18 volcanic domes. It combines 37 scientific papers by USGS
19 scientists and colleagues from all over the world. The work
20 in this volume celebrates group-based volcanology and
21 builds on similar work done at Mount St. Helens (1980–
22 1986), Unzen (1990–1995), and Soufriere Hills, Montserrat
23 (1994 to present). Its focus is the 2004–2006 eruption of
24 Mount St. Helens, a re-invigoration of a post-plinian dacite
25 dome after 18 years of repose.

26 The volume features valuable direct observations of
27 dacite dome activity, and a major value is the abundant and
28 carefully crafted illustrations produced in color. No serious
29 discussion of viscous magma extrusions and especially
30 spines should be done without absorbing this volume. It is

32 divided into sections which cover seismology (six papers),
33 geological observations (six papers), geodesy and remote
34 sensing (five papers), models and mechanics of eruptions
35 (four papers), crisis management (two papers), volcanic gas
36 emissions (three papers), and petrology (ten papers). The
37 whole body of work is integrated, and each paper is well
38 informed by others in the volume.

39 The combination of techniques used in this volume offer
40 basic data that will be tested against theory for decades. The
41 volume is significant because silicic dome activity is
42 recurrent and represents many persistent volcanic hazards
43 situations worldwide (e.g., Merapi, Santiaguito, Redoubt,
44 Shiveluch, Colima). The use of “spiders” for getting GPS
45 data in dangerous settings (LaHusen et al., chapter 16), the
46 detailed pattern of growth of the dome (Vallance et al.,
47 chapter 9), the use of digital aerophotogrammetry (Schilling
48 et al., chapter 8), and the petrological comparisons of the
49 2004–2006 magma with 1980–1986 (Pallister, Rutherford,
50 Thornber and Blundy et al., chapters 30–33) were high-
51 lights for this reviewer, but the whole volume is strong.

52 The accompanying DVD has very valuable data and
53 imagery in a convenient format. The layout and editing is
54 thorough and high quality. The volume may be freely
55 downloaded wholly or by section or chapter (<http://pubs.usgs.gov/pp/1750/>). A hardcopy may be purchased at a low
56 price (\$50) and represents a logical complementary book
57 format that many specialists will want.

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