

March 2018 Status Report

To: Palouse Basin Aquifer Committee (PBAC)

From: John H. Bush and Pamela Dunlap

Products completed and submitted to PBAC

- **Geology field guide to the Moscow-Pullman basin — published 2016**
Bush, J.H., Garwood, D.L., and Dunlap, Pamela, 2016, Geology and geologic history of the Moscow-Pullman basin, Idaho and Washington, from late Grande Ronde to late Saddle Mountains time, *in* Lewis, R.S., and Schmidt, K.L., eds., *Exploring the Geology of the Inland Northwest: Geological Society of America Field Guide 41*, p. 151–174; [doi.org/10.1130/2016.0041\(05\)](https://doi.org/10.1130/2016.0041(05)).
- **Well location and interpretation report and GIS data — version 1 submitted April 2017**
Bush, J.H., and Dunlap, Pamela, 2017, Geologic interpretations of water wells and important rock outcrops in the Palouse basin, Washington and Idaho: University of Idaho, Department of Geological Sciences unpublished geologic report prepared for the Palouse Basin Aquifer Committee, ver. 1, 1402 p. and digital data, 1 sheet, scale 1:62,500. (Only the GIS database, geologic interpretations, and drillers' reports are available using ArcGIS Map Viewer at <http://arcg.is/mXKyz>.)
- **Nine geologic cross sections — submitted Sept. and Oct. 2017 (abstract published)**
Bush, J.H., Dunlap, Pamela, and Reidel, S.P., 2017, Geologic cross-section from Moscow, Idaho, to west of Pullman, Washington [abs.]: Geological Society of America Abstracts with Programs, vol. 49, no. 6. Available at <https://gsa.confex.com/gsa/2017AM/webprogram/Paper296610.html>.
Bush, J.H., Dunlap, Pamela, and Reidel, S.P., 2017, Geologic cross-section from Moscow, Idaho, to west of Pullman, Washington: unpublished poster prepared for the Palouse Basin Aquifer Committee, 1 sheet, scale 1:12,000.
Bush, J.H., Dunlap, Pamela, and Reidel, S.P., 2017, Geologic cross-section from Moscow, Idaho, to west of Pullman, Washington: unpublished poster prepared for the Palouse Basin Aquifer Committee, 1 sheet, scale 1:24,000.
Bush, J.H., Dunlap, Pamela, and Reidel, S.P., 2017, Geologic cross-sections of the Moscow-Pullman area, Idaho and Washington: unpublished posters prepared for the Palouse Basin Aquifer Committee, 7 sheets, scale 1:12,000.
- **Paleogeographic reconstructions in the Miocene — submitted Sept. 2017 (abstract published)**
Bush, J.H., and Dunlap, Pamela, 2017, Miocene evolution of the Moscow-Pullman basin, Idaho and Washington [abs.]: Geological Society of America Abstracts with Programs, vol. 49, no. 6. Available at <https://gsa.confex.com/gsa/2017AM/webprogram/Paper296618.html>.
Bush, J.H., and Dunlap, Pamela, 2017, Miocene evolution of the Moscow-Pullman basin, Idaho and Washington: unpublished poster prepared for the Palouse Basin Aquifer Committee, 1 sheet, scale 1:158,400.
- **Top of the Grande Ronde Basalt structure contour map — submitted September 2017**
Bush, J.H., and Dunlap, Pamela, 2017, Structure contours on the top of the Grande Ronde Basalt in the Moscow-Pullman basin and vicinity, Idaho and Washington: University of Idaho, Department of Geological Sciences unpublished geologic report prepared for the Palouse Basin Aquifer Committee, 1 sheet, scale 1:62,500.
- **Geological paper on Moscow-Pullman basin — submitted December 2017**
Bush, J.H., Dunlap, Pamela, and Reidel, S.P., 2017, Disruptions of the Palouse River during the Miocene, Moscow-Pullman basin, Idaho and Washington: unpublished geologic report prepared for the Palouse Basin Aquifer Committee, 63 p.

Unfinished Products

- Well location and interpretation report and GIS data — version 2 (to include wells from version 1, plus an additional 100–200 or more wells, and a GIS database with both XY and Z files for all sites for use in 3D software applications)
- A collection of page-size illustrations pertaining to the geology of the area
- Maybe a paper about (or a list of) geologic controls on the hydrology of the basin???

OUTLINE FOR MARCH 15, 2018 PRESENTATION

GEOLOGIC CONTROLS ON GROUND WATER SUPPLY, MOSCOW-PULLMAN BASIN

1. Review of the three geologic cross sections to be published by Idaho Geological Survey (three sheets at a scale of 1:24,000)

- Upper aquifer vs. lower aquifer
- Importance of coarse-grained sediments
- Importance of Cold Spring Ridge Member (N₁ MSU of the Grande Ronde Basalt)
- Importance of pinchouts
- Examples of structural controls

2. Review of map showing structure contours on the top of the Grande Ronde Basalt

- Indicator of lateral movement of water

3. Miscellaneous topics

- Age of ground water
- Use of paleogeographic reconstructions
- Data gaps