
Water Level Assessment Introduction

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STATIC WATER LEVELS

Columbia Basin Groundwater Management Area Prepared for the
Columbia Basin GWMA Board of Directors Prepared by
John Porcello / GSI Water Solutions Walter Burt / GSI Water Solutions January 22, 2009

TERMINOLOGY for BASALT AQUIFERS

Shallow à Wanapum Basalt
Intermediate à Upper Grande Ronde Basalt
Deep à Lower Grande Ronde Basalt

CONCLUSION #1

There Is Little, If Any, Groundwater Movement Vertically Between The Basalt Aquifers Each Aquifer Is Separate and Distinct Shallow (Wanapum) Intermediate (Upper Grande Ronde) Deep (Lower Grande Ronde)

GROUP OF NESTED OBSERVATION WELLS The Water Level Data Tell Us Two Things The Basalt Aquifers Are Separate And Distinct

Water Levels In The Deep Grande Ronde Are Declining How Does This Relate To Geologic and Geochemical Information? What does it all mean for the future? CONCLUSION #2

Natural Recharge Is Minimal and Slow

- Few Places For Recharge To Grande Ronde Basalt
 - Few places where interflow zones outcrop
 - The interflow zones are thin
 - Shallow basalt zones don't leak to deep zones

 - Only Natural Source: Precipitation
 - Winter/spring runoff
 - Small in magnitude compared with pumping
 - Long distances to wells à extremely slow process
- CONCLUSION #3

Existing Groundwater Supplies In The Deep Basalt Are Not Reliable Or Sustainable In The Long-Term (Lower Grande Ronde) Continuing to Deepen Wells Into the Lower Grande Ronde Is Only A Temporary Solution (Declines in Water Levels and Pumping Yields)