

Roger Dittus

Outline of Facts and Opinions Pertaining to M3 Eagle Ground Water Studies

November 26, 2008

1. I have attached my CV to this outline.
2. Over the course of approximately the past two years, I have received periodic reports and compiled data from Ed Squires and his staff at Hydro Logic, Inc. (HLI) concerning their ground water investigations relative to the M3 Eagle proposed planned community north of Eagle, Idaho. These reports and data also are available on the North Ada County Project website maintained by the Idaho Department of Water Resources (IDWR).
3. As a professional hydrogeologist employed by United Water Idaho Inc. (United Water), I have been involved for many years in monitoring ground water levels in monitoring and supply wells in the west Boise and foothills areas, for example our dedicated monitoring well at State and Linder and municipal supply wells. We have made data from the State and Linder well available to IDWR and others, including HLI, upon request. Indeed, HLI's principal hydrogeologist, Ed Squires, oversaw the construction of the State and Linder monitoring well, and, when he worked for United Water, was responsible for taking measurements and maintaining the instruments in that well.
4. United Water has operated high capacity wells in the vicinity of Eagle, such as the Floating Feather well and the Redwood Creek well, for several years. These wells have produced significant annual volumes with individual wells pumping at rates up to 3000 gpm. To date, no significant ground water level declines have been observed in these wells, nor is it indicated by other water level data from the general area of which I am aware. The continuing shallow or artesian area water levels in the presence of the many municipal, irrigation, and domestic wells indicates that the Pierce Gulch Sand Aquifer is capable of supplying the water requested in M3 Eagle's application without causing unreasonable drawdown in surrounding wells.
5. I have not seen a water right application that has received as much study or analysis as M3 Eagle has carried out in this case.
6. I have known Mr. Squires for over fifteen years. In my opinion he is a competent and ethical hydrogeologist. His work always has met the highest standards of our profession. His and his colleagues' work for M3 Eagle in this case is highly valuable and extraordinarily thorough.

7. I have reviewed HLI's May 2007 Report characterizing the Pierce Gulch Sand Aquifer, HLI's July 2008 Re-Analysis of 16 Aquifer Tests report, water level contour maps, and several composite cross sections HLI compiled from geophysical data. Based on my review, these materials all properly reach the same correct conclusions: the Pierce Gulch Sand Aquifer covers a large area extending into portions of three counties; it contains a large amount of water, much of which flows into the Payette River drainage; it receives recharge from a large area generally under the Boise River and its stream and canal tributaries. In my opinion, it is unlikely that the proposed development of ground water from the aquifer by M3 Eagle will have a material impact on overall aquifer levels.

ROGER D. DITTUS

2811 Gem Street, Boise Idaho, 83705

(208) 388-4629

Education: BS Geology, Boise State University, 1991

Graduate-Level Course Work (Boise State University):

Exploration Geophysical Well Logging, Contaminant Hydrogeology, Hazardous Waste Management, Applied Hydrogeologic Concepts, Computer Applications in Geohydrology, Environmental Geology, Geophysical Methods

Employment Experience:

1995-Present Hydrogeologist, (P.G. March 2001), United Water Idaho Inc, Boise Idaho
Management of successful Aquifer Storage and Recovery (ASR) projects for mitigating uranium, and hardness
Management of successful aquifer-conditioning project for controlling manganese in groundwater
Managed pilot projects for in situ remediation of ammonia and ASR for arsenic mitigation
Conduct pumping tests and interpret test data for municipal wells
Geophysical logging/ log interpretation and downhole camera operation(1995-1999)
Planning and supervise of well rehabilitation projects
Water rights filings and application support

1992-1995 Geology Technician, Boise State University, Boise ID.
Collected aquifer test data, maintained water-level recorders and database of monitoring wells in Southeast Boise Groundwater Management Area, Sampled and analyzed borehole cuttings for aquifer framework studies
Geology Lab Instructor, Introduction to Geology at BSU

Other Positions:

Internship, BSU, Lithologic analysis of well-cuttings for basin analysis
Jewell Engineering, Boise ID. Draftsman – Commercial electrical plans
Technical Illustrator, Continental Data Graphics, Culver City, CA.
Aircraft assembly drawing, cameraman, incorporation of engineering orders

Additional Information:

- Member of North Ada County Technical Advisory Group (2007-present)
- Member of Groundwater Technical Advisory Committee for Negotiated Rulemaking for revision of Idaho Administrative Well Construction Rules
- American Water Works Association member
- 2008 American Water Works Association PNW Section Conference Presenter: "Converting a Supply well into an ASR well: Case Histories"
- Member of Treasure Valley Hydrologic Project Technical Advisory Committee (2000-2003).
- Member of Southeast Boise Groundwater Management Area Advisory Committee (2000-present)

- 2003 American Water Works Association PNW Section Conference Presenter: "Aquifer Conditioning with ASR in Boise, Idaho"
- 1997 American Water Works Association PNW Section Pre-Conference Seminar Presenter: "Implications of Well-Construction To Aquifer Water-Quality: Some Observations"
- Principle author: "Supporting Data for Groundwater Conditions and Aquifer Testing of the Tenmile Ridge Area of South Boise, Ada County, Idaho" 1998, by R Dittus, J. Allred, and E. Squires.
- Principle author: Hydrogeology, Geochemistry, and Well Construction of the Treasure Valley Hydrologic Project, Monitoring Well #1, Ada County, Idaho", 1999, by R Dittus, J. Allred, and E. Squires.
- Co- author: "Groundwater Conditions and Hydraulic Testing of the Boise-Fan Aquifer, Southeast Boise River Valley, Ada County, Idaho", 1993 by E. Squires, S. H. Wood, J.L. Osiensky, and R. Dittus

References: Available on request