

**APPENDIX D**

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**DR. BRADLEY NEWTON CORRESPONDENCE**

**Steve Kahn**

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**From:** Rick Sweet  
**Sent:** Tuesday, December 01, 2009 4:49 PM  
**To:** Gil Trujillo; Wendy Stockton  
**Cc:** Steve Kahn  
**Subject:** Client-Attorney Privilege; Hydrology Expert Response

Gil/Wendy,

Here is a response from a hydrology expert. The development could be a little better but the idea is there.

Thanks,

Rick

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**From:** Newton, Bradley E. [mailto:BRADLEY.E.NEWTON@saic.com]  
**Sent:** Tuesday, December 01, 2009 3:07 PM  
**To:** Rick Sweet  
**Subject:** as you request

Dear Mayor Lavignino and Honorable Council Members,

On December 1, 2009 your Council is scheduled to consider

1. A resolution approving, as a Responsible Agency, the Environmental Impact Report and adopting related findings of fact; and
2. Approval of an agreement with NCS D on the sale and delivery of water.

Mr. Rick Sweet, Director of Public Works City of Santa Maria, has asked me to comment on the general technical circumstance of the Santa Maria Groundwater Basin as it pertains to these agenda items.

My firm has conducted extensive technical evaluations of the condition of groundwater within the Santa Maria Groundwater Basin as established by the Phase III trial court decision in the Santa Maria Groundwater Litigation, and has been a participant to the preparation of the 1<sup>st</sup> Annual Report – Calendar Year 2008 on behalf of the Nipomo Mesa Management Area.

In my opinion, the current circumstance of the groundwater contours suggests that groundwater flows from the south to the north; originating in the Santa Maria Valley Management Area and flowing to the Nipomo Mesa Management Area. Producing groundwater from the area of the City of Santa Maria and conveying this water through the waterline intertie pipeline for delivery on the Nipomo Mesa: 1) does not change the water balance of the Santa Maria Groundwater Basin; 2) mitigates the circumstance of localized groundwater depression existing on the Nipomo Mesa; and 3) provides an opportunity to mitigate the northerly flow of groundwater.

Sincerely,  
Brad Newton

12/3/2009

## ***Bradley E. Newton, Ph.D., P.G.***

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Ph.D., Hydrology, University of California at Santa Barbara, 2004

M.A., Geography, University of California at Santa Barbara, 1997

B.A., Geologic Sciences, University of California at Santa Barbara, 1991

Professional Geologist (California) # 8181

### **WORK SUMMARY**

Dr. Newton is a Professional Geologist. He obtained his Ph.D. in Surface Water Hydrology and is a SAIC senior program manager with 20 years experience in environmental consulting. Dr. Newton has demonstrated expertise in vadose zone hydrology, watershed hydrology, and hydrologic monitoring design and implementation. His expertise includes in-depth understanding of runoff generating processes, seepage through the subsurface, groundwater recharge, surface water routing, design and application of numerical models, geomorphologic and geologic mapping, vadose zone and aquifer monitoring design and implementation. Dr. Newton has testified to his opinion under oath during hearing and trial proceedings.

Dr. Newton assists clients in programmatic development. He has successfully managed many projects including; the conceptual development and implementation of a groundwater recharge facility and nature park, the development and implementation of hydrologic and water quality monitoring program, conducting corrective action for National Pollutant Discharge Elimination System (NPDES) surface discharge permit, preparing and implementing soil characterization work plan for 13-acre confidential aggregate mining site, supporting regulatory compliance and geotechnical instability risk management efforts, and providing advice on regulatory and operational issues, preparing and submitting annual reports to state and local regulatory agencies, as well as local community groups.

Dr. Newton is an experienced technical advisor for efforts related to water resource management and planning, hydrogeological assessments and investigations, resolution of water quality problems, and compliance with water quality and environmental standards. Dr. Newton is a skilled facilitator, able to foster communication among diverse groups and stakeholders. He has strong organizational and analytical skills and a recognized ability to decipher and resolve problematic situations, including developing efficient, cost-effective solutions for projects competing with limited resources.

### **REPRESENTATIVE PROFESSIONAL ASSIGNMENTS**

- ◆ ***Water Rights Support, Los Angeles County:*** Technical advisor and Program Manager for the City of Palmdale, Ca, supporting the City in their application to the State Water Resources Control Board to appropriate water from surface water source.
- ◆ ***Litigation Support, Jackson, DeMarco, Tidus, and Peckenpaugh, San Luis Obispo County, California:*** Technical advisor supporting litigation relating to water supply.
- ◆ ***Technical Advisory Group Member:*** Participates as a voting member in a technical expert group and secretary to the Nipomo Mesa Management Area Technical Group pursuant to the Santa Maria

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December 15, 2009



Groundwater Basin Adjudication. Participated and authored Monitoring Program approved by the Court. Participated and authored the 2008 Annual Report.

- ◆ ***Programmatic Development of Groundwater Recharge and Nature Park, Los Angeles County:*** Program Manager for the City of Palmdale, Ca, envisioned the conceptual model for a groundwater recharge and nature park project on the Amargosa Creek, creator of conceptual design, manager of the EIR for project, manages all technical analyses relating to water for the project.
- ◆ ***Identification and Estimation of Annual Water Production from Groundwater, San Bernardino County, California:*** Project designer and manager of team of consultants to identify and classify land use categories by inspection of aerial photography, compute the actual evapotranspiration from each land use category, estimate the annual production for each parcel determined to be subject to water use, and design custom ARC Tools to augment databases.
- ◆ ***Hydrologic Monitoring and Water Quality Compliance, Private Coastal Residence, California:*** Managed project to remedy National Pollutant Discharge Elimination System (NPDES) surface discharge permit in violation of conducting water quality sampling and reporting. Prepared hydrogeologic history of site and successfully argued that condition of groundwater issuing to surface water was de minimis, and prepared and submitted annual and quarter-annual reports to state agency.
- ◆ ***Permitting, Compliance, and Hydrologic Monitoring, Private University, California:*** Manages team of consultants supporting regulatory compliance and geotechnical instability risk management efforts, including development and implementation of hydraulic monitoring plan, evaluation of geotechnical, water quality and other information, and advice on regulatory and operational issues, prepares and submits annual reports to state and local regulatory agencies, as well as local community groups. Conducts monthly monitoring of perched and regional groundwater to track temporal and spatial changes to groundwater regimes and to assess how water use impacts historic flow regimes or exacerbates existing geotechnical instability. Developed water balance model to track irrigation, evapotranspiration, surface runoff, soil storage, and deep percolation. Provides cost-saving and compliance-advancing strategies and implementation projections to client, and develops long-term strategic planning as it pertains to changes in the legislative environment.
- ◆ ***Groundwater Characterization, Effluent Disposal Site, Basic Management Incorporated, Henderson Nevada:*** Participated on team that prepared and implemented hydrogeologic characterization work plan for 2,332-acre confidential chemical disposal site in Clark County, Nevada. Site consists primarily of former wastewater effluent ponds (now dry) and system of conveyance ditches used to transport industrial discharge into ponds. Primary constituent discharged was perchlorate. Scope of work included extensive intrusive field investigation, using multiple drilling techniques, to collect chemical and physical data, laboratory analysis of chemical and physical samples, entry and management of data in project geographic information system (GIS)/relational database, evaluation of data to support description of conceptual site model, and reporting of findings and recommendations.
- ◆ ***Water Supply Resource Facility Conceptual Design, Los Angeles County, California:*** Project designer and project manager of team of consultants to create a groundwater recharge facility and environmental mitigation site to utilize undelivered State Water Project water and improve the long-term water supply of the region.
- ◆ ***Litigation Support, Jackson, DeMarco, Tidus, and Peckenpaugh, Ventura County, California:*** Presented testimony as expert witness and technical advisor supporting litigation relating to levee failure and damage to real property.

- ◆ **Regional Water Quality Control Board Compliance Document, San Bernardino County, California:** Project Manager and author of compliance document to the RWQCB to demonstrate no negative impact of recharge water to the Prado Basin Management Zone.
- ◆ **Litigation Support, Richards Watson & Gershon, San Bernardino County, California:** Technical advisor supporting litigation relating to subterranean storm drain failure and damage to real property.
- ◆ **Groundwater Basin Adjudication, Santa Maria County, California:** Supporting expert witness by evaluating long-term sustainable yield of groundwater basin, interactions of surface water and groundwater, and estimating unimpaired flow of regional-scale rivers.
- ◆ **Reclaimed Water Irrigation, Facilities Management Department, University of California, Santa Barbara:** Designed, proposed, and implemented research resulting in guidance document for daily practice of irrigation with reclaimed water from sewage treatment plant. Reported findings and recommendations.
- ◆ **Integrated Regional Groundwater Management Plan, San Bernardino County, California:** Manages team of consultants supporting regional water-use management efforts and prepare final Integrate Regional Groundwater Management Plan (IRGMP), by initiating and preparing for a number of working sessions to bring about a common understanding of the regional issues, objectives, and water management strategies, and to formulate a framework for the IRGMP, which include: the development of future water demands based on project growth in populations, changes in landuse, changes in water consumption patterns resulting from economic development, and demand management activities such as the implementation of Urban Water Management Plans; develop integrated water management strategies for the region; develop IRGMP implementation component; determine impacts and benefits of IRGMP; and prepare and review draft IRGMP for final IRGMP.
- ◆ **Burn Dump Site Characterization, Ventura, California:** Project manager on a focused site investigation of multi-use burn dump targeted for clean closure. Purpose of project is to document historic site usage, characterize material deposited, and estimate current volume of disposed material.
- ◆ **Fate and Transport of Petroleum Product, Ventura County, California:** Provided detailed spatial-temporal groundwater and contaminant characterization for litigation support. Effort resulted in favorable outcome for client.
- ◆ **Petroleum Hydrocarbon Site Investigation, Santa Ynez, California:** Led team to complete due diligence project for private landowner transactional support. Designed, executed, and reported investigation of previously buried fuel storage tank (UFT) that was suspected to have leaked petroleum fuel product into native soils.
- ◆ **Watershed Management Plan, Southwest New Mexico Water Planning Region, Deming, New Mexico:** Participated in preparing draft watershed management plan for Gila River, New Mexico.
- ◆ **Large Scale Biosphere-Atmosphere Experiment in Amazonia (LBA):** Designed and created mechanistic hydrologic hillslope model to address interaction of land use change and topography on hydrological functioning of Amazonia. Collected field observations and laboratory measurements. Analyzed empirical data.
- ◆ **Hydrology of Amazon Basin, University of California at Santa Barbara:** Performed research activities focusing on water balances and routing hydrology of Amazon basin at three spatial scales: hillslopes, mesoscale (~10,000 km<sup>2</sup>), and continental (~6,000,000 km<sup>2</sup>).
- ◆ **Litigation Support, Jones Day Reavis Pogue, Los Angeles, California:** Performed data analysis and organization for litigation to address groundwater and soil contamination by multiple constituents (PCBs,

DNAPL, LNAPL, mercury, battery production byproducts, etc.). Source of contamination was multiple manufacturing processes operated by multiple entities.

- ◆ ***Watershed Study, Cold Spring Canyon, Montecito, California, University of California, Santa Barbara:*** Designed, managed, and implemented study of safe yield from coastal bedrock aquifer. Authored paper entitled *Safe Yield of a Bedrock Aquifer in the Santa Ynez Mountains*.
- ◆ ***Geothermal Exploration, Western United States:*** Field geologist for exploration of geothermal systems capable of producing commercial electricity, which included monitoring drilling operations, analyzing cuttings, describing lithology and producing lithologic well logs, monitoring temperature and gas (particularly H<sub>2</sub>S and CO<sub>2</sub>), and performed reservoir tests.

### **PUBLICATIONS AND PRESENTATION**

- Newton, B.E. 2009. Mechanistic Hydrologic Hillslope Model, to be submitted to Water Resources Research. In preparation.
- Newton, B.E. 2004. Interactions of topography and landuse in the runoff response of mesoscale basins on the Brazilian craton. University of California at Santa Barbara. Dissertation. September 2004.
- Sobieraj, J.A., H. Elsenbeer, R. Marques, and B. Newton. 2002. Spatial variability of soil hydraulic conductivity along a tropical rainforest catena. *Geoderma*, vol 108, n 1-2, pp. 79-90, 2002.
- Sobieraj, J.A., H. Elsenbeer, R.M. Coelho, and B. Newton. 2001. Evaluation of Ksat and its controlling factors along a tropical rainforest catena. ASA-CSSA-SSSA Annual meeting - Sustaining earth and its people: Translating science into practice, Charlotte, North Carolina, October 21-25, 2001, p.334.
- Newton, B.E., T. Dunne, H. Elsenbeer, and J.M. Moraes. 1999. The effects of land-use on runoff generation for hillslopes on deeply weathered Precambrian basement rocks in the state of Rondonia, Brazil. Manaus99 International Symposium, Hydrological and Geochemical Processes in Large Scale River Basins, November 1999.
- Elsenbeer, H., B. Newton, T. Dunne, and J. Moraes. 1998. Soil hydraulic conductivities of latosols under pasture, forest and teak in Rondonia, Brazil. *Brazil, Hydrological Processes*, vol. 13, n. 9, pp. 1417-1422, 1998.
- Newton, B.E. 1997. Safe yield of a bedrock aquifer in the Santa Ynez Mountains. University of California at Santa Barbara. Master Thesis. June 1997.
- Newton, B.E., T. Dunne, and R.H. Shumway. 1996. Precipitation and evaporation in the Amazon Basin: Observations at a range of spatial and temporal scales. *EOS Transactions, AGU* 77(46), 1996.
- Newton, B.E. 1995. Invited Lecturer, Water in Santa Barbara. Scope, Sequence, and Coordination Summer Institute. University of California at Santa Barbara. July 1995.

### **ADDITIONAL PROFESSIONAL TRAINING**

- Groundwater Management in California, 2005
- OSHA 40-hour Health and Safety Training, 2005
- RiverWare training course (CADSWES), 2004
- Confined Space Entry Training and Lockout/Tagout, OSHA CFR 29, 1910.146 and 147, 2002



Radiation Safety and Nuclear Gauges, CPN Company, 1994

NLP Certified Practitioner, 1991