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IRRIGATION TRAINING & RESEARCH CENTER

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## TECHNICAL MEMORANDUM

Date: June 13, 2014

To: Darrin Polhemus, State Water Resources Control Board

From: Dr. Stuart W. Styles, ITRC Director  
Sarah Crable, ITRC Engineer

**Subject: Expert Panel Meeting Minutes – May 5-6, 2014**

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### **State Water Resources Control Board Nitrate Expert Panel**

Expert Panel Chair Dr. Charles Burt called the meeting of the Expert Panel to order at approximately 9:00 a.m. on Monday, May 5, 2014 in San Luis Obispo.

#### **1. Housekeeping Items – Dr. Charles Burt, Panel Chair**

- Facilities
- Agenda
- Public comment process

#### **2. Introduction – Expert Panel Members**

Dr. Lowell Zelinski  
Mark McKean  
Robert Hutmacher  
Dr. Charles Burt  
James duBois  
Till Angermann  
Bill Brush  
Daniel Munk

#### **3. Presentation of Charge..... Darrin Polhemus, State Water Resources Control Board**

**4. Regional Water Board Presentations**

**Region 3 Central Coast Regional Water Quality Control Board.....Angela Schroeter**

- Water quality status in the Region
- Explanation of Waiver of Waste Discharge Requirements tier system
- Answered questions from Expert Panel members

**Region 5 Central Valley Regional Water Quality Control Board.....Joe Karkoski**

- Background on Central Valley Region Waste Discharge Requirements and vulnerability designations
- Answered questions from Expert Panel members

**Region 5 Central Valley Regional Water Quality Control Board..... Clay Rodgers**

- Background on Dairies Waste Discharge Requirements
- Explanation of monitoring requirements
- Answered questions from Expert Panel members

**5. Invited Speaker Presentation #1..... Dr. Amrith Gunasekara,  
California Department of Food and Agriculture**

- Comments addressed questions to the Expert Panel: #2a-c, #7, and #12
- California Department of Food and Agriculture Nitrogen Tracking and Reporting Task Force Report background, participants, and findings
- Answered questions from Expert Panel members

**6. Invited Speaker Presentation #2.....Dr. Amadou Ba,  
California Department of Food and Agriculture**

- Comments related to questions posed to Expert Panel: #5, #6, #8a, #8b, #8d, and #8e
- Certified Crop Advisor (CCA) Nutrient management training statistics
- Fertilizer Research and Education Program (FREP) background, research projects, and existing database that compiles research information by crop type
- Answered questions from Expert Panel members

**7. Invited Speaker Presentation #3..... Parry Klassen,  
East San Joaquin Water Quality Coalition**

- Comments specific to the Central Valley Region Waste Discharge Requirements
- Background on East San Joaquin Water Quality Coalition
- Comments addressed questions posed to the Expert Panel: #7, #8, #5, #10c, and #13
- Answered questions from Expert Panel members

**8. Invited Speaker Presentation #4.....Dr. Joel Kimmelshue, Land IQ**

- Provided further explanation of the Nitrogen Hazard Index (NHI) and nitrogen budgeting
- Comments addressed questions posed to the Expert Panel: #1-7, #9, and #10
- Answered questions from Expert Panel members

**9. Invited Speaker Presentation #5..... Chris Kapheim, Alta Irrigation District**

- Background on groundwater in Alta Irrigation District Boundaries
- Commented on verification measures and origin of nitrates
- Commented on holistic analysis for solution
- Commented on use of monitoring wells
- Commented on reporting and coordination of data
- Commented on current regulatory mandates
- Answered questions from Expert Panel members

**10. Invited Speaker Presentation #6.....Dr. Ken Baerenklau, UC Riverside**

- Commented in regard to the economics of questions posed to Expert Panel members
- Commented on vulnerability and risk assessment
- Commented on application of best management practices
- Commented on questions posed to the Expert Panel: #5, #6, #8, and #9

**11. Invited Speaker Presentation #7..... Butch Massa, Comgro Soil Amendments**

- Personal background in agriculture industry
- Commented on soil analysis
- Commented on responsibilities of Certified Crop Advisors
- Commented on existing Conditional Waiver of Waste Discharge Requirements
- Commented on management practices
- Answered questions from Expert Panel members

**12. Invited Speaker Presentation #8.....Hung Le, Paramount Farming Company**

- Commented on relationship between nitrogen management and irrigation management
- Commented on understanding water movement
- Commented on Paramount's successful usage of nitrogen and irrigation application and accumulation analysis
- Commented on soil moisture analysis and leaf water potential
- Answered questions from Expert Panel members

**13. Invited Speaker Presentation #9.....Richard Smith, UC Cooperative Extension**

- Comments related to cool season vegetables in the Central Coast region
- Commented on crop residuals in soil
- Commented on current FREP study on irrigation water nitrate content
- Commented on nitrogen technologies
- Commented on CropManage by Mike Cahn
- Answered questions from Expert Panel members

**14. Invited Speaker Presentation #10..... Paul Giboney,  
M. Caratan Inc./ Columbine Vineyards**

- Commented on questions posed to Expert Panel: #1, #2, #2c, #2d, #3, #4b, #5-7, #8, #10, #10b, #10c, #10d, #10f, #12, #13
- Answered questions from Expert Panel members

**15. Invited Speaker Presentation #11..... George Adam, Innovative Produce**

- Commented on pump and fertilize
- Defined three classes of water pertaining to his comments
- Commented regulatory requirements pertaining to nitrates in well water
- Commented on accounting of nitrate application and uptake
- Answered questions from Expert Panel members

**16. Invited Speaker Presentation #12.....Dr. Robert Mikkelson,  
International Plant Nutrition Institute**

- Commented on types of nutrient efficiencies used in research and industry
- Commented on CCA program
- Commented on 4 R Nutrient Stewardship Principles: Right Source, Right Rate, Right Place, and Right Time
- Commented on FREP database
- Commented on Central Platte Valley example of direct link between nitrogen and water management
- Commented on Minnesota Nitrogen Fertilization and Promotion Team
- Answered questions from Expert Panel members
- Commented on nitrogen budgets and qualitative indicators

Dr. Charles Burt adjourned the meeting for the day at approximately 5:00 p.m. on May 5, 2014, to continue the next morning.

Expert Panel Chair, Dr. Charles Burt called the meeting of the Expert Panel to order at approximately 8:30 a.m. on Tuesday, May 6, 2014 in San Luis Obispo.

**17. Housekeeping Items – Dr. Charles Burt, Panel Chair**

- Facilities
- Agenda
- Public comment process

**18. Introduction – Expert Panel Members (all present)**

**19. Presentation of Charge..... Darrin Polhemus, State Water Resources Control Board**

- Answered questions from Panel Chair
- Commented on Basin Plans and water code
- Answered questions from Expert Panel Member

**20. Invited Speaker Presentation #1.....Roy Killgore, San Ysidro Farms**

- Commented on soil sampling of nitrate
- Commented on management of soil concentration of nitrate
- Commented on plant nutrition
- Commented on timing of nitrate application
- Commented on relationship between potassium and nitrate in plant uptake
- Answered questions from Expert Panel members

**21. Invited Speaker Presentation #2.....Mark Mason, Salinas Valley Grower**

- Commented on sampling and data collection required for compliance with Central Coast Waiver of Waste Discharge Requirements
- Commented on utilization of previous and future use of CropManage in nutrient and irrigation management
- Commented on photo monitoring
- Answered questions from Expert Panel members

**22. Public Commenter #1 .....Steve Shimek, Otter Project/Monterey Coastkeeper**

- Commented on treatment options of agricultural waters
- Commented on monitoring
- Answered questions from Expert Panel members

**23. Public Commenter #2 .....Dr. Jean-Pierre Wolff,  
Chairman of Central Coast Regional Water Quality Control Board**

- Commented on agricultural differences between Central Coast and Central Valley
- Commented on adaptive aspect of agricultural practices
- Commented on Central Coast Water Board approach to nitrate issues
- Commented on study on sugar beets done in France in collaboration with Canada
- Suggested that “field trips” may be valuable for panel members

**24. Public Commenter #3 ..... Claire Wineman,  
Grower-Shipper Association of Santa Barbara and San Luis Obispo Counties**

- Commented on implementation of Waiver of Waste Discharge Requirements for growers
- Commented on paperwork requirements of Waiver of Waste Discharge Requirements for growers
- Answered questions from Expert Panel members

**25. Public Commenter #4 ..... Kirk Schmidt  
Central Coast Water Quality Preservation, Inc.**

- Commented on the surface water sampling completed for the Central Coast region
- Commented on recycled water use
- Commented on CIMIS station locations in the Central Coast region
- Commented on multiple crops rotations on small acreage
- Answered questions from Expert Panel members

**26. Public Commenter #5 .....John Schaap, Kern River Watershed Coalition Authority**

- Commented on groundwater monitoring
- Commented on monitoring of surface management practices
- Commented on Nitrate Hazard Index and mass balance
- Answered questions from Expert Panel members

**27. Public Commenter #6 ..... Kay Mercer, KMI**

- Commented on cost of implementing Central Coast Waiver of Waste Discharge Requirements for growers
- Commented on data collection requirements of the Central Coast Waiver of Waste Discharge Requirements
- Answered questions from Expert Panel members

**28. Public Commenter #7 .....Pearl Kan, California Rural Legal Assistance League**

- Commented on communities with contaminated drinking water wells
- Commented on cost of noncompliance with the California Water Code
- Answered questions from Expert Panel members

**29. Public Commenter #8 .....Abby Taylor-Silva,  
Grower-Shipper Association of Central California**

- Commented on coalition-based approach option for growers in the implementation of the Central Coast Waiver of Waste Discharge Requirements
- Commented on best management practices
- Commented on Central Coast Groundwater Quality Coalition
- Answered questions from Expert Panel members

**30. Clarification Item #1..... Darrin Polhemus, State Water Resources Control Board**

- Explanation of Open Meeting Act

**31. Clarification Item #2.....Angela Schroeter,  
Region 3 Central Coast Regional Water Quality Control Board**

- Provided an explanation of Waiver of Waste Discharge Requirements tier system and subsequent monitoring and reporting requirements
- Answered questions from Expert Panel members

Dr. Charles Burt adjourned the meeting at approximately 4:30 p.m. on May 6, 2014. The next scheduled Expert Panel meeting will be held on May 7, 2014 in Tulare.