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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

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 #1Steve 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 #5John 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 #7Pearl 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 #8Abby 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.