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## Central Valley Regional Water Quality Control Board

19 June 2018

Mike Wackman, Legislative/Communications Director  
San Joaquin County and Delta Water Quality Coalition  
3294 Ad Art Road  
Stockton, CA 95215

### **REVIEW AND CONDITIONAL APPROVAL OF THE SAN JOAQUIN COUNTY AND DELTA WATER QUALITY COALITION'S GROUNDWATER QUALITY TREND MONITORING PROGRAM**

Thank you for submitting the San Joaquin County and Delta Water Quality Coalition's Groundwater Quality Trend Monitoring Program Work Plan (GQTMP), as required by Attachment B, Section IV.E of General Order No. R5-2014-0029. Central Valley Water Board staff has reviewed the GQTMP and determined that while the well network needs some additional development, it is sufficient for the Coalition to begin sampling. The GQTMP is conditionally approved, and monitoring may commence as proposed in the GQTMP.

Although the monitoring network is generally adequate, further development is needed to provide coverage for the Coalition in some high and low vulnerability areas. In particular, groundwater monitoring is needed in the area near Highway 26 and Escalon-Bellota Road in San Joaquin County, where nitrates in groundwater have been shown to be elevated. Final approval will be provided once a complete monitoring network is developed.

To obtain a regional understanding of trends from samples collected this year, any sampling that occurs in the 2017-2018 water year, or early in the 2018-2019 water year (after 30 September 2018) must be reported and evaluated with the 2018 Annual Monitoring Report. **By 1 May 2019** provide all trend monitoring analytical data and an evaluation of groundwater trends for the summer/fall 2018 sampling efforts. The Coalition's 1 May 2019 Annual Monitoring Report must also address any additional recommendations made by Water Board staff in the enclosed memorandum.

If you have any questions regarding this letter, please contact Wesley Ouimette at (916) 464-4667 or by email at [wesley.ouimette@waterboards.ca.gov](mailto:wesley.ouimette@waterboards.ca.gov).

Sincerely,

*Original signed by*

Patrick Pulupa  
Executive Officer

Enclosure: Central Valley Water Board Staff Review Memo of the Coalition's GQTMP

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## Central Valley Regional Water Quality Control Board

**TO:** Sue McConnell, P.E.  
Program Manager  
Irrigated Lands Regulatory Program

Glenn Meeks, P.G.  
Senior Engineering Geologist  
Irrigated Lands Regulatory Program

**FROM:** Wesley Ouimette  
Engineering Geologist  
Irrigated Lands Regulatory Program

**DATE:** 4 June 2018

**SUBJECT:** REVIEW OF THE GROUNDWATER QUALITY TREND MONITORING PROGRAM  
FOR THE SAN JOAQUIN COUNTY AND DELTA WATER QUALITY COALITION

On 19 December 2016, the San Joaquin County and Delta Water Quality Coalition (Coalition) submitted their Groundwater Quality Trend Monitoring Program (GQTMP) as required by section VIII.D.3 of Waste Discharge Requirements, General Order R5-2014-0029 (Order). After discussions with Central Valley Water Board staff, the Coalition submitted a revised GQTMP on 17 May 2018.

The purpose of the GQTMP is to determine current water quality relevant to irrigated agriculture and to develop long-term groundwater quality data that can be used to evaluate trends related to irrigated agricultural practices.

The GQTMP was reviewed to determine compliance with requirements pursuant to section VIII.D.3 of the Order, and section IV of Attachment B, Monitoring and Reporting Program (MRP) to the Order. Recommended revisions/additions for incomplete items are provided below. The memorandum item numbers correspond to item numbers in Table 1.

### Item 3. Groundwater Quality Trend Monitoring Objective

Section IV.C.1 of the MRP states that the objectives of Groundwater Quality Trend Monitoring are (1) to determine current water quality conditions of groundwater relevant to irrigated agriculture, and (2) to develop long-term groundwater quality information that can be used to evaluate the regional effects (i.e. not site-specific effects) of irrigated agriculture and its practices.

The proposed well network is generally adequate but needs further development to be complete. The proposed network does not cover some of the delineated high and low vulnerability subareas. However, the Coalition is aware of this and stated on page 21 of the GQTMP that they “intend to augment the network progressively as needed to fill data gaps”.

Additionally, it has come to Staff’s attention that groundwater wells near Highway 26 and Escalon-Bellota Road in San Joaquin County have had nitrate exceedances for multiple years. This data was unavailable to the Coalition during the development of their Groundwater Assessment Report, and this area is currently designated as a low vulnerability area.

Staff Recommendation: Staff agrees with the Coalition’s “Evaluation of Monitoring Data” report component of the Annual Monitoring Report Component that discusses the use of all readily available monitoring data to determine deficiencies in monitoring and whether additional sampling locations are needed. Also, at least one monitoring well will need to be secured in the area near Highway 26 and Escalon-Bellota Road in San Joaquin County prior to the 2019 monitoring event, and all monitoring data from this area will need to be included in the Coalition’s next Groundwater Assessment Report.

#### **Item 5. Well Details**

Section IV.E.2 of the MRP requires that the GQTMP provide details for wells proposed for trend monitoring, including:

- i. GPS coordinates;
- ii. Physical address of the property on which the well is situated (if available);
- iii. California State well number (if known);
- iv. Well depth;
- v. Top and bottom perforation depths;
- vi. A copy of the water well drillers log, if available;
- vii. Depth of standing water (static water level), if available (this may be obtained after implementing the program); and
- viii. Well seal information (type of material, length of seal).

Staff Recommendation: A few of the proposed wells are missing the well seal information. These wells should be qualified in the trend analysis. The Coalition should consider replacing these wells with ones where the required details above are complete.

#### **Item 6. Trend Monitoring**

Section IV.E.3 of the MRP requires that trend monitoring wells be sampled, at a minimum, annually at the same time of year for conductivity, pH, dissolved oxygen, temperature, and nitrate as nitrogen. The GQTMP states that the required constituents will be collected annually.

Staff Recommendation: The Coalition should update the GQTMP to indicate that future samples will be collected at the same time of year.

#### **Item 11. Submitting Data**

Provision V.B of the MRP requires that annually, by 1 May, the third-party shall submit the prior year’s groundwater monitoring results as an Excel workbook containing an export of all data records uploaded into the State Board Geotracker database.

Staff Recommendation: The GQTMP should be updated to explicitly state that an Excel Workbook will be submitted.

Table 1. Groundwater Quality Trend Monitoring Program (GQTMP) Requirements and Staff Review Findings.

Item No.	Requirement	Item meets requirement	Incomplete / Not included	Location in GQTMP	Comments
1	The trend monitoring network will be implemented over both high and low vulnerability areas.	✓		Figure 5, p. 24	
2	The trend monitoring network will employ shallow wells, but not necessarily wells completed in the uppermost zone of first encountered groundwater.	✓		p.22, Appendix A	
3	The proposed monitoring well network shall consist of a sufficient number of wells to provide coverage in the third-party geographic area so that current water quality conditions of groundwater and composite regional effects of irrigated agriculture can be assessed according to the trend monitoring objectives.		✓	Figure 5, p. 24	<p>The proposed network does not cover some of the delineated HVA and LVA subareas.</p> <p>A monitoring well should be secured near Highway 26 and Escalon-Bellota Road in San Joaquin County</p>
4a	The rationale for the number, distribution, and location of trend monitoring wells. The rationale needs to consider:	✓		P. 22, & throughout	<p>The rationale stated on page 22 is not complete; however, sufficient information stated throughout the document supports the intended rationale which takes into account the variety of agricultural commodities, the conditions discussed/identified in the GAR related to the vulnerability prioritization within the third-party area, and the areas identified in the GAR as contributing significant recharge to urban and rural communities where groundwater serves as a significant source of supply.</p>
4b	The variety of agricultural commodities produced within the third-party's boundaries (particularly those commodities comprising the most irrigated agricultural acreage).	✓		P. 22, & throughout	

Item No.	Requirement	Item meets requirement	Incomplete / Not included	Location in GQTMP	Comments
4c	The conditions discussed/ identified in the GAR related to the vulnerability prioritization within the third-party area.	✓			
4d	The areas identified in the GAR as contributing significant recharge to urban and rural communities where groundwater serves as a significant source of supply.	✓			
5	Well details. Details for wells proposed for trend monitoring, including: <ul style="list-style-type: none"> <li>i. GPS coordinates;</li> <li>ii. Physical address of the property on which the well is situated (if available);</li> <li>iii. California State well number (if known);</li> <li>iv. Well depth;</li> <li>v. Top and bottom perforation depths;</li> <li>vi. A copy of the water well drillers log (if available);</li> <li>vii. Depth of standing (static) water level, if available (this may be obtained after implementing the program); and</li> <li>viii. Well seal information (type of material, length of seal).</li> </ul>	✓		Appendix A	A few of the proposed wells are missing the well seal information. These wells should be qualified in the trend analysis. The Coalition should consider replacing these wells with ones where the required details are complete.
6	Sampling shall occur at a minimum annually at the same time of year for conductivity, pH, dissolved oxygen, temperature, and nitrate as nitrogen. In addition, sampling shall occur the first year and once every five years thereafter for total dissolved solids, carbonate, bicarbonate, chloride, sulfate, boron, calcium, sodium, magnesium, and potassium.		✓	Pg. 20, tables 2 & 3; pg. 28	The GQTMP should state that sampling will occur at the same time of the year.

Item No.	Requirement	Item meets requirement	Incomplete / Not included	Location in GQTMP	Comments
7	The methods to be used to evaluate trends shall be proposed by the third-party in the trend monitoring GQTMP.	✓		p. 29-30	
8	Sections 6735 and 7835 of the California Business and Professions Code requires that all final reports shall bear the signature and seal or stamp of the licensee and the date of signing and sealing or stamping.	✓		Cover Letter	
9	Reporting Provision IX.2 of the Order requires that all reports be accompanied by a cover letter containing the certification statement provided in IX.3 and signed by an authorized representative.	✓		Cover Letter	
10	Order Attachment B, Provision V.B requires that annually, the third-party shall upload into the State Board Geotracker database the prior year's groundwater monitoring results.	✓		p.30	
11	Order Attachment B, Provision V.B requires that annually, by 1 May, the third-party shall submit the prior year's groundwater monitoring results as an Excel workbook containing an export of all data records uploaded into the State Board Geotracker database.		✓	p.30	The GQTMP should explicitly state that an Excel Workbook will be submitted.