

# San Jacinto Dairy Salt Offset Groundwater Monitoring Annual Monitoring Work Plan for “No Impact” Dairies

April 1, 2016

## Introduction

In November 2014, the Western Riverside County Agriculture Coalition (WRCAC) submitted a report, *San Jacinto Salt Offset and Dairy Impact Report (Salt Report)*, which fulfilled the provisions included in the National Pollutant Discharge Elimination System (NPDES) permit and Waste Discharge Requirements (WDRs) for Dairies and Related Facilities in the Santa Ana Region (Order R8-2013-0001). The Salt Report findings of no impact, potential impact, and inconclusive impact to groundwater TDS and nitrate quality for individual dairies or groups of neighboring dairies were based on comparison of available groundwater data from wells that are hydrologically upgradient and downgradient of each facility or group of facilities and wells that are on-site at each facility or group of facilities. The Santa Ana Regional Water Quality Control Board's (Regional Board) response letter, dated May 21, 2015, outlined the need for further investigation based on the findings of the *Salt Report*. The response letter categorized the specific needs for further investigation based on three possible outcomes of the *Salt Report*: no impact, potential impact, and inconclusive impact. The response letter stated that, “where the *Salt Report* indicates that a dairy has No Impact for TDS and/or nitrate, the CAFOs must perform groundwater monitoring for on-site wells on an annual basis to continue to gather groundwater quality data for TDS and nitrate. Annual monitoring should continue for the term of the General Dairy Permit. The discharger shall submit a work plan to the Regional Board for the groundwater monitoring.” This Work Plan addresses the annual monitoring requirements for the facilities which the *Salt Report* concluded had no impact for total dissolved solids (TDS) and/or nitrate (NO<sub>3</sub>).

The 2014 *Salt Report* analysis found that 19 of the dairies evaluated had no impact for NO<sub>3</sub>, and eight of those dairies also had no impact for TDS. In January, 2016, after consultation with the Regional Board, WRCAC initiated activities to conduct the first re-evaluation of groundwater monitoring data to incorporate updated data collected since the 2014 report was prepared and to reflect revisions to the selection of wells for individual dairies and groups of dairies based on new information on groundwater flow direction. The updated report found that 19 of the dairies evaluated had no impact for NO<sub>3</sub>, and ten of those dairies also had no impact for TDS. One dairy had no impact for TDS only, as shown in Table 1.

**Table 1. Dairies with a finding of “No Impact” for NO<sub>3</sub> or TDS in the April 1, 2016 updated Salt Report**

Dairy	No Impact for:
Hettinga Dairy	NO <sub>3</sub> and TDS
John & Margie Oostdam Dairy	NO <sub>3</sub> and TDS
Oostdam Dairy	NO <sub>3</sub> and TDS
Boersma Dairy – both sides of fault	NO <sub>3</sub>
Gerben Hettinga Expressway Dairy – both sides of fault	NO <sub>3</sub>
Hollandia Dairy – both sides of fault	NO <sub>3</sub>
Marvo Holsteins Dairy #2 – both sides of fault	NO <sub>3</sub>
Dick Van Dam Dairy	NO <sub>3</sub>
Cottonwood Dairy	NO <sub>3</sub>
Bootsma-Silva Farms/Ramona Dairy #2	NO <sub>3</sub>
Albert Goyenette Dairy #2	NO <sub>3</sub> and TDS
John Bootsma Dairy	NO <sub>3</sub> and TDS
Offinga Dairy	NO <sub>3</sub> and TDS
Pastime Lakes Dairy	NO <sub>3</sub> and TDS
Jim Bootsma Jr. Dairy	NO <sub>3</sub> and TDS
Marvo Holsteins Dairy	NO <sub>3</sub> and TDS
Arie & Josh De Jong Dairy	NO <sub>3</sub>
CBJ Dairy <sup>a</sup>	NO <sub>3</sub>
Art Oostdam Dairy	NO <sub>3</sub> and TDS
Scott Brothers Dairy – south of fault	TDS

a. Facility vacant as of March, 2016.

## Annual Monitoring

WRCAC will obtain groundwater TDS and NO<sub>3</sub> data from EMWD for appropriate wells for each facility or group of facilities in Table 1, or for which any future updated analysis finds no impact for TDS or NO<sub>3</sub>. For the operating dairies listed in Table 1, WRCAC will obtain groundwater TDS and NO<sub>3</sub> data for the wells shown in Table 2.

**Table 2. Wells associated with dairies having “No Impact” for NO<sub>3</sub> or TDS in the April 1, 2016 updated Salt Report**

Dairy or Group of Dairies	Upgradient Wells	Facility Wells	Downgradient Wells
Hettinga, John & Margie Oostdam, and Oostdam Dairies	6, 14, 18, 68, 110, 123, 124, 153, 154, 155	37, 38, 56, 109, 134	41, 42, 118
Boersma, Gerben Hettinga Expressway, Hollandia, and Marvo Holsteins #2 Dairies	Lakeview/Hemet North GMZ 37, 38, 41, 42, 56, 134	Lakeview/Hemet North GMZ 39, 44, 55, 62, 89, 90, 115, 116	Lakeview/Hemet North GMZ 103, 135
	Upper Pressure GMZ 121	Upper Pressure GMZ 148	Upper Pressure GMZ 136, 138, 139
Dick Van Dam, Cottonwood Dairy, and Bootsma-Silva Farms/Ramona #2 Dairies	40, 114, 152, 156	4, 6, 123, 124, 66, 67	14, 18, 109, 110
Albert Goyenette Dairy #2, John Bootsma, and Offinga Dairies	47, 48, 49, 111, 129, 130, 131	5, 26, 53, 54, 92	126, 127
Pastime Lakes Dairy	62, 89, 90, 103	57, 135, 137	126, 127
Jim Bootsma Jr. and Marvo Holsteins Dairies	63	91, 122	None available
Arie & Josh de Jong and CBJ Dairies	75, 78, 104	9, 58, 73, 96, 97, 140, 141	118, 119, 120, 121
Art Oostdam Dairy	59, 95, 142, 143, 145, 151 <sup>a</sup>	None available	59, 95, 142, 143, 145, 151 <sup>a</sup>
Scott Brothers Dairy	60, 146	None available	83

a. Because the groundwater flow direction was variable, these wells were not identified as upgradient or downgradient, but only as outside of the footprint of the facility.

WRCAC will compile the data for wells associated with facilities and groups of facilities identified as having “no impact” for NO<sub>3</sub> or TDS and submit them to the Regional Board annually within 60 days of the date the data are made available by EMWD, for the duration of Order R8-2013-0001. For wells where the TDS and/or NO<sub>3</sub> levels do not change significantly from year to year, it may be appropriate to reduce the monitoring frequency after a suitable monitoring period.

WRCAC will provide EMWD with a list of wells for which EMWD’s monitoring data will support WRCAC’s compliance with this requirement after the updated *Salt Report* analysis is complete. WRCAC will coordinate with EMWD on an ongoing basis to minimize potential impacts of EMWD’s operational decisions to eliminate specific wells or parameters from its monitoring program. If dairies in the service area of Metropolitan Water District (MWD) or Elsinore Valley Municipal Water District (EVMWD) are added to the list of “no impact” facilities based on future analysis (see the following section), WRCAC will conduct similar coordination activities with those entities.

### **Additional Reporting and Anticipated Updates**

In addition to compiling and submitting groundwater data, WRCAC will repeat the analysis described in the *Salt Report* to incorporate new data collected by EMWD, MWD, and EVMWD, as appropriate and applicable. If additional facilities are added to the list of no impact facilities based on future analyses, WRCAC will notify the Regional Board of the change in status including the facility name and a report detailing the analysis that resulted in the revision. WRCAC will begin collecting data for the wells associated with those facilities and will submit those data to the Regional Board in subsequent annual reports. If facilities are removed from the no impact category monitoring wells associated with those facilities will be removed from the list of monitored wells.