

# CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

## WATERSHED REPORT

**ACL Complaint R5-2012-0515  
Attachment F  
19 July 2012 Inspection Report**

**INSPECTION DATE:** 19 July 2011  
**FACILITY:** Del Mar Farms  
**LOCATION & COUNTY:** Cropland APNs 027-018-055 and 049-014-001  
Westley, Stanislaus County  
**INSPECTED BY:** Terry Bechtel  
**ACCOMPANIED BY:** Lt. Phil McKay, Ca Dept. of Fish and Game

### OBSERVATIONS AND COMMENTS:

On 19 July 2011 at approximately 11:30, I observed that the tomato cropland on the south side of JT Crow Road approximately 100 yards east of Hwy 33 (see map) had sediment laden field runoff flowing into the Amaral Line. The Amaral Line drainage flows into the San Joaquin River. This field is the site of a prior sediment discharge event noted by Water Board staff on 19 May 2011. On the supply end of the field I saw a tank with an open valve and a clear liquid currently flowing from the tank into the cropland's irrigation supply water via a metering box.

The tank did not have a tag or other labeling on it to identify what was in the tank. It did have the number "109" on the tank and a label with DeIDon Fertilizer Company, Westley – Firebaugh with the phone number (209) 894-6405. I contacted Lt. Phil McKay of the CA Dept. of Fish and Game regarding the event. I did not have the contact information for the grower/operator.

Lt. McKay arrived at the site at approximately 12:15. I showed him the tank, irrigation supply water ditch, and the field drainage. I photographed the tank and flow from the tank into the irrigation supply water at 12:30.

Lt. McKay and I then checked the irrigation supply water from the Central California Irrigation District (CCID) Main Canal at the control box at JT Crow Road just east of Hwy 33 (see map). The water was clear, and had an electrical conductivity in micromhos/cm (EC) of 692. At 12:50, Lt. McKay and I collected a sample of the supply water at this location.

Lt. McKay and I then went back to the tank. The liquid in the tank was flowing through a line to a metering box (often referred to as a battery box). As we arrived, one of the workers came over quickly and shut off the tank valve. Because there was no tank label, I needed a sample to run an analysis to determine what was flowing into the field and subsequently down the drain to the San Joaquin River. I asked the worker to turn the valve back on so I could get a sample and check the flow rate. At 13:02 hrs I sampled the flow from the tank and measured the flow from the metering box. It took 29 seconds to fill a one pint bottle. Because the tank was not labeled, I didn't know what was in it, or if the valve setting was critical to the operation. I told the worker to set

Approved:		
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the valve at whatever position it was supposed to be in. He nodded and left the valve open, as it was when I first arrived at the site. I asked the worker who was in charge of farming the field. The irrigator said it was "Maring". Lt McKay and I sampled the water in the supply ditch at 13:22 hrs. and the field drainage at 13:40 hrs. The field drainage flow rate into the Amaral Line was measured at 12 feet (4 paces) in 7 seconds, approximately 4 foot wide on the top, 2 foot wide on the bottom, and 6 inches deep. Reducing the dimensions of each cross section measurement to 70 percent to allow for potential field measurement variability, and adjusting the flow velocity by a 0.66 friction coefficient, the adjusted flow volume was 373.25 gallons per minute (22,395 gl/hr).



Photos taken at 12:30 - Tank next to JT Crow Road with clear liquid flowing via the metering box into the irrigation supply water. Hwy 33 is to the left of the photo and the tomato field is to the right of the photo.

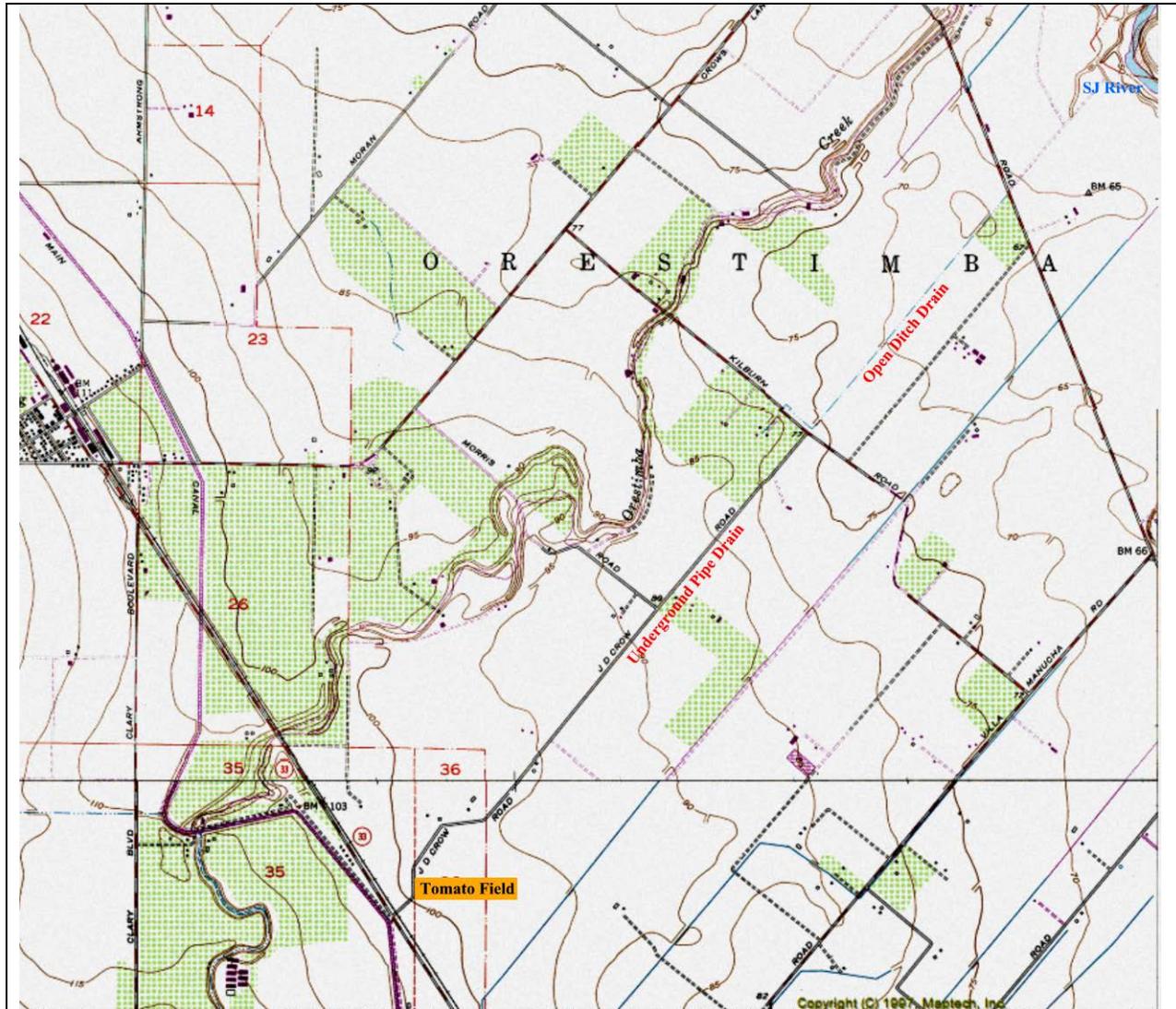
Based on field observations, we did not have information that indicated that it was an ammonia type fertilizer, so our sampling was focused mainly on sediment issues.

When we finished at the cropland site, Lt. McKay left. I continued to follow the drainage down gradient. At one point, a portion of the drain water was being picked up to irrigate an alfalfa field, while the remainder continued east in the Amaral Line (see Photos 5, 6, and 7).

I then started to go to Del Don Fertilizer in Westley to ask about the tank. Along the way I saw a sign for a facility called Del Mar Seed Co. I thought it may be related, so I stopped in. I asked the guy in the office if it was the same as the cropland operator. He said it was related, but a separate company. He said the field was farmed by Del Mar Farms and gave me the phone number (209) 894-5555. I called the phone number. The person that answered said that Jon Maring was not available, but I might be able to catch Zach Maring at (209) 605-5946. I called Zach Maring and arranged to meet him at the site.

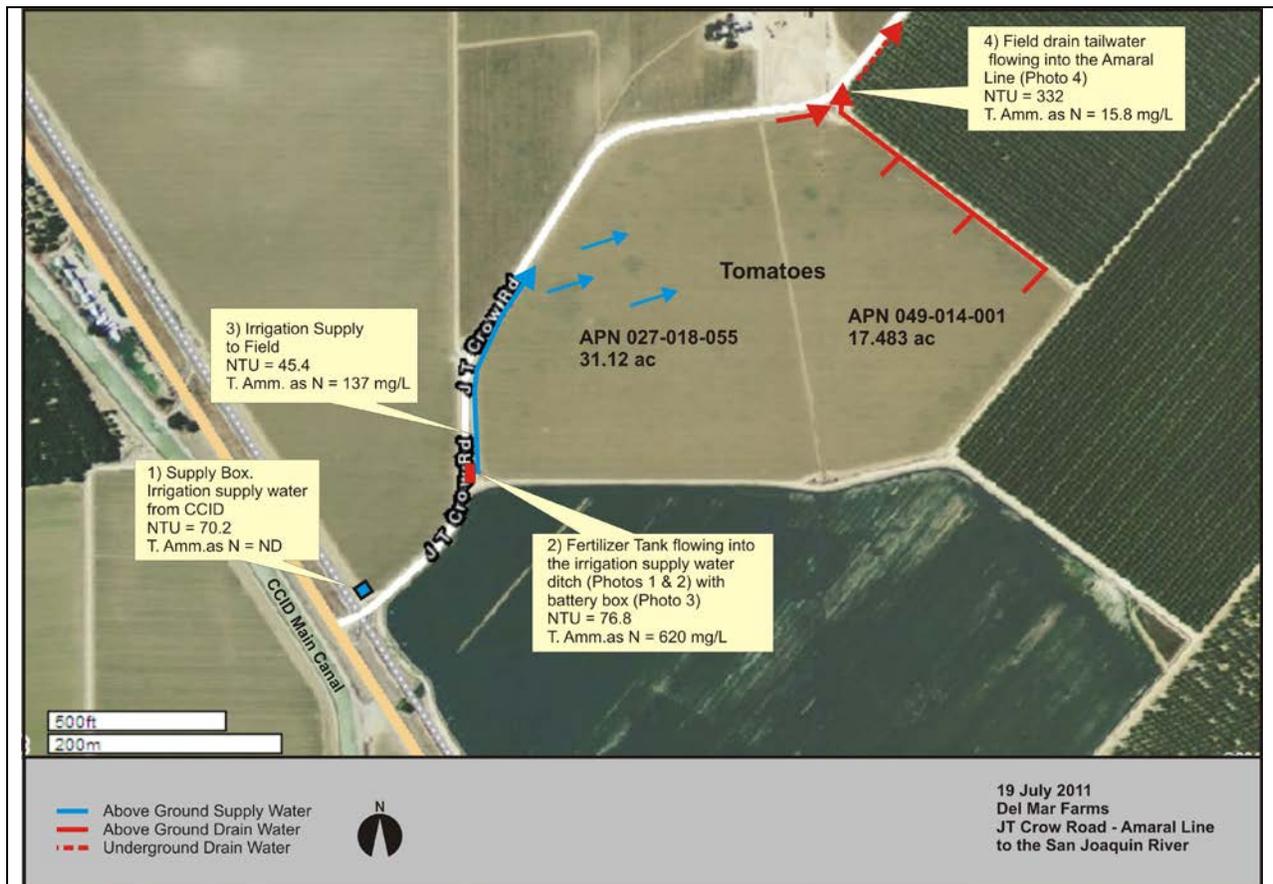
I met with Zach Maring at approximately 4:00 pm. When I got there, the irrigation had been stopped and the fertilizer tank moved to an equipment yard area. Zach Maring said that the irrigation had been completed. He said that the tank was a calcium nitrate

water run fertilizer application. I explained the sediment and fertilizer runoff issues. He took me around some of the cropland on the north side of JT Crow Road to show me how the irrigation and drainage system lays out. I told him that the elevated sediment load, as well as the fertilizer runoff were the issues. I said that I would like to come back to meet with him and Jon Maring to discuss the recent events regarding both sites.



**Map:** Approximately 3.5 miles from the tomato field to the San Joaquin River

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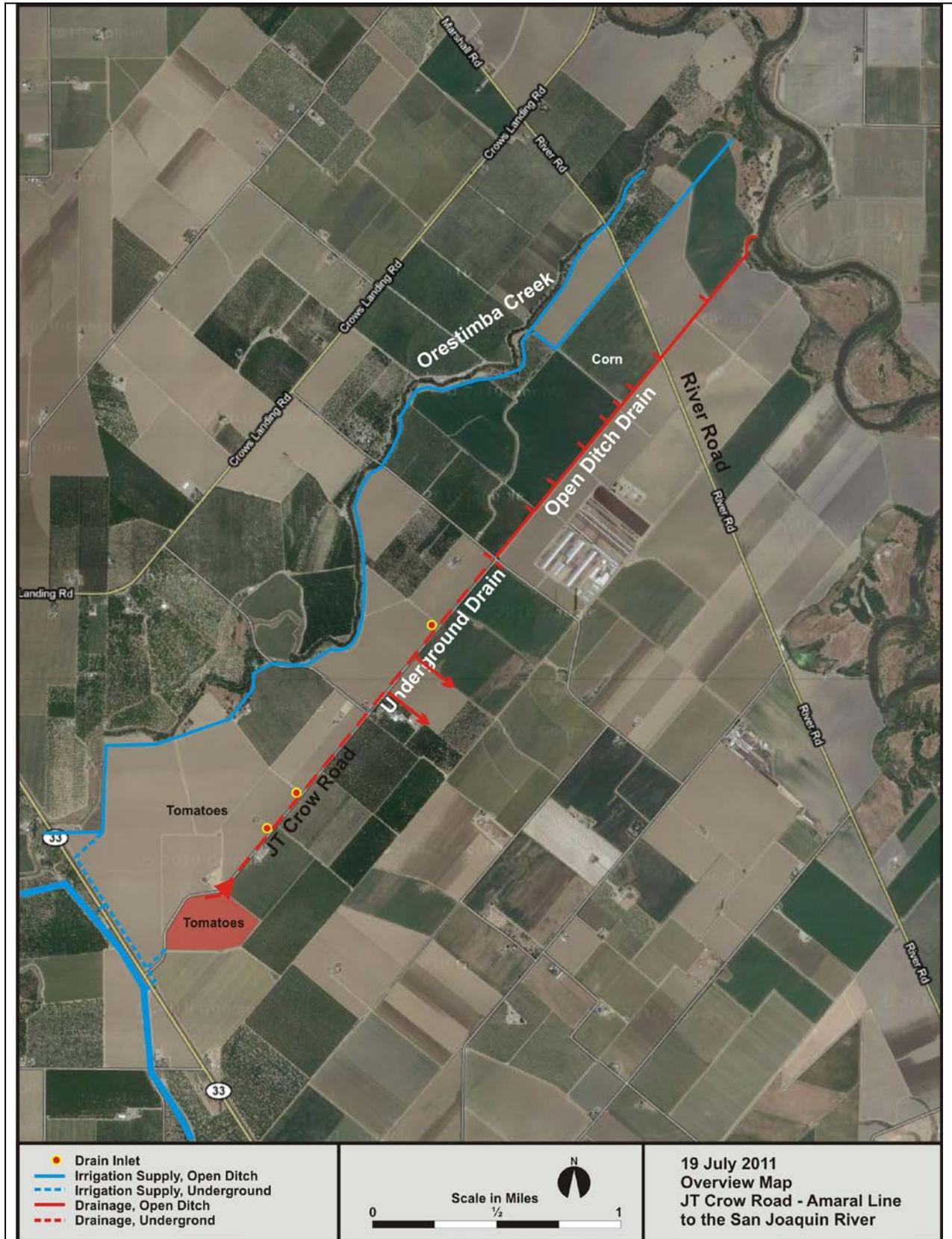


Sample Location	Turbidity (NTU)	Amm. as N mg/L	Setteable Solids mg/L	Suspended Solids mg/L	Calcium		Nitrate-N mg/L
					µg/L	mg/L	
1) 12:50 - Supply at Box	70.2	ND	ND	69.0	49,300	49.3	0.69
2) 13:02 - Fertilizer Tank	76.8	620	ND	3570	130,000,000	130,000	193,000
3) 13:22 - Supply Ditch	45.4	137	0.1	119	30,700	30.7	8.64
4) 13:40 - Tailwater	332	15.8	0.2	572	50,100	50.1	430

	EC µmhos/cm	Temp C°	pH
1) Supply at Box	692	26.2	8.62
2) Fertilizer Tank	112.6	30.7	3.92
3) Supply Ditch	508	26.7	8.23
4) Tailwater	652	32.6	8.11

**Basin Plan NTU Limits:**

Where natural turbidity is between 0 and 5 NTUs, increases shall not exceed 1 NTU  
 Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20%  
 Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs  
 Where natural turbidity is between greater than 100 NTUs, increases shall not exceed 10%



**SUMMARY:**

Sediment laden field runoff, as well as a fertilizer water run was flowing from the Del Mar Farms cropland, into the Amaral Line, which is a tributary to the San Joaquin River. A joint agency investigation with DF&G was conducted. Field observations were recorded and water samples collected. Follow-up is planned.

Note: When the lab samples were received, the analysis for the fertilizer tank indicated (and was later confirmed by the operator) that it was CAN-17 (calcium ammonium nitrate solution). CAN-17 is available via a number of distributors. It is derived from ammonium nitrate and calcium nitrate. The analysis is 17 % nitrogen (5.4% ammoniacal-N, 11.6% Nitrate-N) and 8.8% calcium (from calcium nitrate).



**Photo 1:** Looking at the tank with the battery box water running a clear viscous liquid into the irrigation supply water. (later identified as Calcium Ammonium Nitrate fertilizer – CAN 17).



**Photo 2:** No tank tags indicating what was inside the tank were seen.



**Photo 3:** The flow from the battery box took 29 seconds to fill a 1 pint bottle.



**Photo 4:** The tailwater drainage from the (with the fertilizer still being applied in the water) was flowing into the area drain into the Amaral Line underground pipe.

Flow rate from the field into the drain was approximately 4 ft wide, ½ foot deep, with a velocity of approximately 12 ft. in 7 seconds. Adjusted for float velocity coefficient of 0.66, the rate was approximately 102 ft<sup>3</sup>/min.



**Photo 5:** Looking west from a control box on the Amaral Line toward the tomato field (past the trees in the photo).



**Photo 6:** A portion of the water in the Amaral Line (including the tailwater from the field) was being used as irrigation water by other farms to irrigated an alfalfa field (toward the top of the photo). The balance continued east toward the S.J. River (left of the photo and shown in Photo 7).



**Photo 7:** The balance was flowing east (left in the photo) to other properties and the San Joaquin River.

Note: The Amaral Line is used for both irrigation supply water (from the CCID Canal) and as a drain to the San Joaquin River.