

ADMINISTRATIVE CIVIL LIABILITY R5-2012-0515
ATTACHMENT C
DISCHARGE EVENT PHOTOS
 19 May, 06 July, and 19 July 2011

19 May 2011 Event Photos (1 thru 4)

	
<p>Photo 1 of 4: Irrigation supply water to the cropland. Turbidity – 42.7 NTU</p>	<p>Photo 2 of 4: Field drainage water discharging to the area drain from the cropland. Turbidity – 544 NTU Flow rate was determined at the outfall to the river, the flow rate of the field discharge was similar to the 19 July 2011 event (see 19 July 2011 Event Photo 2)</p>
	
<p>Photo 3 of 4: Flow into the San Joaquin River looking southeast. Up River Turbidity – 25.6 NTU Outfall Turbidity – 671 NTU Down River prox. 100 feet Turbidity – 52.1 NTU</p>	<p>Photo 4 of 4: Flow into the San Joaquin River looking northeast; outfall flow rate 315 cuft/min (141,381 gl/hr Estimated (using the cross section, velocity, and 0.70 friction coefficient)); Duration - 2 hrs. minimum (duration of staff's inspection).</p>

06 July 2011 Event Photos (1 thru 14)



Photo 1 of 14: Looking north from JT Crow Road toward the tomato cropland and cropland drainage. The field tailwater was flowing from the cropland, into the underground drainage system (Amaral Line)



Photo 2 of 14: Close-up of the cropland tailwater drain in Photo 1.

At 13:00 hrs, **Turbidity = 668 NTU**

Flow rate into the drain of approximately **157 cuft/min (70,594 gl/hr)** using cross section, flow velocity, and friction coefficient of 0.70.

At 14:25 hrs, **Turbidity = 585 NTU** (similar flow rate based on observation).



Photo 3 of 14: Looking west along JT Crow Road at the drain inlet. The water flows into the underground pipe, then south under JT Crow Road to the Amaral Line.



Photo 4 of 14: From Photo 3, the drainage flows east in an underground pipe along the south side of JT Crow Road toward the San Joaquin River. The tailwater mixes with Central California Irrigation District (CCID) supply water via the Main Canal. Constituents discharged into the line impact the supply water to downstream users and eventually the San Joaquin River.



Photo 5 of 14: Looking south from the cropland toward JT Crow Road and the field drain.



Photo 6 of 14: CCID irrigation supply water to the cropland (north side).

Turbidity = 111 NTU



Photo 7 of 14: The supply water then flowed to the cropland in the areas seen in the photo. It also continued east to the other cropland (see Photo 8).



Photo 8 of 14: Irrigation supply water continued east toward the other tomato cropland and other water users.



Photo 9 of 14: The supply water came from CCID via the CCID Main Canal. It was distributed via the control box shown in this photo to the line known as the Amaral Line, as well as other turnouts from the canal further north of this location.



Photo 10 of 14: Looking downstream from the outfall (discharge outfall) of the Amaral Line flowing into the San Joaquin River.

Down-River: Total Suspended Solids = 63 mg/L



Photo 11 of 14: The sediment plume was significant and was still flowing at the time the inspection was completed at 13:30 hrs.

Outfall: Total Suspended Solids = 434 mg/L



Photo 12 of 14: Looking north (downstream) at the San Joaquin River.

Up-river: Total Suspended Solids = 40 mg/L



Photo 13 of 14: Photo of samples. Left to right
 #1) Field drain – 13:00 hrs, NTU 668
 #2) Field drain control box, NTU 739
 #3) Supply water north side, NTU 111
 #4) Supply water near railroad tracks, NTU 107
 #5) Supply water from Main Canal, NTU 64.2
 #6) Field drain – 14:25 hrs, NTU 584



Photo 14 of 14: Photo of other furrow irrigated cropland drainage in the same general area used as a comparison. :
 #1) Corn drainage, NTU 141
 #2) Corn drainage, NTU 84.5

19 July 2011 Event Photos (1 thru 5)



Photo 1 of 5: Irrigation water supply to the cropland.
Turbidity = 45.4 NTU



Photo 2 of 5: 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.

Turbidity = 332 NTU

Flow rate from the field into the drain was approximately 102 ft³/minute, or 45,704 gal/hr. (using velocity, cross section, and a 0.66 friction coefficient)

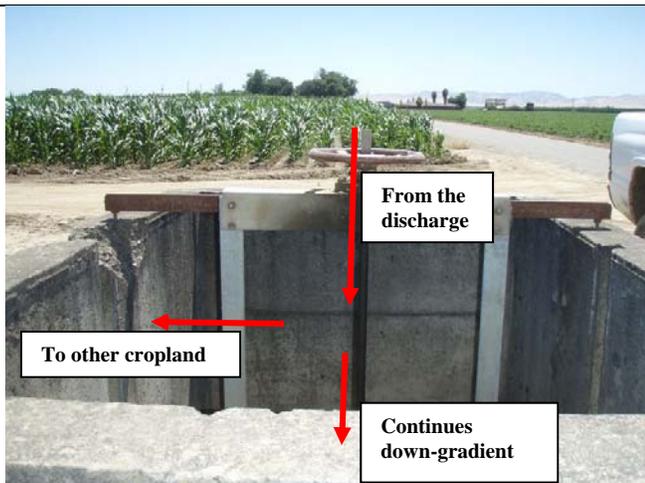


Photo 3 of 5: Looking west (up-gradient) from a control box on the Amaral Line toward the tomato field in Photos 1 and 2 (past the trees in the photo).

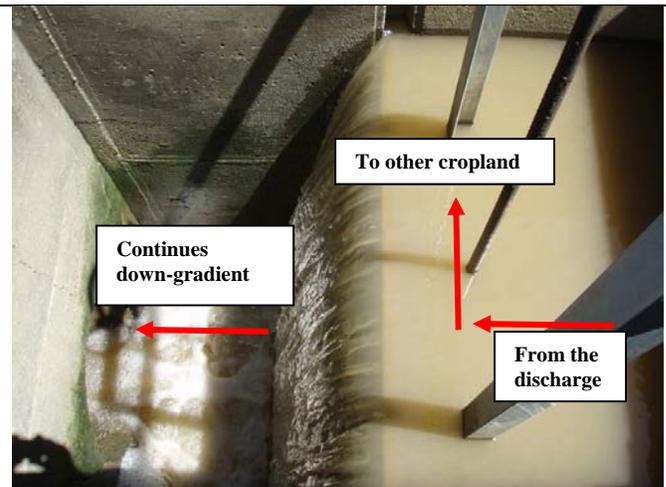


Photo 4 of 5: Looking inside the control box in Photo 5. A portion of the water in the Amaral Line (including the tailwater from the field) was being used as irrigation water by other farms to irrigate an alfalfa field (south side of the line, upper portion of the photo). The balance continued east toward the S.J. River.



Photo 5 of 5: 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. The sediment-laden water and other constituents discharged into the drain was picked up and redistributed to other down-gradient users.