

FIELD INSPECTION REPORT FOR THE LOWER FREMONT RIVER

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1. TORREY CANAL MAIN DIVERSION HEAD GATE

This is the main diversion head gate to the Torrey Irrigation Company System. Upstream from this head gate, water splits to the Torrey Irrigation Company, Navajo Trail and the river channel. There is no control structure at the site of Navajo Trail diversion and water is not being diverted. There is a wastewater gate downstream of the Torrey Canal Controls that the Torrey Water Master uses to clean out vegetation and flush the canal. The control structure is in good condition and free of debris. The water commissioner does not regulate water here, but goes to the Pead and Cut Canal and measures the water flow.

2. PEAD AND CUT CANAL FLUME

A 4-ft parshall flume was inspected and was found to be approximately 0.5 inches from side to side out of level. The staff gage was properly set at the reference point and the entrance and exit conditions were acceptable. There was some scouring at the right side of the flume but no water leakage. Water was measured upstream from the flume using a current meter and an electronic flow meter. The flow registered by the flume was 25 cfs while the amount measured was computed to be 28.98 cfs.

Recommendation: The flume needs to be reset so that accurate flow readings could be obtained at all flow ranges. The approach channel by the right side of the flume should be fixed so that the flow entering the flume is uniformly distributed. Once the channel is fixed and if the flume has not yet been reset, reasonably accurate measurements could be made by the commissioner by reading water levels in both sides of the flume and using an average to compute flows.

3. GARKANE CANAL DIVERSION HEAD GATE

This is the main diversion point for the Lower Canyon users. There is a 36-inch screw head gate that is fairly new and in good condition. The channel was very clean and no problems were found at this diversion.

Recommendation: None

4. LUVA JENSEN DIVERSION

This diversion has a 9-inch parshall flume that is in good shape and level. The channel conditions are good. Luva has the legal right to divert 0.5cfs at this location. However, the

amount of water being diverted was measured at 1.14 cfs which is more than double the limit. There is a small head gate at the turnout that can be controlled by the water commissioner, if needed, to cut the flows down.

Recommendation: The head gate settings should only be changed by the commissioner

5. MAT ALEXANDER TEASDALE DIVERSION #1

A small head gate diverts water out the Garkane Canal through a 10-inch culvert that discharges into a concrete box. The concrete box has two rectangular notches at each side that spreads the water into a pasture field. There is no measuring device in this diversion. There was 4.36 cfs diverted at this point.

Recommendation: A measuring device should be installed at this diversion point. A sharp crested weir could work well in this situation. The weir should be equipped with a staff gage. The head gate needs to be accessible to the Commissioner so that he does not have to get into the water to regulate the flows.

6. MAT ALEXANDER TEASDALE DIVERSION #2

The same situation was observed in this diversion as in diversion #1. A submerged head gate diverts water through a 10-inch culvert that discharges into a concrete box. A small flume was in the channel downstream from the discharge pipe that seems to have been used previously. However, it was not functioning and was washed out in the channel and under water. About 3cfs of water was diverted at this point.

Recommendation: A measuring device should be installed at this diversion point. A sharp crested weir could work well in this situation. The weir should be equipped with a staff gage. The head gate needs to be accessible to the Commissioner.

7. MAT ALEXANDER TEASDALE DIVERSION #3

A submerged head gate diverts water from the Garkane Canal using a 12-inch pipe that discharge into an open channel. No flow measuring device was in place. It was estimated to be flowing at about 0.5 cfs at this diversion.

Recommendation: A measuring device needs to be installed at this diversion point. The head gate needs to be lockable and accessible to the Commissioner.

The Mat Alexander Teasdale diversions have a water right with a total flow of 4.7cfs. With this amount of water right the two first diversions will be of sufficient capacity to deliver

the total flow allowed. It appears that the water at the three diversions is not regulated by the water commissioner. Therefore, they divert whatever they want out of the canal. This may be due to the fact that the head gates are all under water and not easily regulated. One possible solution to the regulation problem in the Garkane Canal is to install an adequate measuring device at the head of the Garkane Canal below the control structure. The commissioner can then regulate this main diversion so that it diverts only the combined flows of all the allowed water rights in the canal.

8. LOWER FREMONT USERS (PRESSURIZED SYSTEM)

This diversion consists of a 10-inch pipe inlet from a pond at the end of the Garkane Canal. This diversion delivers water to users in the Lower Fremont River. Downstream from the diversion point there is a meter inside of a manhole. The commissioner did not have access to it. It was locked and he has no key to open the box. Therefore, the meter was not inspected. The commissioner will talk to the water master to get him a key to check the amount of water used.

Recommendation: A key must be provided to the commissioner so he could read the meter and check its status when he visits the diversion. The meter flow conversion factor, if any, should be provided to the commissioner so that he could accurately report the amount of water diverted. The meter must be kept in working condition.

9. DURFEY BROTHERS OUT OF PLEASANT CREEK

The one foot parshall flume at this diversion was in good shape and operating well even though it slopes slightly (about 0.2 inches from side to side). The channel section above the flume was smooth and water was flowing uniformly. Also, the exit conditions were good with nice free flow. The water diverted was measured to be flowing at 4.28 cfs.

Recommendation: None.

10. SANDY RANCH OUT OF OAK CREEK

The control structure (slide gate) at this diversion was not in a good shape. The water is flowing around it and the head gate cannot be locked by the commissioner.

Recommendation: Diversion control structure needs to be repaired.

11. DURFEY BROTHERS OUT OF OAK CREEK

The 1 ft parshall flume is out of level by about 0.5 inches in both directions: front to back and side to side. The approach section has a large rock in front of the flume that was making the

flows non uniform and caused turbulence. The flows were measured at 1.98 cfs, while the flume chart indicated a flow of 1.1 cfs.

Recommendation: The channel above and below the flume needs to be cleaned out and the rock removed so that the flows will be distributed uniformly across the channel before it enters the flume. The flume also needs to be reset.

12. CAPITOL REEF NATIONAL PARK DIVERSION

The control structure that diverts water from the river and into a sedimentation pond was working properly. There is a meter in a pipeline below the sedimentation pond to measure the water diverted. We did not have access to it because the commissioner does not have a key to open the manhole. The commissioner gets the data from the Park Service.

Recommendation: A key must be provided to the commissioner so he could check the meter readings when he visits the diversion. The meter flow conversion factor, if any, should be provided to the commissioner so that he could accurately report the amount of water diverted. The meter must be kept in working condition.

13. CAINEVILLE CANAL

There is a 3-ft flume that measures water diverted by this canal. The flume is level with good exit conditions and approach section. This is a fairly new flume. The measured flow at this site was 9 cfs. The main diversion is quite far from the measuring device. However, flows can be regulated with a small slide gate that sends water back to the river.

Recommendation: None.

14. HANKSVILLE CANAL DIVERSION

All the flows in the river were diverted to the South Hanksville Canal. The North Hanksville diversion was not operational at this flow level because it was silted in. There was no measuring device in the North canal. There is a 3-ft flume in the South canal downstream from the diversion, but it was completely under water. The condition of the flume could not be observed due to its submergence. The water diverted was measured in the canal next to the flume. The canal was taking 21 cfs of water. The canal was fairly deep and flat.

Recommendation: If water is to be used at this diversion a measuring device should be installed in the North ditch. The South ditch canal flume should be raised if appropriate or it could be replaced with a device more

suites to the situation and circumstances of the canal, i.e., a larger flume or a ramp flume that could handle flat channels. It is important to measure the flows accurately in the canal if they want the commissioner to shut off upstream users.