LOG BARGES DUMPING
DOES THE BARGE GO OUT FROM UNDER THE LOAD
OR
DOES THE LOAD SLIDE OFF THE BARGE?

By Capt. Don Rose

There have been many discussions and arguments concerning the order in which certain actions take place when a log barge dumps. Tug crew and other persons that have observed several Log Barge dumps have been known to have conflicting opinions. So much for eye witness accounts.

When a log barge arrives at the destination of its cargo, a number of tasks are performed in preparation for the discharge of logs.

1/ The barge is positioned for the dump and held in position by the towing tug and an assist tug.
   a/ The assist tug is connected to the stern of the barge with a line connected to a quick release system.
2/ Tipping tanks on the barge are flooded with water to cause it to heel over.
3/ A typical self-loading, self-dumping log barge dumps when it is heeled over to between twenty-five and thirty degrees.

The above procedures are performed at a pace in which even a casual observer will be aware of the order in which occurred.

At the time of a successful dump, several actions take place within a very short period of time.

1/ When the barge dumps it starts moving sideways at a raped speed and with enough force that could capsize the assist tug and cause serious damage or possibly also capsize the towing tug.
2/ The logs enter the water and within seconds move away from where they entered the water.
3/ It is common practise at this time, the assist tug activates the quick release and disconnects completely from the barge. The towing tug releases the brake on the towing winch allowing the towline to pay out.
4/ When the barge has stopped its sideways movement, the towing tug applies the brake to the towing winch and gains control of the barge.

The above actions happen within a matter of seconds therefore it is common for one not to be aware of the exact sequence in which they took place. The persons involved in the procedure at the time of the dump are busy releasing tow lines and manoeuvring the tugs. At this point in time they are more concerned with what the barge is doing. Persons observing at the scene or watching a video often do not realize the sequence in which the actions happened.

However, while watching the video frame by frame the sequence becomes more clear. Following are a series of five photos that show the barge moving out from under the load and the logs dropping vertically into the water. After the barge has moved away from the logs, they start to move away from where they went into the water.

Photo #1

In photo #1, note the black vertical line on the hills in the background. It is in line with the port forward log-stop on the barge and in line with close to the starboard side of the log load. The white water spray around the logs has been caused by them falling into the water.

Photo #2

In photo #2, note that the barge is clear of the load and continuing to move sideways at a rapid rate. At this time, the logs although completely in the water are still in line with black vertical line on the hills in the background. At this point they have moved vertically down but not horizontally. Note the white water spray on the logs. This is caused by the water that has flowed in to fill the hole left by the barge moving out from under the logs. The force of the water against the logs will cause them to move horizontally away from where they went into the water.

Photo #3

In photo #3, note that the barge has moved further away from the logs and they have moved only slightly away from where they went into the water.

Photo #4

In photo #4, the barge continues to move sideways and the logs are starting to move sideways as well

Photo #5

In photo #5, the barge is now losing its sideways momentum and the logs are continuing to move horizontally away from where they went into the water.

By viewing the above photos and referencing the black vertical line on the hills in the background, it is obvious that the barge moves out from under the logs. The logs do not move horizontally until after the barge is clear of them.