

July 13, 2009

To: Monica Van Bussum

From: Bob Foster

RE: 75-4089

On May 12, 2009, I made an on-site visit to the Paul Edwards property to conduct a measurement on the Salmon River diversion for water right 75-4089. This diversion utilizes a nine foot wide broad crested ramp flume as a measuring device.

At the time of my visit Mr. Edwards was irrigating the ground covered under 75-4089 utilizing a series of large ditches. Mr. Edwards stated that this was the historical method of irrigating the property and allowed him to get across the ground in a timely manner, approximately seven days.

The reading on the measuring device staff gauge was 1.5 feet which translates to 52.4 cubic feet per second. Mr. Edwards stated that the amount being diverted was just about what was needed to operate his conveyance system in an efficient manner, but the reading on the measuring device staff gauge usually was 1.6 feet or 57.9 cubic feet per second.

Mr. Edwards has objected to the recommendation of water right 75-4089 contending the amount recommended, 14.42 cubic feet per second, was not adequate to operate his conveyance system in the historical manner and adequately irrigate his ground which is composed of mainly gravelly river bottom soils.

Based on my observations and my conversation with Mr. Edwards, the recommendation of 14.42 cubic feet per second would take a much longer time to irrigate the ground covered under 75-4089, probably two to three times as long. To this extent Mr. Edwards believes he would actually use less water over the irrigation season if the recommendation was increased to approximately 60 cubic feet per second allowing him to cover the ground in a more efficient manner while applying larger amount of water for a shorter period of time.



75-4089 Paul Edwards

S-11/12 Broad crested ramp flume reading 1.5 on 5/12/2009

# SALMON RIVER - S11

## WATER MEASUREMENT TABLE

### BROAD-CRESTED WEIR

27" CREST HEIGHT  
36" CREST LENGTH  
9' CREST WIDTH  
VERTICAL SIDE WALLS

FLOW EQUATION  
 $Q = K1 * (HEAD + K2)^U$   
28.040 = K1  
0.00000 = K2  
1.5440 = U

| HEAD<br>(feet) | FLOW RATE<br>(cfs) |
|----------------|--------------------|
| 0.30           | 4.4                |
| 0.31           | 4.6                |
| 0.32           | 4.8                |
| 0.33           | 5.1                |
| 0.34           | 5.3                |
| 0.35           | 5.5                |
| 0.36           | 5.8                |
| 0.37           | 6.0                |
| 0.38           | 6.3                |
| 0.39           | 6.6                |
| 0.40           | 6.8                |
| 0.41           | 7.1                |
| 0.42           | 7.3                |
| 0.43           | 7.6                |
| 0.44           | 7.9                |
| 0.45           | 8.2                |
| 0.46           | 8.5                |
| 0.47           | 8.7                |
| 0.48           | 9.0                |
| 0.49           | 9.3                |
| 0.50           | 9.6                |
| 0.51           | 9.9                |
| 0.52           | 10.2               |
| 0.53           | 10.5               |
| 0.54           | 10.8               |
| 0.55           | 11.1               |
| 0.56           | 11.6               |
| 0.57           | 11.8               |
| 0.58           | 12.1               |
| 0.59           | 12.4               |
| 0.60           | 12.7               |
| 0.61           | 13.1               |
| 0.62           | 13.4               |
| 0.63           | 13.7               |
| 0.64           | 14.1               |
| 0.65           | 14.7               |
| 0.66           | 14.8               |
| 0.67           | 15.1               |
| 0.68           | 15.5               |
| 0.69           | 15.8               |
| 0.70           | 16.2               |
| 0.71           | 16.5               |
| 0.72           | 16.9               |
| 0.73           | 17.2               |
| 0.74           | 17.6               |
| 0.75           | 18.0               |
| 0.76           | 18.4               |
| 0.77           | 18.7               |
| 0.78           | 19.1               |
| 0.79           | 19.5               |

| HEAD<br>(feet) | FLOW RATE<br>(cfs) |
|----------------|--------------------|
| 0.80           | 19.9               |
| 0.81           | 20.3               |
| 0.82           | 20.6               |
| 0.83           | 21.0               |
| 0.84           | 21.4               |
| 0.85           | 21.8               |
| 0.86           | 22.2               |
| 0.87           | 22.6               |
| 0.88           | 23.0               |
| 0.89           | 23.4               |
| 0.90           | 23.8               |
| 0.91           | 24.2               |
| 0.92           | 24.7               |
| 0.93           | 25.1               |
| 0.94           | 25.5               |
| 0.95           | 25.9               |
| 0.96           | 26.3               |
| 0.97           | 26.8               |
| 0.98           | 27.2               |
| 0.99           | 27.6               |
| 1.00           | 28.0               |
| 1.01           | 28.5               |
| 1.02           | 28.9               |
| 1.03           | 29.3               |
| 1.04           | 29.8               |
| 1.05           | 30.2               |
| 1.06           | 30.7               |
| 1.07           | 31.1               |
| 1.08           | 31.6               |
| 1.09           | 32.0               |
| 1.10           | 32.5               |
| 1.11           | 32.9               |
| 1.12           | 33.4               |
| 1.13           | 33.9               |
| 1.14           | 34.3               |
| 1.15           | 34.8               |
| 1.16           | 35.3               |
| 1.17           | 35.7               |
| 1.18           | 36.2               |
| 1.19           | 36.7               |
| 1.20           | 37.2               |
| 1.21           | 37.6               |
| 1.22           | 38.1               |
| 1.23           | 38.6               |
| 1.24           | 39.1               |
| 1.25           | 39.6               |
| 1.26           | 40.1               |
| 1.27           | 40.6               |
| 1.28           | 41.0               |
| 1.29           | 41.6               |

| HEAD<br>(feet) | FLOW RATE<br>(cfs) |
|----------------|--------------------|
| 1.30           | 42.0               |
| 1.31           | 42.5               |
| 1.32           | 43.0               |
| 1.33           | 43.6               |
| 1.34           | 44.1               |
| 1.35           | 44.6               |
| 1.36           | 45.1               |
| 1.37           | 45.6               |
| 1.38           | 46.1               |
| 1.39           | 46.6               |
| 1.40           | 47.1               |
| 1.41           | 47.7               |
| 1.42           | 48.2               |
| 1.43           | 48.7               |
| 1.44           | 49.2               |
| 1.45           | 49.8               |
| 1.46           | 50.3               |
| 1.47           | 50.8               |
| 1.48           | 51.2               |
| 1.49           | 51.9               |
| 1.50           | 52.4               |
| 1.51           | 53.0               |
| 1.52           | 53.5               |
| 1.53           | 54.1               |
| 1.54           | 54.6               |
| 1.55           | 55.2               |
| 1.56           | 55.7               |
| 1.57           | 56.3               |
| 1.58           | 56.8               |
| 1.59           | 57.4               |
| 1.60           | 57.9               |
| 1.61           | 58.5               |
| 1.62           | 59.1               |
| 1.63           | 59.6               |
| 1.64           | 60.2               |
| 1.65           | 60.8               |
| 1.66           | 61.3               |
| 1.67           | 61.9               |
| 1.68           | 62.5               |
| 1.69           | 63.0               |
| 1.70           | 63.6               |
| 1.71           | 64.2               |
| 1.72           | 64.8               |
| 1.73           | 65.4               |
| 1.74           | 65.9               |
| 1.75           | 66.5               |
| 1.76           | 67.1               |
| 1.77           | 67.7               |
| 1.78           | 68.3               |
| 1.79           | 68.9               |