

**Idaho Dept of Water Resources
ESPA Spring Diversion Inventory**

District _____ Date 7-13-04

Basin _____ Ditch or users association _____

Diversion Name Curran Ditch POD Number _____

Spring Name Billingsley CR. Tributary to _____

GPS site ID _____ Inventory Examiner Luke Beckley

Owner Western Legends, Beckley Farms. Operator _____

Measuring Device Data	
Type of Device or Method	<u>10' Reel. Weir</u> Standard Non-standard
If non-standard describe:	<u>n = 0.54' (13.2 cfs)</u>

Discharge and Measurement Method	
How Measurement was taken: (Staff gauge, current meter, polysonic meter)	
Staff gauge Head Reading <u>0.54 ft.</u>	Current Meter/or poly-sonic measurement:
Time of Day <u>9²⁰ AM</u>	
Table used for Q <u>BOR MANUAL</u>	Meter Measurement Confidence 2% 5% 10% +10%
Total Flow = <u>13.2 cfs.</u>	Does device meet IDWR standards? YES NO
Discharge notes attached? YES NO	Measurement Taken by:
Calculations Attached? YES NO	Is follow-up Needed? YES NO

Concerns about measuring device: 10 ft. reel weir = 0.54' (13.2 cfs)
meas. by Dan Yell @ Amehndro to pipes - 3.6 cfs. (total flow including weir & BAR-S)
CR'd weir @ above Sanyo Pond. Head = 1.28' using portable
staff gage. OBSERVED a lot of trash @ weir that we
removed, gate mending made after cleaning. Weir Length = 7' 8"
some leakage thru boards on cheek (weir) @ ABU weir. - flow
to creek ≈ 0.5 cfs - 1.0 cfs.

7/13/2004 10:05 AM

Staff gage reads 1.96'

Hand held gage reads 0.80'

Staff gage appears to be zeroed at approx 1.0 ft

Use 0.96 ft = h_1 for calculation of flow

$$Q = C_e L_e h_{1e}^{1.5}$$

$$C_e = C_1 \left(\frac{h_1}{p} \right) + C_2$$

$$L_e = L + k_b$$

$$h_{1e} = h_1 + k_h$$

$$\frac{L}{B} = \frac{9.0}{9.0} = 1.0 \rightarrow \text{from figures } k_b = -0.003$$

$$C_b = 0.400$$

$$C_2 = 3.220$$

$p = 6.48$ feet (ht of sill)

$$C_e = 0.40 \left(\frac{0.96}{6.48} \right) + 3.22 = 3.28$$

$$L_e = 9.0 - 0.003 = 8.997$$

$$h_{1e} = 0.96 + 0.003 = 0.963$$

$$Q = (3.28)(8.997)(0.963)^{1.5} = 27.9 \text{ cfs}$$

for all h_1

$$Q = C_e L_e h_{1e}^{1.5}$$

$$Q = \left[0.40 \left(\frac{h_1}{6.48} \right) + 3.22 \right] (8.997) (h_1 + 0.003)^{1.5}$$

$$Q = (0.0617 h_1 + 3.22) (8.997) (h_1 + 0.003)^{1.5}$$

using h_1 @ sill

$$Q = 21.2 \text{ cfs}$$

10⁰⁵ am sandy pipeline vault

- staff gage = 1.96'

length of sill 8' 11 1/2"

more's pump @ vault is off (south ^{40 hp} pump)
centrifugal pump off.

stuck staff gage on sill \approx 0.80'