1st Meas 1943 Water Year

9-275 c
(July 1935)

RECORDED

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES BRANCH

# DISCHARGE MEASUREMENT NOTES

Meas. No. 216
Checked by TW
Date 10/23/42

Brazos River at Richmond, Tex.

Date Oct. 15, 1942 Party W H Goines 7180

Width 366 Area 2900 Vel. 0.75 G. H. _____ Disch. 2190

Method c 2.8 No. secs. 29 G. H. change -0.01 in 1.2 hrs. Susp. 30 c.s

Method coef. 1.00 Hor. angle coef. 1.06 Meter No. 1705 Susp. coef. 1.005

GAGE READINGS

| Time | | Recorder | Inside | Outside |
|---|---|---|---|---|
| 8:30 a.m. | | W-Wt → | | 5.89 |
| 8:35 | ~~Start~~ | | 0.G | 5.90 |
| 9:35 | Start | | | (5.88) |
| 10:50 | Finish | | | (5.87) |
| 11:25 a.m. | | | W-Wt | 5.86 |
| | | | | |
| | ~~Finish~~ | | | |
| | | | | |
| | | | | |
| ~~Weighted~~ M. G. H. | | | | 5.87 |
| G. H. correction | | | | |
| Correct M. G. H. | | | | |

Date rated Apr. 9, 1942 Used rating for rod Rod susp. Meter 0.5 ft. above bottom of wt. Tags checked —

Spin before meas. ok after ok

Meas. plots — % diff. from — rating

Wading, cable, ~~ice~~, ~~boat~~, upstr., downstr., ~~side~~ bridge 270 feet, ~~mile~~, above, below gage, and —

Chain, wire, found 58.58, changed to no at —

Correct length 58.57

Levels obtained no

Measurement rated ~~excellent (2%)~~, good (5%), fair (8%), ~~poor (over 8%)~~, based on following conditions: Cross section Uniform

Flow Smooth Weather Favorable

Other —

Gage See sheet 5

Record removed Yes Intake flushed No

Observer —

Control channel

Remarks Falling 0.01 ft/hr.

Sheet No. 1 of 5 sheets. G. H. of zero flow — ft

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9-275
January 1935

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES BRANCH

Date 10-15-42, 19__ **DISCHARGE MEASUREMENT NOTES**

Brazos River, at Richmond, Tex.

| Dist. from initial point | Angle coefficient | Depth | Depth of observation | Revolutions | Time in seconds | VELOCITY: At point | VELOCITY: Mean in vertical | Mean in section | Area | Mean depth | Width | Discharge |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Comp. by | | | slack's | | Method. | | | | |
| REM 86 | | 0 | | | | | 0 | 0 | 0 | | 2 | - |
| 90 | | 2.7 | 1.6 | 5 | 44 | | | .27 | 12 | | 4½ | 3 |
| 95 | | 4.4 | .9 | 7 | 49 | .34 | | .32 | 22 | | 5 | 7 |
| | | | 3.5 | 7 | 56 | .30 | | | | | | |
| 100 | | 6.3 | 1.3 | 10 | 54 | .43 | | .42 | 47 | | 7½ | 20 |
| | | | 5.0 | 7 | 40 | .41 | | | | | | |
| 110 | | 9.1 | 1.8 | 10 | 42 | .55 | | .52 | 91 | | 10 | 47 |
| | | | 7.3 | 10 | 47 | .49 | | | | | | |
| 120 | | 10.2 | 2.0 | 10 | 45 | .52 | | .47 | 128 | | 12½ | 60 |
| | | | 8.2 | 10 | 55 | .42 | | | | | | |
| 135 | | 10.0 | 2.0 | 10 | 46 | .50 | | .52 | 150 | | 15 | 78 |
| | | | 8.0 | 10 | 41 | .53 | | | | | | |
| 150 | | 10.4 | 2.1 | 15 | 41 | .84 | | .73 | 156 | | 15 | 114 |
| | | | 8.3 | 15 | 56 | .62 | | | | | | |
| 165 | | 10.5 | 2.1 | 20 | 54 | .85 | | .80 | 158 | | 15 | 126 |
| | | | 8.4 | 20 | 62 | .74 | | | | | | |
| 180 | | 9.9 | 2.0 | 20 | 53 | .86 | | .80 | 148 | | 15 | 118 |
| | | | 7.9 | 15 | 46 | .75 | | | | | | |
| 195 | | 9.0 | 1.8 | 20 | 51 | .90 | | .88 | 135 | | 15 | 119 |
| | | | 7.2 | 20 | 54 | .85 | | | | | | |
| 210 | | 8.6 | 1.7 | 20 | 46 | .99 | | .92 | 129 | | 15 | 119 |
| | | | 6.9 | 20 | 54 | .85 | | | | | | |

No. 2 of 5 Sheets. Comp. by WHG. Chk. by TM

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WATER RESOURCES BRANCH

9-275
January 1935

Date 10/15/42, 19__ **DISCHARGE MEASUREMENT NOTES**

Brazos River, at Richmond, Tex.

| Dist. from initial point | Angle coefficient | Depth | Depth of observation | Revolutions | Time in seconds | VELOCITY: At point | VELOCITY: Mean in vertical | VELOCITY: Mean in section | Area | Mean depth | Width | Discharge |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 225 | | 8.6 | 1.7 | 20 | 47 | .97 | | .90 | 129 | | 15 | 116 |
| | | | 6.9 | 20 | 55 | .83 | | | | | | |
| 240 | | 8.5 | 1.7 | 20 | 49 | .93 | | .86 | 128 | | 15 | 110 |
| | | | 6.8 | 20 | 57 | .80 | | | | | | |
| 255 | | 8.6 | 1.7 | 20 | 46 | .99 | | .88 | 129 | | 15 | 114 |
| | | | 6.9 | 15 | 42 | .78 | | | | | | |
| 270 | | 8.7 | 1.7 | 20 | 43 | 1.06 | | .96 | 130 | | 15 | 125 |
| | | | 7.0 | 20 | 54 | .85 | | | | | | |
| 285 | | 8.4 | 1.7 | 20 | 44 | 1.03 | | .96 | 126 | | 15 | 121 |
| | | | 6.7 | 20 | 52 | .88 | | | | | | |
| 300 | | 7.8 | 1.6 | 20 | 43 | 1.06 | | .97 | 117 | | 15 | 114 |
| | | | 6.2 | 20 | 52 | .88 | | | | | | |
| 315 | | 7.5 | 1.5 | 20 | 42 | 1.08 | | .97 | 112 | | 15 | 109 |
| | | | 6.0 | 20 | 53 | .86 | | | | | | |
| 330 | | 7.4 | 1.5 | 20 | 47 | .97 | | .88 | 111 | | 15 | 98 |
| | | | 5.9 | 20 | 57 | .80 | | | | | | |
| 345 | | 7.5 | 1.5 | 20 | 52 | .88 | | .82 | 112 | | 15 | 92 |
| | | | 6.0 | 15 | 46 | .75 | | | | | | |
| 360 | | 8.2 | 1.6 | 20 | 52 | .88 | | .78 | 123 | | 15 | 96 |
| | | | 6.6 | 15 | 51 | .68 | | | | | | |
| 375 | | 8.0 | 1.6 | 15 | 45 | .76 | | .72 | 120 | | 15 | 86 |
| | | | 6.4 | 15 | 50 | .69 | | | | | | |
| 390 | | 7.9 | 1.6 | 15 | 61 | .57 | | .58 | 118 | | 15 | 68 |
| | | | 6.3 | 15 | 58 | .60 | | | | | | |

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Date 10/15/42, 19__ **DISCHARGE MEASUREMENT NOTES**

Brazos River, at Richmond, Tex.

| Dist. from initial point | Angle coefficient | Depth | Depth of observation | Revolutions | Time in seconds | VELOCITY: At point | VELOCITY: Mean in vertical | Mean in section | Area | Mean depth | Width | Discharge |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 405 | | 7.4 | 1.5 | 10 | 43 | .54 | | .53 | 111 | | 15 | 59 |
| | | | .9 | 10 | 45 | .52 | | | | | | |
| 420 | | 6.5 | 1.3 | 7 | 49 | .34 | | .42 | 81 | | 12½ | 34 |
| | | | 5.2 | 10 | 47 | .49 | | | | | | |
| 430 | | 4.6 | 9 | 7 | 50 | | | .33 .32 | 46 | | 10 | 15 24 |
| | | | 3.7 | 7 | 50 | .33 | | | | | | |
| 440 | | 3.0 | 1.8 | 0 | 50 | | | 0 | 33 | | 11 | — |
| 452 LEW | | 0 | | | | | | 0 | 0 | | 6 | — |
| | | | | | | | | | 2902 | | | 2168 1.005 |
| | | | | | | | | | | | | 2188 |

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(Sept., 1927)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES BRANCH

Date 10-15-42, 19____ No. of Meas.____

## SUPPLEMENTARY DISCHARGE MEASUREMENT NOTES

Brazos River at Richmond, Tex.

Enter on this form ample notes in regard to the following:

1. Accuracy of measurement; 2, gage; 3, observer; 4, bench marks; 5, gage-height corrections; 6, adjustments to total discharge; 7, station equipment; 8, channel, control, and point of zero flow; 9, rating, backwater; 10, diversions, regulation; 11, records; 12, cooperation.

Recorder inspection

Per Stevens Chart 108

| | | | |
|---|---|---|---|
| Pencil | Turq. 38 | : Record | ok clear |
| Wt. Adj. | no | : Chart time | 10 = 5/ |
| Paper | dry | : Clock Reg. | no |

Found and removed drift mark from G.G at 12.70 ± 0.02

Bring new lock (Bahanan) next visit for cleanout door.

Sand bar still at intakes - use USWB record for low stages

No. 5 of 5 sheets

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